[redacted]

( )

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

Nos. 20-21, Original.

THE COMMONWEALTH OF PENNSYLVANIA,
COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

COMPLAINANTS' TESTIMONY.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Quay, H. A.	4	59	146	170
Quay, H. A.	77	90	....	....
Sullivan, T. O.	183	227	303	....
Sullivan, T. O.	415	....	....	....
Corrin, John B.	316	337	355	....
Corrin, John B.	409	414	....	....
Wallace, H. A.	358	379	407	....
Tonkin, John B.	416	430	447	450
Tonkin, John B.	613	618	....	....
Freeman, W. W.	453	462	478	481
Reed, James H.	483	509	529	531
Angle, J. E.	533	555	....	....
Daly, Martin B.	563	590	611	612

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., MAY 19, 1920.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Daly, Martin B	....	619	....	....
Jones, T. J	629	638	646	647
Jones, T. J	....	739	....	....
Denning, L. B	650	683	709	713
McMahon, J. W	716	726	738	....
Batchelor, G. F	741	....	....	....
Whitcomb, Eugene T	747	788	805	805
Anderson, J. K	808	831	856	858
Wyer, Samuel S	860	915	973	....
DEFENDANTS' TESTIMONY.				
Nease, H. E	976	977	1073	1080
Nease, H. E	980	1038	....	....
Nease, H. E	1162	1175	....	....
Nease, H. E	1176	1188	....	....
Krebs, Chas. E	1083	1122	1133	....
Krebs, Chas. E	1192	1193	....	....
Lakin, J. S	1138	1155	1162	....
Cornwell, John J	1193	....	....	....
Wallace, H. A	....	1198	....	....
Robinson, B. F	1203	1210	1212	1214
Robinson, B. F	....	....	1323	....
Allman, W. C	1215	....	....	....
Coffman, I. Wade	1216	1217	....	....
Cunningham, R. T	1217	1232	1247	1250
Snaith, Chas. M	1252	1258	1270	1273
Short, Chas. A	1274	1283	1295	1296
Lewis, E. D	1297	....	....	....
Wilson, George W	1299	1301	1303	....
Horner, Vance L	1304	1314	1321	....
Bowser, Parke	1325	1333	1339	....
Devericks, F. C	1341	1351	1361	....
COMPLAINANTS' TESTIMONY IN REBUTTAL.				
Witnesses.	Direct.	Cross.	Redirect.	Recross.
Robinson, Edwin	1372	1409	1414	1416
Wyer, Samuel S	1416	1427	1441	1443
Cummins, Robert W	1444	1447	1449	1455
Corrin, John B	1449	1452	....	....
DEFENDANTS' TESTIMONY IN SURREBUTTAL.				
Witnesses.	Direct.	Cross.	Redirect.	Recross.
Nease, H. E	1460	1474	1477	1478
Krebs, Chas. E	1479	1483	1489	1490

Exhibits—Ohio and Pennsylvania.

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
1	Map showing location of main transportation lines of the Manufacturers Light & Heat Company in Pennsylvania, Ohio, and West Virginia. (This was replaced by Pennsylvania Exhibit 39 E.)	30	Quay.....	1493
2	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, June 30, 1917.	149	Quay.....	1493
3	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, October 9, 1917.	149	Quay.....	1494
4	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, November 30, 1917.	149	Quay.....	1495
5	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, December 22, 1917.	149	Quay.....	1496
6	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, July 8, 1918.	149	Quay.....	1496
7	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, October 29, 1918.	149	Quay.....	1498
8	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, January 28, 1920.	149	Quay.....	1499
9	Application form for surplus gas from the Manufacturers Light & Heat Company, January 28, 1920.	157	Quay.....	1500
10	Application form for surplus gas from the Manufacturers Light & Heat Company, November 30, 1917.	157	Quay.....	1501
11	Application form for surplus gas from the Manufacturers Light & Heat Company, July 8, 1918.	157	Quay.....	1503
12	Requisitions by the Manufacturers Light & Heat Company on the Hope Natural Gas Company for gas service during 1919 and 1920.	158	Quay.....	1504
13	Number of domestic, industrial, and miscellaneous consumers and gas deliveries by the Manufacturers Light & Heat Company, at Bellaire, Ohio, from 1911 to 1919.	158	Quay.....	1506

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
14	Sixty-three largest individual holdings of stock of the Manufacturers Light & Heat Company as of March 31, 1920.	179	Quay.....	1506
15	Map of the main lines of the Hope Natural Gas Company, the Reserve Natural Gas Company of West Virginia, and the Peoples Natural Gas Company of Pennsylvania as of December 31, 1917.	186	Sullivan..	1509
16	Contract between the Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated October 16, 1915.	224	Sullivan..	1509
17	Contract between the Hope Natural Gas Company and the Peoples Natural Gas Company, dated May 1, 1911.	225	Sullivan..	1524
18	Contract between the Reserve Natural Gas Company, Union Natural Gas Company, Hope Natural Gas Company, Connecting Gas Company, and T. N. Barnsdall, dated April 11, 1913.	225	Sullivan..	1535
19	Contract between the Hope Natural Gas Company and the East Ohio Gas Company, dated March 1, 1910.	225	Sullivan..	1544
20	Contract between the Mountain State Gas Company and the River Gas Company, dated April 1, 1910.	225	Sullivan..	1554
21	Contract between the Hope Natural Gas Company and Fayette County Gas Company, dated May 1, 1910.	225	Sullivan..	1560
22	Map showing natural gas property of the United Fuel Gas Company in West Virginia, Kentucky, and Ohio. (This was replaced by Pennsylvania Exhibit 39 D.)	360	Wallace..	1566
23	Map showing the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia, January 1, 1920. (This was replaced by Pennsylvania Exhibit 39 F.)	486	Reed.....	1566
24	Map showing Fayette County Gas Company's natural gas system. (This was replaced by Pennsylvania Exhibit 39 A.)	534	Angle.....	1566
25	Outline map of main lines of the Natural Gas Company of West Virginia.	741	Batchelor.	1566
26	Map showing natural gas property of the Natural Gas Company of West Virginia, southern division.	746	Batchelor.	1566
27	Well production and gas leases controlled for year ending December 31, 1919, of natural gas companies in West Virginia.	814	Anderson.	1566

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
28	Natural gas production statistics for year 1919 in West Virginia.	815	Anderson.	1566
29	Chart showing production and consumption of natural gas in West Virginia.	817	Anderson.	1567
30	Advance U. S. Geological Survey statistics on natural gas.	819	Anderson.	1567
31	Relation of operated and unoperated leaseholds to large and small companies in West Virginia.	822	Anderson.	1568
32	Domestic natural gas statistics for year 1918 from Geological Survey Report, domestic gas statistics from 1909 to 1919 from the Public Service Commission of West Virginia and domestic gas statistics of various companies in West Virginia.	823	Anderson.	1569
33	Estimate of monthly and yearly sales of natural gas in West Virginia.	824	Anderson.	1573
34	Comparison of maximum yearly consumption of natural gas for industrial consumers in the State of West Virginia for years 1915 to 1919, inclusive, with year 1918.	825	Anderson.	1576
35	Diagram showing how a given amount of gas can be contracted by application of pressure.	867	Wyer.....	1577
36	How natural gas is severed from the soil, brought under control and delivered into a fixed closed container.	870	Wyer.....	1578
37	How natural gas from West Virginia is transmitted to the consumer in another State.	871	Wyer.....	1579
38	Diagram showing action of natural gas compressor as used for compressing gas through transmission lines.	874	Wyer.....	1580
39A	Fayette County Gas Company map.....	876	Wyer.....	1581
39B	Hope Natural Gas Company map.....	876	Wyer.....	1582
39C	Reserve Natural Gas Company map.....	876	Wyer.....	1583
39D	United Fuel Gas Company map.....	876	Wyer.....	1584
39E	Manufacturers Light & Heat Company map	876	Wyer.....	1585
39F	Philadelphia Company map.....	876	Wyer.....	1586
39G	Carnegie Natural Gas Company map.....	876	Wyer.....	1587
39H	Eastern Oil Company map.....	876	Wyer.....	1588
40A	Daily actual and normal temperature at Parkersburg, West Virginia, in 1916.	893	Wyer.....	1589
40B	Daily actual and normal temperature at Parkersburg, West Virginia, in 1917.	893	Wyer.....	1590
40C	Daily actual and normal temperature at Parkersburg, West Virginia, in 1918.	893	Wyer.....	1591
40D	Daily actual and normal temperature at Parkersburg, West Virginia, in 1919.	893	Wyer.....	1592

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
41	Volume of natural gas and per cent of State's total production exported from West Virginia.	895	Wyer.....	1593
42	One billion cubic feet of natural gas consumption per 1,000,000 population for West Virginia, Ohio, and Pennsylvania.	897	Wyer.....	1594
43	Total natural gas consumed annually per domestic consumer in West Virginia Ohio and Pennsylvania.	897	Wyer.....	1595
44	Industrial natural gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania.	897	Wyer.....	1596
45	Domestic gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania.	898	Wyer.....	1597
46	Map showing prinicpal towns outside of West Virginia depending on West Virginia for natural gas service.	904	Wyer.....	1598
47	Map of the main lines of the East Ohio Gas Company.	973	Wyer.....	1599
48	Map of the main lines of the Hope Natural Gas Company, Reserve Natural Gas Company and the Peoples Natural Gas Company.	974	Wyer.....	1600
49	Map of the Ohio Fuel Supply Company's system.	974	Wyer.....	1601
50	Natural gas statistics, West Virginia	1378	Robinson..	1603
51	Statement showing production and consumption, importation and exportation, of natural gas in West Virginia for year 1919.	1382	Robinson..	1605
52	Classification of consumption of natural gas in West Virginia for year 1919.	1382	Robinson..	1605
53	Ebert's statement on West Virginia natural gas production, importation, sales, and exportation for year 1920.	1383	Robinson..	1606
54	Statement showing approximate acreage held by certain companies and individuals in West Virginia.	1391	Robinson..	1608
55	Smithsonian Institution Bulletin on "Natural Gas Production, Service and Conservation."	1442	Wyer.....	1619

Ohio exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
1	Map of main lines of the East Ohio Gas Company. (This was replaced by Pennsylvania Exhibit 47.)	564	Daly.....	1605

Ohio exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
2	Map of main trunk lines and transmission lines of the Ohio Fuel Supply Company. (This was replaced by Pennsylvania Exhibit 49.)	651	Denning...	1695
3	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 15, 1916, Union Gas & Electric Co.	681	Denning...	1695
4	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 20, 1916, East Ohio Gas Co.	681	Denning..	1698
5	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 11, 1917, Union Gas and Electric Co.	681	Denning..	1700
6	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 19 1916, Administrative order No. 28.	681	Denning..	1702
7	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, May 21, 1918, Administrative order No. 34.	681	Denning..	1703
8	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, June 10, 1919, Administrative order No. 41.	681	Denning..	1705
9	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, August 12, 1920, Administrative order No. 46.	681	Denning..	1706
10	Map of main lines of Logan Natural Gas & Fuel Company in Indiana and Ohio.	750	Whitcomb.	1709

Exhibits—West Virginia.

West Virginia exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at
1	Gas purchase agreement: Hope Natural Gas Company and Manufacturers Light & Heat Company.	138	Quay....	Page 1712
2	Hope and L., F. and P. Co.'s agreement.	284	Sullivan.	" 1724
3	Pittsburgh, W. Va. & Equitable Co.'s agreement number 1.	529	Reed....	" 1729
4	Pittsburgh, W. Va. & Equitable Co.'s agreement number 2.	529	Reed....	" 1732

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
5	Pittsburgh, W. Va. & Equitable Co.'s agreement number 3.	529	Reed....	"	1733
6	Pittsburgh, W. Va. & Equitable Co.'s agreement number 4.	529	Reed....	"	1735
7	Monthly production report to Public Service Commission.	984	Nease....	Folio	268
8	Monthly transportation report to the Public Service Commission.	984	Nease....	"	269
9	Hope Report, Board of Public Works.	988	Nease....	"	270 to 288
10	Pittsburgh & W. Va. report, Board of Public Works.	988	Nease....	"	289 to 305
11	United Fuel Gas Company report, Board of Public Works.	988	Nease....	"	306 to 321
12	Reserve Gas Company report, Board of Public Works.	988	Nease....	"	322 to 336
13	Carnegie Natural Gas Company report, Board of Public Works.	988	Nease....	"	337 to 350
14	Columbia Gas & Electric Company report, Board of Public Works.	988	Nease....	"	351 to 364
15	Manufacturers Light & Heat Company report, Board of Public Works.	988	Nease....	Folio	365 to 378
16	Statement showing supply of natural gas produced and acquired within West Virginia by the Hope N. G. Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Co., Carnegie Gas Co., Columbia Gas & Electric Co., and Manufacturers Light & Heat Co., combined for seven Co.'s. NOTE.—This includes 16-A to 16-I.	995	Nease....	"	379 to 388
17	Statement showing acreage of natural gas territory held within W. Va. by the Hope Natural Gas Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Company, Carnegie Natural Gas Co., Columbia Gas &	998	Nease....	"	390 to 400

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
	Electric Co., and Manufacturers Light & Heat Co., combined for the seven companies. NOTE.—This includes 17-A to 17-K.				
18	Statement showing number of consumers within W. Va. furnished natural gas by the Hope Natural Gas Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Company, Carnegie Natural Gas Co., Columbia Gas & Electric Co., and Manufacturers Light & Heat Co., combined for the seven companies. NOTE.—This includes 18-A to 18-J.	1015	Nease....	"	402 to 412
19	Statement showing distribution of their net supply of W. Va. natural gas by the Hope Natural Gas Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Company, Reserve Gas Co., Carnegie Natural Gas Co., Columbia Gas & Electric Company, and Manufacturers Light & Heat Co., combined for the seven companies. NOTE.—This includes 19-A to 19-I.	1018	Nease....	"	414 to 423*
20	Chart showing consumption of natural gas for industrial purposes in W. Va., including gas sold in Maryland, 1914 to 1918.	1095	Krebs....	Folio	438
21	Chart showing consumption of natural gas for industrial purposes in W. Va., exclusive of Maryland, 1914 to 1918.	1095	Krebs....	"	439
22	Diagram of production and consumption of natural gas in State of Pennsylvania, 1914 to 1918.	1102	Krebs....	"	440

*The folio numbers jump from 423 to 438.

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
23	Chart showing consumption of natural gas for industrial purposes in State of Pennsylvania, 1914 to 1918.	1103	Krebs....	"	441
24	Diagram of production and consumption of natural gas in Ohio, 1914 to 1918.	1105	Krebs....	"	442
25	Chart showing consumption of natural gas for industrial purposes in Ohio, 1914 to 1918.	1106	Krebs....	"	443
26	Diagram of production and consumption of natural gas in Indiana, 1914 to 1918.	1107	Krebs....	"	444
27	Chart showing consumption of natural gas for industrial purposes in Indiana, 1914 to 1918.	1109	Krebs....	"	445
28	Diagram of production and consumption of natural gas in Kentucky, 1914 to 1918.	1110	Krebs....	"	446
29	Chart showing consumption of natural gas for industrial purposes in Kentucky, 1914 to 1918.	1111	Krebs....	"	447
30A	Map showing the location of gas pipe lines and compressor and measuring stations in W. Va.	1115	Krebs....	"	448
31	Diagram of production and consumption of natural gas in W. Va., including gas sold in Maryland, 1914 to 1918.	1121	Krebs....	Folio	449
32	Diagram of production and consumption of natural gas in W. Va., exclusive of Maryland, 1914 to 1918.	1121	Krebs....	"	450
33	Indenture by the Wheeling Natural Gas Co. and others to the Hope Natural Gas Co., June 27, 1911.	1171	Nease....	Page	1737
34	Indenture by the Mountain State Gas Co. to the Hope Natural Gas Co., April 1, 1910.	1173	Nease....	"	1737
35	Agreement, dated July 5, 1913, between United Fuel Co. and Louisville Gas & Elec. Co.	1199	Wallace..	"	1738

West Virginia exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at
36	United Fuel Gas Co. and Portsmouth Co.'s agreement.	1199	Wallace..	" 1745
37	United Fuel Gas Co. and Central Ky. Co.'s agreement.	1199	Wallace..	" 1752
38	United Fuel Gas Co. and Ohio Fuel Sup. Co.'s agreement.	1199	Wallace..	" 1761
39	United Fuel Gas and Hope Natural Gas Co.'s agreement.	1199	Wallace..	" 1769
40	United Fuel Gas and Hope Natural Gas Co.'s agreement.	1199	Wallace..	" 1777
41	United Fuel Gas and Pittsburgh Co.'s agreement.	1199	Wallace..	" 1780
42	United Fuel Gas and Pittsburgh Co.'s agreement.	1199	Wallace..	" 1788
43	Columbia Gas & Electric and United Fuel Gas Co.'s agreement.	1199	Wallace..	" 1791
44	Columbia Gas & Electric and Ohio Fuel Supply Co.'s agreement.	1199	Wallace..	" 1800
45	Reserve Gas Co. vs. McKinley (condemnation proceeding).	1215	Allman..	" 1802
46	Hope Natural Gas Company vs. Rhodes (condemnation proceeding).	1217	Coffman.	Page 1821
47	Pittsburgh & W. Va. Gas Co. vs. Morrison (condemnation proceeding).	1217	Coffman.	" 1843
48	Philadelphia Co. of W. Va. vs. Curry (condemnation proceeding).	1217	Coffman.	" 1856
49	Carnegie Natural Gas Co. vs. Swiger (condemnation proceeding).	1217	Coffman.	" 1875
50	Fairmont & Grafton Gas Co. vs. Thompson (condemnation proceeding).	1217	Coffman.	" 1895
51	Wheeling Natural Gas Company vs. Tennant (condemnation proceeding).	1363	.....	" 1905
52	Highway franchises.....	1364	.....	" 1917
53	Hope Natural Gas Co. rate application.	1364	.....	" 1922
54	United Fuel Gas Co. rate application.	1364	.....	" 1929
55	Pittsburgh & W. Va. Gas Co. rate application.	1364	.....	" 1934

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
56	Reserve Gas Co. rate application.	1364	.....	"	1938
57	Reserve Gas Co. rate order...	1364	.....	"	1939
58	Manufacturers Light & Heat Co. rate application.	1365	.....	"	1940
59	Manufacturers Light & Heat Co. rate order.	1365	.....	"	1942
60	Pennsylvania Public Service Commission's orders.	1368	.....	"	1944

Supreme Court of the United States, October Term, 1919.

Nos. 23 and 24, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Hearings Commenced Tuesday, May 11th, 1920.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.
On behalf of the State of Ohio, Attorney General John G. Price; Freeman T. Eagleson, Esq.
On behalf of the State of West Virginia, Attorney General Edward T. England; Fred O. Blue, Esq., George M. Hoffheimer, Esq., Philip P. Steptoe, Esq., W. S. John, Esq.

Chester F. Johnston, Reporter.

2 Pittsburgh, Pennsylvania, Tuesday, May 11th, 1920.

Pursuant to notice, the Commissioner and counsel met at the offices of Messrs. Weil & Thorp, Pittsburgh, Pa.

The Commissioner: Let the reporter lay on the transcript a copy of the Order of the Supreme Court of the United States in Cases Nos. 23 and 24, Original—October Term, 1919: The Commonwealth of Pennsylvania, Complainant, vs. The State of West Virginia, and The State of Ohio, Complainant, vs. The State of West Virginia; announced April 20th, 1920.

Order.

"On consideration of the respective motions of the complainants for the appointment of a Special Master and of the defendant for the appointment of a Commissioner to take the testimony and report the same to the Court and of the motions to consolidate the cases for the purpose of taking such testimony,

"It is now here ordered that the motions to consolidate the cases for the purpose of taking the proofs be, and the same are hereby, granted.

3 "It is further ordered that Mr. Levi Cooke, of the District of Columbia, be, and he is hereby, appointed a Commissioner to take and return the testimony in these causes, with the powers of a Master in Chancery, as provided in the Rules of this Court; but said Commissioner shall not make any findings of fact or state any conclusions of law.

"It is further ordered that the complainants shall take their evidence, at such place or places as they may indicate, between the first day of May, 1920, and the first day of October, 1920, upon giving ten days' notice of the time and place of taking such evidence to the counsel for the defendant; that the defendant may take evidence, at such place or places as it may indicate, between the first day of October, 1920, and the first day of March, 1921, upon giving ten days' notice of the time and place of taking such evidence to the counsel for the complainants; that the complainants shall take their evidence in rebuttal between the first day of March, 1921, and the first day of April, 1921, at such place or places as they may indicate, upon giving ten days' notice to counsel for defendant, and

4 the defendant shall then conclude the taking of its evidence in sur-rebuttal on or before the first day of May, 1921, upon giving ten days' notice of the time and place of taking such evidence to the counsel for complainants. Provided, however, that if complainants shall conclude the taking of their evidence in chief before the first day of October, 1920, and shall give notice thereof, the time for the taking of evidence in chief on the part of defendant shall begin to run fifteen days after the giving of said notice by the complainants; and if the defendant shall conclude the taking of its evidence before the first day of March, 1921, and shall give notice thereof, the thirty-one days' time for the taking of evidence in rebuttal on behalf of the complainants shall begin to run fifteen days after the giving of said notice by the defendant and the thirty days' time for the taking of evidence on behalf of defendant in sur-rebuttal shall begin to run from the termination of said thirty days allowed for the taking of the evidence in rebuttal by the complainants; but nothing in this proviso contained shall operate or be construed to postpone the ultimate dates for the commencement

5 of the time for the taking of the defendant's evidence in chief, the complainants' evidence in rebuttal and the defendant's evidence in sur-rebuttal, respectively, first above specified.

"It is further ordered that the said complainants and the defendant, respectively, shall make such deposits with the Clerk of this Court for fees, costs and expenses of the said Clerk and of the said Commissioner as they may from time to time be requested by said Clerk."

The Commissioner: Pursuant to the foregoing order, and following notice given by Mr. A. Leo Weil, counsel for The Commonwealth of Pennsylvania, as of May 1st, 1920, the Commissioner for

the Court is present, and the hearing will be opened jointly on behalf of The Commonwealth of Pennsylvania and The State of Ohio.

(NOTE.—It is stipulated and agreed between the counsel representing the respective parties that the sessions at the present time, and until otherwise agreed, shall begin at 10:00 o'clock A. M. and continue until 12:30 P. M.; that a recess shall then be taken
6 until 1:30 o'clock P. M., when the hearing shall be resumed and continue until 3:30 o'clock P. M.

It is also agreed that the testimony at this time shall be taken by Chester F. Johnston, or under his direction, as stenographer, who shall furnish an original and at least six copies; the price to be paid for the original copy and services of the stenographer to be fifty cents (50¢) per page, to be paid by the party taking the testimony and to be charged as a part of the costs of the case; one copy to be furnished to the counsel representing the State of Ohio, two copies to the counsel representing the State of Pennsylvania, and three copies to the counsel representing the State of West Virginia; each of said parties paying for their copies twenty cents (20¢) per page.

It is further agreed that the Commissioner be requested to arrange, if possible, to have the testimony printed through the Clerk's Office of the Supreme Court of the United States, in Washington, in accordance with the Rules of that Court, so as to retain fifty (50) copies for ultimate filing with the Court, fifty copies (50 copies) each to be furnished to counsel representing The State of West Virginia and jointly to counsel representing The State of Ohio
7 and The Commonwealth of Pennsylvania. It is further agreed that the costs of printing shall be advanced by the respective sides taking the testimony from time to time by deposits with the Clerk of the Court, and ultimately, the whole cost of printing to be taxed as costs in the cases.

It is further agreed that the notices to take testimony to be given in accordance with the order of the Court, be given as follows: To the State of Ohio, by notice to Attorney General John G. Price, Columbus, Ohio; to The Commonwealth of Pennsylvania, to A. Leo Weil, Esq., 821 Frick Building, Pittsburgh, Pa.; to The State of West Virginia, to Hon. Edward T. England, Attorney General, Charleston, West Virginia. The notice to these respective parties being sufficient as notice to all counsel).

A recess was here taken until 1:30 o'clock P. M.

8 Tuesday Afternoon.

(May 11th, 1920.)

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed pursuant to adjournment, at the offices of The Peoples' Natural Gas Company, Pittsburgh, Pa.

HARRY A. QUAY, a witness produced on behalf of complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Quay, what is your present occupation?
A. I am General Manager for the Manufacturers Light & Heat Company.
Q. How long have you occupied that position?
A. Since a year ago last February.
Q. And prior to that time?
A. I was Assistant General Manager for a period of eight months, approximately.
Q. Of the same company?
A. Of the same company.
Q. And prior to that time, give your various positions in connection with the gas industry.
A. Prior to that I occupied the position of District Man-
9 ager for a period of perhaps three years.
Q. That is, for the same company?
A. For the same company. Prior to that time I was General Foreman for a period of two or three years, for the same company. Previous to that time I was what is known as Chief Inspector for the same company. I first started to work for gas companies in Meadville, Pennsylvania.
Q. What year?
A. It was about the year 1895—1894 and 1895. The company was known at that time as the Oil City Fuel Supply Company. Later on I began work for the East Ohio Gas Company, at Massillon and at Canton, Ohio. There I was given special training on inspecting, work of that nature. I went back to work again for the Oil City Fuel Supply, inspecting towns supplied by them, which includes Oil City, Meadville, Titusville, Franklin, Brookville, Dubois. During my term as inspector I also worked for the Iroquois Natural Gas Company at Buffalo, New York, Hamburg, New York, and other towns which that company supplied. I also worked for The People's Natural Gas Company, which supplies gas in Pittsburgh, Wilkinsburg, Greensburg, Latrobe and various other towns on their system. I also worked for the East Ohio Gas Company in Cleveland, Akron, Canton, Canal Dover, Uhrichsville and New Philadelphia, and various towns on their system. I also worked for the Northwestern Natural Gas Company at Toledo, Ohio, Maumee and Perrysburg, and towns on their system. I also worked for
10 the Pennsylvania Gas Company at Corry, Warren, Jamestown, New York, and some eight or ten other smaller towns on their system. I also worked for the River Natural Gas Company, which supplies gas at Marietta, and other towns on their system. I also done work for the Mountain State Gas Company, who at that time supplied Sistersville, Parkersburg, and various other towns on their system.

Q. In West Virginia?

A. In West Virginia. I also done work for the Hope Natural Gas Company in the territory they had, two or three times in the State of West Virginia. And various other companies—the Clarksburg Light & Heat, and the Keener Oil & Gas Company, and the South Penn Oil Company.

Q. According to the dates you have given, you have been in the natural gas business about twenty-five years?

A. From twenty-five to twenty-seven years.

Q. Are you familiar with all the various departments and activities of the natural gas business and the supply of natural gas to consumers by natural gas companies?

A. In a general way, yes, sir.

Q. What are your duties, as General Manager of the Manufacturers' Light & Heat Company, in a general way?

A. My duties as General Manager would more pertain to the operations, developments, and so forth, of the company.

Q. Is it a part of your duties as General Manager to look
11 after their gas territory and the drilling of same and the operation of wells?

A. Yes, sir.

Q. Are you familiar with the territory now owned by the Manufacturers' Company?

A. Yes, sir.

Q. And of its wells?

A. Yes, sir.

Q. Adopting, for convenience, the date as of January 1st, 1920, state what gas territory the Manufacturers' Light & Heat Company owned in the State of West Virginia.

A. The Manufacturers' Light & Heat Company have under lease in the State of West Virginia approximately 147,000 acres.

Q. And how much gas territory have they under lease, or do own, in Pennsylvania?

A. They have approximately, in Pennsylvania, 180,000 acres; that is approximately.

Q. And how much in Ohio?

A. In Ohio about 15,000 acres, I would say, approximately.

Q. Do they own gas territory in any other States?

A. We have territory under lease in the States of Texas, Louisiana, and Arkansas and Oklahoma and Kentucky, and a little acreage in Kansas. We have, all told, an acreage approximating 350,000 acres.

Q. Is the territory last described by you, in what I will call
12 the West, tributary to the markets of the Manufacturers' Company in Pennsylvania, Ohio and West Virginia, and vicinity?

A. As far as they pertain to the natural gas part of the company, they are not.

Q. How much of the territory held under lease by the Manufacturers' Company in West Virginia is what you would call developed territory?

A. I would say, roughly, that about half of that. I don't rec
definitely the figures. I can secure them, though.
Q. Well, give it to us in acreage.
A. I would say about, possibly 75,000 acres.
Q. And how much in Pennsylvania?
A. I would say probably 85,000; perhaps a little more.
Q. And how much in Ohio?
A. I would say not to exceed 1,000 acres.
Q. How many wells, gas wells, have you on your property in
Virginia?
A. I think 457 gas wells.
Q. And how many in Pennsylvania?
A. Some few over 700.
Q. And how many in Ohio?
A. I think in Ohio there is 10. Those are approximate fig
I can give you the correct amount, if I refresh my memory
sulting memorandum).
13 Q. Well, if you have any data from which you ca
fresh your recollection, give us the numbers more accur
A. In West Virginia, as of December 31st, 1919, we have 46
wells; in Pennsylvania, we have 764 gas wells, and in Ohio, 10.
Q. What was the amount of the gas production of the Man
turers' Company about the same date, from its own wells?
A. Our own production?
Q. In each of the States named?
A. Our own production in the State of West Virginia wa
billion and approximately seven hundred million.
Q. Per annum?
A. Per annum. That is for the year 1919.
Q. And in Pennsylvania?
A. Approximately 6,500,000,000.
Q. And in Ohio?
A. About 300,000,000.
Q. How much of this, in accordance with my question, i
produced by the Manufacturers' Company?
A. The figures given you is the amount of gas which the com
produced itself. It doesn't include purchased gas.
Q. Now, then, how much gas was purchased by the Man
turers' Company in West Virginia in 1919?
A. We purchased in the State of West Virginia app
14 mately 13,500,000,000.
Q. All of these figures you are giving, of course, are
feet?
A. Cubic feet.
Q. And how much in Pennsylvania?
A. Approximately about—roughly, 900,000,000 cubic feet.
Q. And how much in Ohio?
A. About 100,000,000 cubic feet.
Q. Was that quantity that you have given as purchased, fro
sources?
A. All sources.

Q. State in a general way—general description, without going into details—what those sources were.

A. The major portion of the gas purchased by the Manufacturers' Light & Heat Company was secured from the Hope Natural Gas Company, a large producer in the State of West Virginia. The amount of gas which they delivered to the Manufacturers' Company is equal to the sales, total sales, of the Manufacturers' Company, for the year, plus 6 per cent.

Q. Sales to whom?

A. To the Manufacturers' domestic consumers. I mean by that this way: We take the total amount of gas, for instance, sold to our domestic consumers over our entire system in the States of West Virginia, Pennsylvania and Ohio, during the year 1919.
15 The amount deliverable from the Hope for the following year is that amount of gas plus an additional 6 per cent, which is supposed to cover new consumers, new growth to our plant—natural growth.

Q. From whom?

A. The balance?

Q. Yes.

A. Two billion or so, it is bought, I suppose, from a total of perhaps over one hundred other individuals, companies.

Q. What is the total number of consumers of the Manufacturers' Company, as of December 31st, 1919, or the first of January, 1920?

A. We had approximately 116,500 consumers.

Q. Is that both domestic and industrial?

A. That includes all consumers.

Q. How many of those were domestic?

A. The number of domestic consumers participating in the earnings, as of December 31st, 1919, was approximately 112,000.

Q. And how many industrial?

A. Industrial consumers' contracts, we have about 385—388.

Q. What other consumers have you besides industrial and domestic?

A. We have a class designated under the title of "Miscellaneous." That refers particularly to gas used, for instance, by the company on its compressing stations, for its own use; or gas sold for
16 drilling purposes, and to churches and some hospitals, are in that classification.

Q. Any to municipalities?

A. We sell to practically every municipality in which we serve the public. We have contracts with the State of West Virginia. We also have a contract with the State of Pennsylvania for supplying gas to the Boys' Industrial Home, known as Morganza. The sales last year to them ran something close to 90,000,000 cubic feet. I recollect the highest amount we had, which I think was January, 1919, was something like 15,000,000 feet, or a little over 15,000,000 feet that month. We have in that list 17 contracts, I believe, with the United States Government for supplying gas to Government dams along the Ohio River. And we have a great many contracts with the United States Government for supplying gas to various post-

offices in the various towns that we serve in the three States. addition to that, there are some eight or ten contracts covering sold to counties—for instance, like Allegheny County here—for th use.

Q. And what do they use it for, in a general way—the Coun

A. Well, mostly in their institutions. They have some gas gines; for laundry purposes, cooking and lighting, and so forth, g eral purposes.

17 Q. In State institutions, or County institutions?

A. Yes, sir.

Q. What was the total number of consumers that you gave u moment ago, including all?

A. The total number, approximately 116,500.

Q. Now, of that number, how many are in West Virginia?

A. In West Virginia there are approximately 11,000—some over 11,000.

Q. And in Pennsylvania?

A. In Pennsylvania there is approximately 75,000.

Q. And how many in Ohio?

A. In Ohio, about 26,000. You will note, if you undertake make the figures balance, that I have stated that in the dome consumers there was approximately 112,000 which participate in December earnings, as of December 31st. You are perhaps aware of the fact that where you have a large number of consum there are several thousand whom you are unable to read, due to fact that they are absent from home. Now, those that were not re or did not show an earning, are not included in the figures given y of 112,000. The 112,000 are the domestic consumers who part pate in an earning.

Q. What was the total amount of gas supplied to all consumers the Manufacturers' Company in the year 1919?

A. The total sales of the company in 1919 were a little o

18 27,000,000,000 cubic feet.

Q. And how much of that was supplied in West Virgin

A. In West Virginia, approximately five billion, say four h dred million.

Q. And how much in Pennsylvania?

A. Approximately 15,800,000,000.

Q. And how much in Ohio?

A. Approximately six billion, and say three hundred million

Q. That included domestic, industrial and miscellaneous?

A. Yes, sir, that was all sales.

Q. Now, of that amount, can you give us how much of that s plied in West Virginia was supplied to domestic consumers?

A. In West Virginia the company sold approximately 1,084,00 000 cubic feet to their domestic consumers.

Q. And how much to domestic consumers in Pennsylvania?

A. Approximately 7,966,000,000 cubic feet.

Q. And how much in Ohio?

A. Approximately 2,600,000,000 cubic feet.

Q. The remainder, then, of the totals that you have given us, I presume, would be supplied to industrial and miscellaneous?

A. Yes, sir.

Q. Can you separate those for us also?

A. In West Virginia the company sold approximately 3,300,000,000 cubic feet for industrial purposes. The company sold in the State of Pennsylvania approximately 5,700,000,000 cubic
19 feet for industrial purposes; and in Ohio, approximately 3,700,000,000 cubic feet for industrial purposes.

Q. And how much for miscellaneous?

A. In West Virginia, the company sold approximately 1,000,000,000 cubic feet for miscellaneous use, and in Pennsylvania about 1,600,000,000 cubic feet for miscellaneous use. And in Ohio, about 100,000,000 cubic feet for miscellaneous use.

Q. As a part of your duties as general manager, what do you say as to its being necessary for you to become advised and keep advised as to all the various gas fields in West Virginia, Pennsylvania and Ohio, and in other States adjacent thereto, the gas of which might be used for transportation into the territory supplied by your lines?

A. I would consider that it is a very important part of my duties to keep in touch with territory which does produce gas or which might be capable of producing gas; more particularly in the districts adjacent and intermixed with territory which my company has.

Q. Do you keep so advised?

A. Yes, sir.

Q. What do you do where you hear of a new territory being taken up, or wells being drilled, anywhere in Ohio or Pennsylvania or West Virginia, or in any of the States adjacent thereto?

A. About the first thing that is done, and done quickly, is to have one or more men from your leasing department go to the
20 neighborhood and attempt to and secure leases for property in that vicinity.

Q. Then what do you do?

A. If the developments warrant it, of course we start operations on the same.

Q. Do you keep advised as to what the result is of developments by anybody or any company?

A. Our various field foremen mail to our office each week a report as to all operations by other companies or other individuals in the same districts which we operate in.

Q. What about "wildcat" operations in other sections?

A. As soon as we become aware of the fact that there is a "wild cat," or a well designated as a "wild cat well," located so that the product will be available for the use of the Manufacturers' Company, as I state, we generally attempt and do secure acreage in the vicinity. Of course, it is of interest to all of us to know what the result of their exploration is. If they secure a well—of course, depending on how large, what value—why, we start operations, providing, of course, we are justified.

Q. So as to save time hereafter, will you explain what you mean by a "wild cat well"?

A. The natural gas industry is a very hazardous business, termed by some a gambling business, due to the uncertainty o
sults. The nature of the business is such that you can
21 a well in very close proximity to one that is producing l
quantities of gas, and still your well be dry. A well dr
in the neighborhood or vicinity of producing wells is not consid
a "wild cat," but if you should go out some distance from any
ducing territory and drill a well for the purpose of ascertai
whether there is any gas or oil in the sand, that is known as a "
cat well." In other words, it is a much wilder venture than the
nary drilling of a well.

Q. Is natural gas found in the same sand in different sections in different States, or is it found in various stratifications?

A. Gas is found in various sands, not only in the same States, in the same fields, in the same localities. Gas may be found in sand, and a well a reasonable distance from it be drilled and not found in that sand, but found in some other sand perhaps.

Q. How do you determine the presence of gas in any territory field?

A. The only way that the presence of gas can be determined a is by the erecting of a derrick or rig and the puncturing of a hol the earth. That is the only way of determining whether the gas at that particular spot or not.

Q. And drilling down into the various gas-bearing sa
22 A. Yes, sir.

Q. There is no other way that has ever been discov by the trade, is there?

A. None that I know of. I would like to know the way, if t is one.

Q. What do you say as to the localities in the country, as a wh in which natural gas has been found?—as to its being a large n ber of territories or in a comparatively small number?

A. Natural gas is found in a comparatively small numbe places.

Q. How is that, even as to the States of Pennsylvania, O and West Virginia?

A. They are small and separated.

Q. That is the various fields?

A. The various fields are.

Q. Have you made any calculations as to, for example, the portion of the area of West Virginia and Pennsylvania and respectively, in which natural gas has been found?

A. I have never made any figures, but it is a small portion of total area.

Q. A small portion of each State?

A. Yes, sir, that has known producing gas territory.

Q. After you have discovered gas, after the well has been dri
what, if any, methods are known to the trade whereby
23 quantity thereof can be ascertained or determined prio
the actual production?

A. There is no way that I know whereby the actual production of a well can be ascertained before gas has been discovered.

Q. Well, after it has been discovered, and before the well has been producing long enough to practically exhaust the gas in that particular well or territory, is there any way of ascertaining what quantity of gas will be obtained from any given territory, or even from any given well?

A. Attempts have been made to determine the amount of gas available. One method adopted is by taking the original rock pressure that was shown at the time the discovery—or the first well perhaps was drilled in that locality; taking the same rock pressure at the present day and the difference in the rock pressures as of the present day and the day that the well first came in will give, in a general way, the amount of the gas that you have taken out, provided, of course, you know the amount of gas that well has produced. I mean by that, should your original rock pressure show 100 pounds, and your present day rock pressure show 50, you would say roughly, that half the gas that is confined down in the bowels of the earth—or in this case the producing strata—would be half gone. If your original rock pressure was 100 pounds and your present rock pressure 25 pounds, you would say, roughly,
24 that 75 per cent of your gas has been utilized, 25 still remaining in the ground.

Q. Can you tell, when the well has been drilled and before you have taken out the gas, as you have described, what quantity of gas you are going to be able to take out of any given well or territory?

A. No. You can tell roughly what it is doing at that particular time that the test is taken.

Q. I don't mean that. Is it not the fact, with reference to this computation on the basis of pressure, that many wells with large pressure produce a comparatively small quantity of gas, while a well with a low pressure produces a very much larger quantity of gas?

A. There are wells with what is styled high rock pressure that only have a capacity of putting out a small amount of gas. On the other hand, there are wells with a small rock pressure, or a smaller rock pressure, that put out much larger quantities of gas.

Q. And to what is that due?

A. That is due to the hardness of the sand perhaps; that retards the flow, or it might be that the gas isn't there.

Q. This hardness of sand, or the degree of hardness, is termed by the trade, the porosity of the sand, is it not?

A. By some, yes, sir.

Q. After a field has been discovered, and drilling oper-
25 ations undertaken in that particular field, is there any way of ascertaining except, by the actual drilling of a well, whether you will get any gas or not in the particular well, or what quantity of gas you will get in that well, even where it is drilled in the same field and in proximity to other wells?

A. There is not.

Q. How does this gas come to the surface—what brings it to the surface?

A. The gas is confined in the levels or sand between the strata of earth, producing sand, and is confined there under pressure. As long as a well isn't drilled or a hole punctured into that reservoir, of course the pressure remains the same. If you drill your hole, or, in other words, puncture your hole down through until your reach that gas-bearing sand, that force drives the gas from the sand out up at the top of the hole; the compression under which the gas is confined forces the gas to the top of the hole.

Q. Is this pressure affected by the exhaustion of the gas in the sand or the——

A. The pressure is affected directly according to the amount of gas which is taken out of the well.

Q. What is the fact, as to being affected by the drilling of other wells in the same section?

A. Every thousand cubic feet of gas that is taken out
26 through that particular well, or any other wells in that same strata, naturally reduces the pressure.

Q. And what effect, if any, does water or oil have?

A. That has the same effect, of restricting the flow of gas from the gas strata, the gas-bearing strata, to the mouth of the well. And, in some instances, it goes further. That is, enough oil or water will collect in your well so as to completely stop the flow of gas up through that particular well.

Q. What is the fact as to wells being affected in their pressure and production by many causes still undiscovered and unknown to the trade?

A. There are other causes that of course restrict the flow of gas and lessen it. Some wells salt up. In fact, it is pretty hard to tell sometimes what is occurring.

Q. Isn't it the fact that the production of gas from a well in any field that has yet been discovered is entirely problematical, and is affected from time to time by all sorts of causes, some of which are known and some unknown to the trade?

A. I would say that the life of a well is very uncertain. There are many things that can happen which will stop the flow of the gas—reduce the flow of gas, or make it necessary to abandon the well completely.

Q. What has been the experience of the trade so far, as to
27 the necessity, after gas has been found and wells drilled, to find a market for the same, to avoid loss?

A. It has been the custom of all companies that I know of, to sell as large amounts of gas as possible. In practically all gas fields there is more or less competition; and the belief is that if you don't sell the gas, your competitors draw on that territory and sell it, and that you had better sell your gas, what you can, before the other fellow sells it. Competition has been so keen that we have always attempted to sell practically all the gas drilled. Years ago, when there was not

the demand for natural gas that there is today, there was a large surplus amount of gas, and we made great efforts to find markets for the gas and dispose of it. I don't wish to imply that those same conditions still apply to the present day.

Q. What has been your experience as to the practicability of drilling gas wells and shutting them in and not using them, and afterwards, in using them, find that there has been a loss both in pressure and quantity, on account of the well being shut in?

A. We have had wells shut in,—for instance, during the summer period, and when they would be turned into the line, say in the fall, or whatever time they were turned in, found that they had drowned out during the interval during which they had been turned out of the line. Again, we have made tests and are aware of the fact
28 that even though the well is shut in, the rock pressure has decreased.

Q. Is there any way that has yet been discovered by the trade for accounting for these peculiarities and idiosyncracies of wells?

A. Some gas men are of the belief that a well is more apt to drown out when not putting gas into the line than when it is shut in. They explain the drop in rock pressure by the fact that while your well is shut in, wells belonging to other companies, or perhaps wells which you own yourself, or are feeding into the line, have taken the gas out of that gas-bearing strata, and in that manner reduced your rock pressure. It might be, too, that enough, moisture has settled in the well during the interval that it was turned out of the line, and the well perhaps became partially drowned out, not totally drowned out.

Q. As a matter of fact, then, there is no accepted theory in the trade, is there, with reference to the situation which you have described?

A. No determined theory, I don't believe.

Q. After gas is brought to the surface, is there any way by which it can be stored, any practical way, before transmission to the points of consumption?

A. I am told that there are one or two companies who have a place in which they can turn the gas into holes that have been
29 drilled into the ground, and in that manner store the gas—putting the gas back into the sand, in a way. As I recollect, there is only one or two, perhaps three, of those localities. As far as the Manufacturers Light & Heat Company is concerned, or any company that I have been associated with, I know of no manner, no way that they have of storing their gas previous to it being marketed, other than permitting it to remain in the gas-bearing sands. A few companies who formerly sold artificial gas still retain their holders, which permits of a little storage. Other than the storage which their pipe line affords, they have no storage.

Q. Gas, then, when brought to the surface, must be marketed or lost?

A. It is either marketed or remains in your pipe line system or remains in your gas-bearing sand. If you don't remove the gas from the gas-bearing strata, and there are other companies drawing gas from that strata, they will secure the gas and you, of course, will not market it.

Q. When this gas is brought to the surface, to the mouth of the well, what is the system by which it is conveyed to market and delivered to the consumer?

A. At the present day? Practically all gas in our company, as it leaves the mouth of the well, enters what we call gathering lines, or branch lines, which connect the well with the lines leading to
30 the compressing stations. The gas is conveyed to them, up to the compressing station, and there enters the compressors at a lower pressure than it is discharged at. In other words, our compressing stations take the gas out of the low pressure, squeeze it or compress it so that it reaches a considerably higher pressure, and is then discharged into what is styled the main lines, main transporting lines. After leaving the compressor station and entering these lines, it travels up to where the branch line leaves and enters the community which is being served; and at various points in that town or city, regulators are set which reduces the pressure of the gas from the pressure in the main line to what we call an intermediate pressure. I mean by that, on our lines we have pressures on the main line varying from 300 pounds down. When we reach the community that is to be served, that pressure is cut by the use of regulators down to, say, 50 pounds, and then on that line another regulator is set, which further reduces the pressure of the gas to the pressure at which you deliver it to the consumer. On our systems, the pressure at which we deliver gas to the consumer is approximately 8 ounces. After the gas has passed through this last regulator, it enters various distributing lines, laid in the streets or alleys in that community, and from those lines a branch line is run to the house, the
31 building in which you are going to sell your gas; it is styled a service line. A curb-box is set on this service line, at a point where the curb would be, generally alongside of the sidewalk. From there the gas is conducted into the house, and at some point near the entrance to the house, an apparatus for metering the gas is connected. From that meter it passes into the lines of the consumer, the house lines of the consumer.

Q. The system then consists of gathering lines, the main transportation system, the compressor stations, the further transportation lines, and then the distributing system in the various communities where the gas is sold?

A. And the various appliances for regulating pressures.

Q. And the various appliances for regulating pressures intermediate to those respective points?

A. Yes, sir.

Q. Will you explain what you mean by a compressor station, or compressors, and their use?

A. In the early days our rock pressures—the pressure, of course, which drives the gas up and out of the mouth of the well—was very high, and we were enabled to transport that gas to market without any other force. As our consumers used the gas and this rock pressure declined, it became necessary, in order to supply your consumers with gas, to install these compressing stations. Ours are

of various sizes, various horse powers. We have five rather large stations on our lines. It takes the gas from the gathering lines coming from the well, and in a cylinder the gas is pressed to a smaller space, and as the gas is compressed of course pressure increases. It is then released out into your discharge es at a pressure equal to what it was compressed at. That is the pose of compressor stations. Without compressor stations, we haps would be unable to supply many of the consumers which now supply.

Q. And to what pressure do these stations compress the gas?

A. At various pressures, depending entirely on the amount of which your wells are capable of producing, and depending, of rse, on the rock pressures that are in your line. In some dis-ts, we take our gas at a zero pressure. Sometimes at Waynesburg, ound or a pound and a half intake pressure, and a discharge ssure as high as 130 pounds. In our Sedalia field in West Vir-ia we take the gas as low as 12 and 13 pounds, and as high some-es as 150, intake pressure. When we are taking gas from the pe line at Hundred, the lowest pressure would run along 30 pounds, ake pressure. At Majorsville, at the present time, our suction ssure or intake pressure is about 40 pounds. The discharge pres-e reaches sometimes as high as 300 pounds. Of course, there are other times when it is much lower.

Q. This gas is used by consumers for what purposes?

A. This gas is used by domestic consumers for the purpose cooking, lighting, hot water heating and the heating of the home. is used by industrial consumers for various uses,—we have steel nts, glass factories, potteries, machine shops, foundries—various lustries who receive gas from our lines.

Q. What is the longest distance on your lines from which gas is nsmitted?

A. From the most southern point to the most northern point i proximately 167.8 miles.

Q. Now, just give us those points.

A. I can't do it. I can show you these points—(referring to ap).

Q. Never mind, just state about where it is, the southern point.

A. Well, say, from our most southern point, in the Hundred field, our most northern point, in Mercer County, Pennsylvania.

Q. Where is the Hundred field?

A. In West Virginia, in Monongalia County. I want to change at answer,—The most southern point would be Sedalia Station.

Q. In what county?

A. Doddridge County.

Q. What would be the most northern point?

A. The most northern point is up in Mercer County, Venango County, Pennsylvania.

Q. In Mercer County or Venango County, Pennsylvania?

A. Yes, sir.

Q. Does the Manufacturers Light & Heat Company receive this gas hich is delivered to it or which it produces in West Virginia, into own transmission or main lines?

A. The gas it purchases?
Q. Either purchased or produced?
A. Yes, sir.
Q. And does it transport that gas itself through West Virginia and into Pennsylvania?
A. Yes, sir.
Q. Through its own lines?
A. Yes, sir.
Q. Owned by it?
A. Yes, sir.
Q. And does the Manufacturers Light & Heat Company deliver to the consumer at the various points of consumption, the gas thus received and transported?
A. Yes, sir.
Q. Through its own lines and distributing systems?
A. Yes, sir.
Q. And it owns those lines and distributing systems itself?
A. Yes, sir.
Q. It is the same corporation, is it?
35 A. The same corporation produces gas in the three States in which it operates, buys gas in the three States in which it operates, transports and sells gas in the three States in which it operates.
Q. Without the intervention of any other company?
A. Yes, sir.

Here the hearing was adjourned until Wednesday, May 12th, 1920, at 10:00 o'clock A. M.

36 Wednesday Session.

(May 12, 1920.)

And now, Wednesday, May 12, 1920, the hour of 10 o'clock, A. M. having arrived, parties met pursuant to adjournment, at the offices of The People's Natural Gas Company, Pittsburgh, Pa.

HARRY A. QUAY resumes the stand.

Direct examination continued.

Mr. Weil:

Q. You stated, Mr. Quay, that the same corporation, the Manufacturers Light & Heat Company, produces gas in the three states in which it operates, buys gas in the three states in which it operates, and transports and sells gas in the three states in which it operates. State whether or not it does this continuously, all the time?
A. It does.
Q. State what the facts are as to the movements and currents of gas in the lines from time to time, the directions in which it goes,

and to which states,—giving us somewhat in detail the practical facts with reference to the gas currents in the lines.

37 A. We purchase, and there is delivered to the Manufacturers Light and Heat Company by the Hope Natural Gas Company, at our compressing station, known as Sedalia Compressing Station, in Doddridge County, West Virginia, large sums of gas. We have gas from our own wells in the same district. Both these gases, together with other gas that is purchased, enters the compressing station. There are two large compressors in that station,—one is used exclusively for compressing gas purchased from the Hope Company, the other for the balance of the gas. In addition, at times, a portion of the gas coming from the Hope Company is admitted and mixed with the gas in the second engine. The gas is discharged from these two engine compressors and enters the same main line or distributing line leading to the various communities which we serve. The same situation exists at our Hundred station, located in Wetzel County, West Virginia. The same situation exists at our Porters Falls compressing station, located in Wetzel County, West Virginia, with this exception: that the gas purchased from the Hope Natural Gas Company, instead of mixing with our own gas at the station, enters the same gathering lines, which gathers our own gas some five or six miles away from the station. The gas compressed at the Sedalia station and at the Hundred station enters the

38 discharge lines at these stations at a point farther along north; They join and meet and enter into the main discharge line of the Manufacturers Heat and Light Company, at a point designated by us as Loudenville, or near Loudenville.

Q. What county?

A. That would be in Marshall County.

Q. West Virginia?

A. West Virginia. The gas leaving the Hundred station passes through the balance of Wetzel County, and enters and crosses over the Pennsylvania state line at the extreme southwestern part of Greene County, which is located in Pennsylvania; passes out of the state of Pennsylvania, and again enters the state of West Virginia, and meets with the line coming from the Sedalia Station at the point which I designated as Loudenville. The gas compressed at these two stations enters into our 16-inch main line, which passes in a northeasterly direction through Marshall County, West Virginia, and again crosses the state line dividing the states of West Virginia and Pennsylvania——

Q. Just a moment, Mr. Quay. Interrupting you here, I would prefer to take up the lines a little later, from the map, and follow them in their respective courses as you are doing now. You

39 misunderstood my question. I will repeat it in another form: The question I was asking was not with reference to the specific lines or the specific locations, because I expect to take that up on the map, and we can follow it more readily, but was with reference to the currents of gas in the lines, as to the direction, from one state to another, that they followed. What is the actual practical experience as to that?

A. The pipe lines of the Manufacturers Heat and Light Compa
are connected together. Any gas entering their lines is permitte
flow in any direction which it chooses, or actually does. Natural
in our lines is never at rest. If there is a large demand for ga
one point, the gas in the lines naturally runs to that point. Perh
it will be heavier loaded at another point, the gas flows to that poin
Whatever point *point* there is a large demand. It crosses freely
point or any state line.

Q. Well, what are the facts as to the gas passing continuously
otherwise in any particular direction?

A. The gas passes from the state of West Virginia into the s
of Pennsylvania, passes from the state of Pennsylvania back i
West Virginia, passes from the state of West Virginia into Ohio,
passes from the state of Ohio back into West Virginia.

40 Q. And what about the currents of gas in the line,
they stable or not in any particular direction—do t
change?

A. They are not. They are likely to change any hour of
day, or any day of the month, any month of the year.

Q. What has been your observation in that respect, from y
operation of the lines?

A. That is actual conditions as I observed them from operati

Q. I would like to have you explain what does that, change
current of gas from one direction to another in the same p
line—at different instances?

A. I would say that if there is a larger demand at one point t
at another, and there is more gas taken out at that particular po
than at another, the gas naturally goes to the point of lowest press

Q. The gas, then, in the lines, if I understand you righ
flows in one or another direction, according to the lowest press
at any particular point?

A. That is correct.

Q. And does it change frequently—this current?

A. I would say yes.

Q. Give us the facts as to the production of gas and oil,
when the developments for gas became a separate ind

41 try—what are the facts?

A. In the early days of the industry, drilling operati
were carried on for the sole purpose of finding and discover
oil. In the drilling for oil, quantities of natural gas was
countered, and at that time it was considered a hindrance and
annoyance to the owners; it was also a source of considerable dan
inasmuch as the gas was liable to ignite, destroy their derrick,
cause accidents and delays in operation. Ordinarily the prac
was to conduct this gas off to one side of the regular derrick
light it, permit it to burn. Of course, it was discovered that it
heating qualities, and that it had the quality of giving light.
working on and about the lease began to conduct a portion of
gas off to their shanty or boiler house, and there used it for lighti
and some for heating; it gradually extended to homes in the vicin
later on to little settlements, and so forth, and finally was piped
larger towns. My actual experience or first knowledge of natu

gas was at Oil City, Pennsylvania, I believe I was along seven or eight years old. They were burning gas in that city, and I remember distinctly my aunt showing my parents and myself this gas burning in her cookstove. It was a regular coal cookstove, the burner in it was a pipe which had holes drilled in it.
42 I recollect that she raised the kettle and showed my mother that there was no soot or dirt as usually occurred when cooking with coal and wood. Perhaps the fact was more impressed on my mind for the reason that my parents ran a hotel, and my mother quickly realized the value of natural gas for the purpose of cooking. We resided at Meadville, Pennsylvania, Crawford County, I would say, roughly, twenty-five to thirty miles from Oil City. My father was in council at that time, and I think perhaps two years after that, through efforts made by the citizens, we got natural gas. That was in the year 1886. When that gas was first piped into our home, I recollect that it was sold at so much per stove. My parents made a contract for gas for a period of five years, at the rate of 50 cents per month per stove. The general practice by consumers of natural gas at that time was to light these stoves, and during the winter perhaps never closed the valves or reduced the amount of gas which they consumed. If the room got too warm, the door or window was opened, and in that manner the temperature was regulated. There was apparently an abundance of natural gas. Many people thought it would last forever, and it was very wastefully used. It was discovered, however, in two or three years after that that the amount of gas was being depleted, and that there were shortages at some times. It was realized
43 by those in the industry that steps must be taken to secure additional gas supply and at the same time conserve and stop this great waste in the manner in which it was being burned. A large gas field at that time was in and around Oil City; they began to extend their fields and secure additional supplies; and I recollect that that was the beginning of the installation of meters. It was considered a critical time in the gas industry, there was a great deal of opposition on the consumer's part to the installation of these meters, practically every one being of the opinion that by the installing of a meter their gas bills would be greatly increased. Meters were installed, however. In those days, inventors, people connected with the industry and outside of the industry, devoted a great deal of attention to perfecting appliances, by which natural gas could be used and consumed with much smaller quantities of gas. Gas ranges were put into use, stoves especially constructed for the burning of gas—heating—were installed, and it was shown that those who secured these gas saving appliances, who watched and used their gas economically, burned it, if anything, cheaper than at the old rate. With reference to the Manufacturers Light
44 and Heat Company, their first operations were in and about Washington, the town of Washington, situated in Washington County, Pennsylvania. Later on, as their source of supply became more or less depleted, their field was extended into what was known as the Hickory Field, some distance—say ten or fifteen miles from Washington——

Q. Washington, Pennsylvania, you mean?

A. Washington, Pennsylvania. As that field was drawn and depleted, they developed a field—what is known as B Field—in Washington County.

Q. In Washington County?

A. Washington County, Pennsylvania. From that field took up territory in Greene County and in West Virginia—a tory bounding on each side of the state line. The Wheeling N Gas Company, which the Manufacturers Company purchased entered into that territory.

Q. Into which territory?

A. Into the territory which I have mentioned.

Q. Greene County, you mean?

A. Greene County, and what is known as the Cameron D West Virginia. Prior to that time, however, they were furn large quantities of gas to the City of Wheeling.

45 Q. Who was?

A. Manufacturers Company and the Wheeling N Gas Company. The records show, I am informed, sales as h 35,000,000 cubic feet per day. It was delivered by my com gas produced in Pennsylvania and sold in Wheeling, West Vi and in that immediate vicinity. Later on the company dev —or at about the same time they secured territory in what is k as the Hundred field. Later on——

Q. Just a moment. When you give the names of these tell about where they are situated—Hundred Field where?

A. In West Virginia.

Q. In just what county?

A. Say in Wetzel County and Marion County, West Vi Later on, they made extensions and began operations in w known as the Sedalia Field, in Wetzel and Tyler Counti Doddridge County.

Q. Do you remember what year it was that the Manufa Company first went into West Virginia for its gas—any of it

A. To the best of my recollection, it was along about 1 '89—I might be incorrect on that; it was before my time.

Q. Now, you gave us a bird's-eye view of the hist

46 the development of the natural gas business. Witho ing into details, state what the facts are as to the of the business from that time to the present time, as to i portions?

A. Perhaps, starting with the year 1910, when I came wi company——

Q. I don't mean t Manufacturers Company alone, I generally, speaking no about the natural gas business gen

A. You mean proportionately as to their gas available a number of consumers?

Q. No, just whether or not natural gas is being used present time in sections of Pennsylvania, in a number of di populous sections of Pennsylvania. What are the facts as to

A. Oh, they supply communities that are located any near on every line—large communities. In fact, up to with

last few years, every effort has been made to extend the business, the number of consumers and the amount of gas sold.

Q. What are the facts as to populous districts and sections of Pennsylvania being dependent upon natural gas wholly for their fuel for domestic purposes?

A. An estimate that I have made——

Q. I don't care to have you go into details.

47 A. A large number; I would say millions of people in Pennsylvania depend upon natural gas for domestic purposes.

Q. Exclusively?

A. Practically so, yes, sir.

Q. Well, now, where natural gas is used as a fuel in dwelling houses and also in industrial plants, is it necessary to construct them specially for this purpose?

A. To burn gas economically, it is essential that they have regular gas-using appliances, built, constructed especially for the use of natural gas.

Q. And what are the facts as to the use of gas in industrial plants in the same particular?

A. When the price of natural gas was very cheap, it was used in a great many crude appliances, but as the price advanced, the industrial user has been forced to adopt appliances specially constructed for the use of natural gas, so that he might burn it economically.

Q. Where dwelling houses have been constructed with the burning of natural gas as a fuel in view, and with natural gas appliances installed therein, what are the facts as to whether or not, to introduce other fuel, it is necessary to reconstruct such houses?

A. I know of many that it would be necessary to reconstruct. I mean by that that some of the houses are built without flues

48 or chimneys. To burn coal or wood it would be necessary that flues be constructed and certain changes made in the homes.

Q. And in those houses which have been constructed with the intention of usig natural gas as fuel, where there are flues and chimneys, what are the facts as to the sizes of those flues and chimneys for other fuel?

A. I know of quite a few that the flue inside the chimney is restricted to such small size that coal cannot be burned successfully,—that is, the smoke comes out into the rooms. It would be necessary for them either to tear those down or reconstruct in some manner, and make a larger flue or drafts, for the burning of coal or other fuel.

Q. From your experience and knowledge of the business and observation in those towns or cities, in which natural gas was used as a fuel, and in which there have been large construction of houses during the last few years, especially five or ten years ago, were those houses built solely with reference to the burning of gas? Or were they planned and built with reference to the use of other fuel as well —What was the custom?

A. A great many of them were built for the sole purpose of burn-

ing gas. Now, that situation perhaps has changed in the
49 two or three years. Previous to that time the supply of
was very good, but for the last three or four years, our c
pany, as well as other companies in this vicinity, has been unabl
all times to supply the full requirements of their consumers.
shortages have occasionally occurred. This has brought atten
to the fact that natural gas is not going to exist for ever and
they might be called upon at some time to substitute other fue
the immediate future.

Q. And that is what has brought about then the change in
methods of construction to which you have referred?

A. Yes, sir.

Q. Now, can you give us about the time when you entered
the state of West Virginia—your company—for the purpose of
curing this gas supply? You have told us about its going in,
you did not give us the date.

A. I stated along — 1888 or '89, to the best of my recollec
now, I don't know exactly.

Q. Well, give us your best recollection, about what date?

A. I couldn't say.

Q. I say, what was it—1888 or '89?

A. 1888 or '89, I think now.

Q. Well, that is near enough for our purpose.

A. I wouldn't want to say exactly.

50 Q. Well, now, from the time that it entered the stat
West Virginia, give us the facts as to the production in W
Virginia becoming, if it did become, the immediate source of your
supply,—what are the facts as to that, and when did they occur?

A. The longer a gas field is in service, the less gas it still ha
maining for the use of its customers. Things being equal, a
field should be longer lived and produce more gas than an older f
The territory which this company has, which I styled as the C
eron Field, West Virginia, is in my opinion, the most productive
which the company has.

Q. Well, now, beginning in 1888 and '89, as you have alre
stated, you had fields in Pennsylvania as well as West Virginia?

A. Yes.

Q. When, if it ever did, did West Virginia become the chief so
of your gas supply? Has it ever become the chief source of y
gas supply?

A. Since along about 1910.

Q. Since 1910?

A. Yes, sir.

Q. Then for about ten years?

A. West Virginia has been the chief source of supply
the Manufacturers' Heat and Light Company for about
51 years.

Q. You have given us the amount of gas taken out in 1
and from that, of course, we can get the exact proportion?

A. Yes.

Q. Now, what are the facts, however, as to the depletion of y
Pennsylvania and Ohio fields?

A. In what way?

Q. Yes, what are the facts as to their being depleted?

A. They are rapidly being depleted.

Q. What are the facts as to the declines in the production of gas from your Ohio and Pennsylvania fields, whether rapid or otherwise?

A. The decline in this field has been the ordinary decline up, I would say, to the last year or two, it has been rather rapid since that time, I would say fairly rapid for the last four years.

Q. Have you any other fields in Ohio and Pennsylvania that you are holding in reserve, or to which you can look for supplementing your gas supply,—of your company?

A. Other than the fields which this company owns, I know of no fields available; I have no knowledge of any.

Q. You mean by that, no knowledge of any fields, whether owned by your company or anybody else?

A. Or anybody else.

52 Q. What did the Manufacturers' Company do, without going into details, but just stating generally—what did it do as to its developments in West Virginia of gas and the transportation of the same? What does the company do?

A. In what way, Mr. Weil?

Q. Well, I want to show, for example, the action of the Manufacturers' Light and Heat Company in West Virginia. Now, I want to show generally what is necessary,—to one not initiated in the business, what it is necessary for a company to do, when it goes into any territory to get gas and transport it?

A. The general manager, or an official of a gas company, having decided that a certain locality might perhaps be productive of gas, sends one or more men from his leasing department to that vicinity, and secures a lease on the grounds that he desires to drill, or to hold in reserve. These men see the farmers, or the owners of the land, and a written instrument is entered into, which permits and allows the company to enter upon his land, the owner's land, and begin developments for the drilling of a well. These leases are generally made by the payment to the owner of a certain yearly rental until a well has been drilled and production secured. The average rental

53 usually paid is one dollar per acre per year. There are many variations, some less and some higher than that price. If oil is discovered, the royalty is generally one-eighth of the oil. If natural gas is secured, the owner is paid a certain sum of money for each well, as long as it is productive, and gas is taken from the farm and used for sale. Having secured the leases,—and it is the custom to secure sufficient leases, so that in the event a production is secured, your well is protected—a structure is built; or rather, previous to that time, the manager of the company makes a location at the point at which the well is to be drilled. An engineer is sent from the engineering department, and by careful measurements a well located and plotted. The location having been made a structure is built,—a very heavy structure known as the rig or derrick. A contract is entered into with the contractor for the purpose of drilling a well, or in some instances a well is drilled by machinery, the men working direct in the employ of the company. In building the rig, heavy timbers are first used, known as the sills, the

floor is constructed for the balance of the rig. The drilling out is moved in, which consists generally of a boiler, bits—various siz bits—jars, stem, cable. The drilling of a well is really the pun
turing of the earth, the making of a hole. It is accomplish
54 by the weight of the tools rising and dropping, striking t
stone, slate or sand, or whatever substance is encounters its way down into the earth. It might be said, I presume, that bit—average bit—jars, stem, perhaps weigh two tons. It is t weight of the metal rising and dropping, which forces its way dow into the earth. The wells are not productive——

Q. Well, now, just a moment, so as to save time. After the we is completed,—You have described how you take up the territo and drill the well, and then sometimes other wells; what do y do then as to the laying of lines, if anything?

A. A man is sent from your right of way department——

Q. Well, never mind the details. Just what do you do as to la ing gathering lines?

A. Gathering lines are laid to convey the gas into your mai line from the well.

Q. And are main transportation lines laid?

A. Yes, sir.

Q. Now, then, to recapitulate, because I want to get at anoth subject: After taking up your territory, drilling your wells, an laying your gathering lines and your main transportation lines f the transportation of the gas, that constitutes in the main the activ ties of the gas company in entering any state or territory or fie
for the purpose of obtaining gas?

55 A. Yes, sir.

Q. After those respective operations—or rather, in tho operations all together which you have described, including t taking of territory and making of leases, the cost of obtaining t same, the drilling of wells, the cost thereof, the laying of the di ferent lines, the building of compressor stations, which you d scribed yesterday, and all other operations and activities of a com pany, how much has the Manufacturers Light and Heat Compan invested in the State of West Virginia, in obtaining and transpor ing gas for its system, since it entered the State of West Virginia u to the present time?

A. I would say that a fair estimate as to the money that the have spent in this work and the expense would approximate clos to $30,000,000, if not over that.

Q. Can you tell us what its present investment in the State West Virginia is, as carried in your capital account—approximately

A. Roughly, I would say approximately $6,000,000, propert value.

Q. At the present time?

A. Yes.

Q. Does that include the wells, leases and the lines?

A. That is the physical property reported for the pur
56 pose of taxation the value set upon our property by th
State for taxing purposes.

Q. You mean the State——

A. The State of West Virginia; I believe $10,000,000.

Q. That is, at the present time?

A. Yes, 1919, or 1918.

Q. After you made the contract, or did the making of the contract which you have described with the Hope Natural Gas Company, did that obviate or not the necessity of making still larger investments in the State of West Virginia on the part of the Manufacturers Company?

A. I consider it did, yes, sir.

Q. Other companies engaged in the natural gas business, or all companies engaged in the natural gas business, following the same method of procedure as you have described for the Manufacturers Light and Heat Company, have made large investments in the State of West Virginia in obtaining and acquiring lands, drilling wells, laying pipe lines, paying rentals and royalties, installing pumping and compressor stations, and other necessary incidents to the natural gas business. Now, can you give us in round numbers approximately, or your estimate, of the amount that has been so invested, by all of the companies?

57 A. I would be unable to answer that, only in this way: That I am familiar in a general way with the Hope Company as it was prior to, say, ten years ago, and the Reserve Natural Gas Company. I am acquainted in a general way with the territory owned by these companies, in so far as it adjoins or is in close proximity to ours, and also of the Philadelphia Company. I can only say that it must be millions, tens of millions—tens of millions of dollars—basing it on our own expenditures.

Q. You have no means or method then of making any estimate?

A. No, I have not.

Q. Do you know for what purpose these investments were made, with reference to the use of the gas,—as to where it was to be transported and sold,—as to the Manufacturers Light and Heat, and as to all of these companies?

A. Speaking for the Manufacturers Light and Heat Company, this money was expended, and the developments made, for the purpose of supplying all of its customers as much gas as it could possibly secure for their use.

Q. And what as to the other companies, if you know?

A. Those that I am familiar with, it was the same condition.

58 Q. Do you refer, when you say those that you are familiar with, to the companies that you named a moment ago?

A. Yes, and from acquaintance with the officials of other companies.

Q. What other companies generally?

A. The Philadelphia Company, the Ohio Fuel Supply, the United Natural Gas Company,—those.

Q. Do you know anything about the Carnegie Natural Gas Company?

A. I am well acquainted with their management, and at Waynesburg, and in our Cameron field, where they have territory, I am somewhat familiar with them.

Q. What would be the fact as to destroying the market for their

gas, if you would restrict the transportation of these respective companies?

A. If their supply was restricted and transportation, of course it would mean that there would be less gas for customers or patrons beyond the point at which it was restricted.

Q. And what would be the effect on the market value of the property of the investors?

A. I would say that the market value of the property, without gas to serve the patrons, would be very little.

Q. Are you familiar in a general way with not only your own towns, that you supply with gas, but the towns in Pennsyl-
59 vania that are being supplied by other companies?

A. I am, for the reason that I have worked and inspected in a great many of them.

Q. Taking the list attached to the bill of complaint of The Commonwealth of Pennsylvania against The State of West Virginia, being Original No. 23, in the Supreme Court—Do you have a copy of it there?

A. Yes, sir.

Q. Now on page 6 of that bill of complaint, first look over that list, then I want you to tell us if you know how many of those towns are being supplied with natural gas, in the State of Pennsylvania?

A. I would say that — are over a hundred of the towns listed there which my company supplies gas to. There are five or six, perhaps more than that, that we serve part of those communities. And there are a great many of these towns that I see mentioned, in which I have inspected and know that they consume gas.

Q. In order to avoid going over the list, will you just look over the list yourself—and we will wait while you look it over—and see if there is any portion of that that you are not familiar with, and couldn't say as to being supplied with gas by one or other of the natural gas companies?

A. I think I could safely say that practically every town
60 that is printed or designated in which a population is shown, with perhaps one or two exceptions, I know has been served with gas. That is, either directly or indirectly,—that is, by my own actual knowledge or by information. Now, when it comes to these smaller places, there are quite a few of them that I know nothing about.

Q. That is, on pages 8 and 9?

A. Pages 8 and 9. There are approximately 55 or 60 of those places designated on pages 8 and 9 that we supply, and I know that they are getting gas. Quite a few of the other names or localities designated, I know, but I don't know all of them on there, I wouldn't be able to tell.

Q. Well, could you give us an estimate then? Would you say that you know over half, or over two-thirds, or three-fourths, or what would you say?

A. Of the total?

Q. No, of those on pages 8 and 9.

A. I would say I know half of them anyway, fifty per cent or more.

Q. All of those in Allegheny County you would know about, wouldn't you?

A. No, I wouldn't want to say that I would, because there are some smaller companies in Pennsylvania that supply gas
61 that I might not be aware of—or in Allegheny County rather. I can give you the names of those that this company supplies.

Q. Well, suppose you do that, so as to be a little more specific—Give us the names of the towns supplied by the Manufacturers Light and Heat Company.

A. Part of the City of Pittsburgh, New Castle, Washington, McKees Rocks, Beaver Falls, a small part of Carnegie, Rochester, Knoxville, St. Clair Borough, Coraopolis, Ambridge, a small part of Crafton, Sewickley, Avalon, Mt. Oliver, Ellwood City, Canonsburg, New Brighton, Bellevue, Carrick, McDonald, Mt. Lebanon, part of Bridgeville, Bentleyville, Leetsdale, part of Heidelberg, Ben Avon, Aliquippa, Waynesburg—part of Waynesburg—Beaver, part of Monaca, part of Clairton, Freedom, part of Westview, Conway, Emsworth, Oakdale, Edgeworth, Hazeldell, Greentree, Dormont, Banksville, Ben Avon Heights, part of Blair, Bruceton, Castle Shannon, Coraopolis Heights, East Bellevue, Ewing Station, Fairhaven, Fair Oaks, Federal Forest Grove, Glenville, Glen Osborne, Groveton, Haysville, Library, Neville Island, Noblestown, Oak Station, Option, Rennerdale, Sewickley Heights, Stoops Ferry, Sturgeon, Westwood, part of Woodville, Clinton, Cochran Mills, East Rochester, Economy,
62 Fallston, Glasgow, Georgetown, Koppel, Smith's Ferry, West Bridgewater, Woodlawn, part of Dunn Station, Ridgeville, South New Castle, Amity, Beallsville, Dover and Bulger, Hickory, Lawrence, Marianna, Midway, Scenery Hill, West Middletown. That completes the list.

Q. All of those places that you have named then are being supplied, in whole or in part, by the Manufacturers Light and Heat Company at the present time?

A. Yes, sir.

Q. And have been for some considerable time?

A. Yes, sir. There are one or two communities, smaller ones, that we went into—oh, three or four years ago—with that exception.

Q. All of these towns which you have named are in Pennsylvania?

A. In Pennsylvania, yes, sir.

Q. Do you have any list with you so that you can give us the names of the towns that you supply in the state of Ohio, your company?

A. I can give you the larger communities perhaps, pretty nearly all but the real smaller communities. In Ohio we furnish gas to the City of East Liverpool, Wellsville, Toronto, Steubenville, Mingo Junction, Rayland, Newarkville(?), Tiltonsville, Martins
63 Ferry, Bridgeport, Bellaire, Shadyside, Clarington, three or four smaller—three smaller communities, one of them is called Texas, opposite New Martinsville, West Virginia, one is Sardis, and I forget the name of the other community. Now, there are perhaps ten or fifteen smaller communities in the state.

Q. In the state of Ohio?

A. Yes, like Wintersville, smaller communities of that kind.

Q. Have you any means of estimating the population in Pennsylvania that is using natural gas for fuel and light—not only from your own company but from all the natural gas companies supplying——

A. Some companies' officials compute that for each meter which they have connected there are four persons in that community—that is, if you have 1,000 meters, it would represent a population of 4,000 people. There are others who do not agree with that. They claim there would be about five persons for each meter which you have connected.

Q. Well, what is the total number of meters, if you know, of all the companies in Pennsylvania supplying natural gas?

A. I would be unable to state the number of meters in Pennsylvania.

64 Q. Well, can you give us approximately, or can you give us an estimate made by yourself of the total population in Pennsylvania which is using natural gas? Or have you made no such computation, from your knowledge of the business?

A. I have made no estimate at all. I am getting the information. For instance, the number of meters which the Peoples Company have, the number which the Equitable Gas Company have and ourselves, we would arrive at the fact that it is over a million, at least.

Q. That is, from those companies?

A. From those companies.

Q. Do you know from your own information what companies, of the real large companies, obtain their supplies of gas substantially wholly from the State of West Virginia, for domestic consumers?

A. I know that the East Ohio Gas Company, supplying gas in Ohio, and the Peoples Natural Gas Company, Pennsylvania, the Fayette Natural Gas Company and the Manufacturers Light and Heat Company practically receive their gas for domestic purposes outside the state.

Q. And what about the Carnegie Natural Gas Company?

A. I don't know. It is my impression that the Carnegie Natural Gas Company has their own production. Of course, they might buy some.

65 Q. I mean, either produce or buy? It doesn't make any difference.

A. I know that they have production in the State of West Virginia.

Q. And what about the Philadelphia Company?

A. They have production outside the state.

Q. In what state?

A. State of West Virginia.

Q. And the Ohio Fuel Company?

A. I am not able to say whether they have production in West Virginia or not—that is, gas production.

Q. Are there any industrial plants or domestic consumers in

Pennsylvania that are wholly dependent for fuel upon the natural gas transported from West Virginia into Pennsylvania?

A. I would say that none that I know of are wholly dependent—Well, I will have to change that answer. I know of a few who at the present time are wholly dependent upon natural gas for fuel. The condition in the industrial——

Q. I am speaking now of both industrial and domestic consumers.

A. Yes, sir.

Q. My question was as to both.

A. Yes, sir, they are dependent entirely on natural gas.

66 Q. Now, distinguish, as you were going to do, as to the industrial consumers.

A. With a few exceptions, all of the industrial consumers on our lines have so equipped themselves with substitute fuel that in times of emergency the supply can be practically discontinued. However, some of them where gas is very essential and the amounts very small, and used for particular purposes, it has been rather hard for them to substitute. The domestic consumers, there are thousands of them, who have no other way, at the present time, at least, of heating their homes or cooking, other than with natural gas.

Q. Are there any known gas fields outside of those now occupied and in use, within any reasonable distance from the territory supplied by your company and other companies in this district, that are available, from which to obtain a gas supply?

A. None that I know of.

Q. What are the facts as to those fields being at the present time adequate or not?

A. The companies that I am acquainted with, I would say that the present fields are not adequate to supply their consumers with all the gas they need at all times—not nearly adequate. Neither is the field capable of supplying anywhere near the amount of

67 gas which could be sold if you had it for sale—that is, customers, speaking of those on the lines of the Manufacturers' Light and Heat Company, I could sell millions of feet of gas more a day to industrial concerns, could even extend lines to supply and put on additional domestic consumers, if we had the gas available for sale.

Q. At the present time, are the known gas fields occupied and in use?

A. You mean, in this——

Q. I mean, tributary to this section.

A. So far as I know of, yes, sir.

Q. Mr. Quay, calling your attention to the map which is here, and which for purposes of identification, I will have marked by the stenographer as Pennsylvania Exhibit No. 1, can you have made from that map blueprints reduced in size?

A. Yes, sir.

Q. And will you have those made subsequently, so that they may be used by counsel and parties in these cases?

A. Yes, sir.

(Large map showing gas districts of Pennsylvania, Ohio and West Virginia marked as Pennsylvania Exhibit No. 1 of this date.)

68 Q. Does this map show the location of the lines of the Manufacturers' Light and Heat Company in Pennsylvania, Ohio and West Virginia?

A. It shows the main lines; it does not attempt to show all the lines of the Manufacturers Company—distributing lines, and so forth.

Q. This map shows the main transportation lines?

A. Yes, sir.

Q. It does not show the gathering lines?

A. It shows a few, not all, of the gathering lines. It is intended to show the districts from which natural gas is secured, gathering lines, and the lines which transport the gas to the communities which are served. There are some of the smaller communities that lines supply that are not shown. These are the main lines.

Q. It does not show then all of your gathering lines, nor does it show any of your distributing systems in the respective towns or cities?

A. It does not.

Q. Now, Mr. Quay, will you just point out to us on this map, Pennsylvania Exhibit No. 1, the lines of the Manufacturers Heat and Light Company, beginning at the southernmost point in West Virginia, taking up one main line after the other, showing the various large points of consumption on that line, and the respec-

69 tive places where it crosses and recrosses the state lines between the different states, whether Ohio and West Virginia, or Pennsylvania and Ohio, or Pennsylvania and West Virginia. Take the different main lines separately, and give us the size of the main line.

A. The most southern point on the lines of the Manufacturers Light and Heat Company is located in Milton Township, Doddridge County, West Virginia. It is at a point where the company purchases gas from A. F. Randolph, well No. 2024. It is a six-inch line, designated by us as a gathering line. This line passes and joins with another six-inch line coming from a northerly direction, the two lines joining, then running in an easterly direction in Doddridge County. The size of the same is then increased to a ten-inch line.

Q. Now, what is the point at which they join?

A. You mean these two six-inch lines?

Q. No—Well, never mind that.

A. This line then goes in a northerly direction, with various branch lines which collect gas from wells in that vicinity, into our compressing station known as the Sedalia compressing station, in Doddridge County. There is also another six-inch line, gathering line, in the extreme southeastern portion of Wetzel County,

70 West Virginia, which runs in a southerly direction, which size of line is increased to ten-inch, and also enters the Se-

dalia compressing station, having branch lines, the same carrying gas from wells in that vicinity. There is also a connection at this point by which the Hope Natural Gas Company conveys gas to this compressing station, and is gas which we purchase from them under contract. Gas purchased from the Hope and other parties, and that which we produce ourselves, leaves the Sedalia compressing station, and enters the 16-inch discharge line. The line is laid and runs in a northwesterly direction from the station, leaves Doddridge County and enters Tyler County, then assumes a more northerly direction, and crosses the entire county of Wetzel, and enters into Marshall County, West Virginia, then assumes sort of a northeasterly direction, and again turns towards the north, crosses the southeastern portion or corner of Marshall County, and leaves the State of West Virginia and enters the State of Pennsylvania. This line becomes a 20-inch line in size at or near this point——

Q. Don't say "this point." At or near what point?

A. At or near the state line dividing the states of West Virginia or Pennsylvania.

Q. At or near Majorsville, is it?

A. No, it is three miles from there, I would say—well,
71 two miles.

Q. Two or three miles from the Majorsville compressing station; is that right?

A. Yes. It continues in a northeasterly direction, through Washington County——

Q. Well, now, just a moment. Just give us now its general extension, without going into details. It goes through Washington County and what other counties?

A. Into Allegheny County, from Allegheny County, and through connection with other lines, into Beaver County, Butler County, and on into Lawrence County, Pennsylvania.

Q. Now, then, in that line, flowing into that line and connected therewith, are numerous other smaller lines connected with the wells of the company, are there not?

A. Yes, sir.

Q. For example, you did not mention the line from Hundred station—isn't it?

A. Yes, compressing station.

Q. From the Hundred compressing station?

A. No, sir.

Q. Now, what is the size of that line, and where does it begin?

A. The line entering the Hundred compressing station—there are four or five lines.

Q. The main line.

72 A. The main or largest line is a 12-inch, and has its starting point in Marion County, West Virginia.

Q. And the other lines on the western side?

A. The Western side, the starting point, is in Wetzel County, West Virginia.

Q. What is the size of that line?

A. Six-inch line.

Q. And then what?
A. Then increases to ten inches in size?
Q. Then what?
A. Then to twelve..
Q. And enters the compressing station at Hundred?
A. Yes, sir.
Q. And there are still other lines that run into that station?
A. Four or five or six other lines entering the same station.
Q. And all of those are shown on the map?
A. All of the larger ones; there might be some smaller ones not shown.
Q. Now, then, running from Hundred station, that was a what sized line where it entered the 16-inch line which you described a few moments ago?
A. It was 12 inches in size.
Q. Up to the point where it entered the other line?
73 A. I think there is a portion of 16-inch line just before you reach the junction point.
Q. Now, that line extends from the Hundred station, as shown on this map, across from Monongalia County, across the corner of the State of Pennsylvania?
A. No, the discharge line from the Hundred station is in Wetzel County; it runs in a northwesterly direction from the Hundred compressing station, crosses the dividing line between the States of Pennsylvania and West Virginia, and leaves the State of Pennsylvania and crosses into West Virginia again, in Marshall County, West Virginia.
Q. And then finally connects with your main transportation line?
A. And connects with the 16-inch line which comes from the Sedalia compressing station.
Q. Without going into the details, these other lines, as shown upon this map, Pennsylvania Exhibit No. 1,—Do those correctly represent, as shown upon the map, the respective lines of your company?
A. They do.
Q. And where they are shown upon the map as crossing and recrossing the state line between Pennsylvania and West Virginia, does that correctly represent the fact?
A. It does.
74 Q. And all of these lines on the whole map have certain figures upon them, the different lines,—Do those figures indicate the size of the line, that is, the number of inches of the diameter of the line?
A. The figure with the mark indicative of inches, which you find paralleling these lines, represents the size of the lines.
Q. That is, the diameter of the line?
A. The diameter of the line; yes, sir.
Q. Now, taking the line, briefly, without going into detail, running up from the Porter's Falls pumping station, in Wetzel County and running up to the western edge of Marshall County, does that cross the line of the state from West Virginia into Ohio, back again into West Virginia?
A. The gas leaving the Porter's Falls compressing station passes north through Wetzel County into Marshall County, continues

through Marshall County into Ohio County. In Marshall County, there is a connection or branch line by which gas may be sent to Moundsville. Continuing north to Glendale, on the Ohio River, in Marshall County; and at that point there is a 10-inch river crossing, passing from the State of West Virginia across the Ohio River, and into Belmont County, in Ohio. That line on the Ohio side
75 of the river continues in a northerly direction—that is in the State of Ohio—until in the town of Bellaire,—Well, there is another connection attached to the same, it crosses the Ohio River and connects the line in Bellaire, Ohio, with a line passing and coming up through Benwood, West Virginia. It continues north again on both sides of the river, on the West Virginia side and on the Ohio side, and at a point a little south of Bridgeport, there is another 10-inch line crossing the Ohio River, and connects the line in Ohio with the line in West Virginia.

Q. Are there any wells at that point? I see something on the map here. Does that indicate any production in West Virginia at that point?

A. Not at that point. North of Wheeling and Warwood, I believe we are purchasing small quantities of gas. Now, this line passes north through Marshall County into Ohio County; from Ohio County——

Q. Just a moment, before we get up there. Here is a point again at Yorkville, Ohio. What is that?

A. The line which we have been talking about. Paralleling the Ohio River in West Virginia, it continues north to a point opposite the place designated as Yorkville, and crosses the Ohio River, supplying the consumers at Yorkville, Grover and Rayland. We
76 have purchased this point——

Q. Not "this point."

A. From a well located a little distance north of Rayland, and are making connections.

Q. That is, in Ohio?

A. Yes; and are making connections from that well in Ohio with this line I have described as coming from West Virginia.

Q. Now, then, pursuing this line up to Ohio County.

A. This line coming from the Porter's Falls compressing station leaves Ohio County and enters Brooke County, at the point in the City of Wellsburg, West Virginia; there is a connection and a pipe line crossing the river, connecting with a six-inch line, which supplies consumers located in the town of Brilliant, Ohio. The line from Porter's Falls continues north through Brooke County, and at a point opposite Mingo Junction, Ohio, there is another—or, in fact, two six-inch river lines, which connect the main line from Porter's Falls station with an eight-inch line in Ohio; continues north to a point opposite Steubenville, Ohio, and what is known as East Steubenville, I believe, in West Virginia, where there are four eight-inch lines crossing the Ohio River, and connecting the lines, the main line in West Virginia with eight-inch lines in the State of
77 Ohio, and it supplies also the domestic consumers in the City of Steubenville; continues north in West Virginia, supplying

Holliday's Cove, down to Weirton, and at a point just prior—or rath
at a point which would be about, perhaps, a mile west of Hollida
Cove, and south of Holliday's Cove there is a six-inch branch li
leaving this main line, and crossing the Ohio River, entering t
State of Ohio, and paralleling the Ohio River in Ohio, supplying t
town of Toronto, Ohio, with gas. The eight-inch line continues
up, becomes a six-inch line, and enters Hancock County. Sou
of King's Creek, in Hancock County, Ohio, this main line leadi
from Porter's Falls compressing station, passes out of the State
West Virginia, crosses the Ohio River, and enters the State of Oh
paralleling the Ohio River in the State of Ohio, and in a northe
direction passes Jefferson County, into Columbiana County, Ohio.

Q. Just a moment. Going back now to the line above Toron
what is the line that I see indicated upon the map here, with gath
ing lines, and so forth, in Jefferson County, Ohio, and west
Toronto?

A. At a point opposite New Cumberland, there is a four-in
branch line connecting two lines paralleling the Ohio Riv
78 in the State of Ohio, and just after this main line has left t
State of West Virginia and entered Ohio, which is used a
gathering line and carries gas both purchased and produced by c
company, back into the main line which parallels the Ohio Riv
and also supplies the consumers in the little town of Richmond, a
along the line.

Q. Where is that gas produced, in what state and what county?

A. Produced in Jefferson County, Ohio.

Q. Do you know how many wells you have there?

A. I think there are three remaining.

Q. And there are how many different producers from whom y
buy gas in that section?

A. At the present time, I believe the two wells are not produci
any gas, being drowned out—the quantities have been small.

Q. All right, go ahead with the line.

A. This line passes in a northerly direction, as I have stated, le
ing Jefferson County, and enters Columbiana County, Ohio, the s
of the line increasing from six-inch to 7⅝, and then to a ten-in
line, and enters the City of East Liverpool, Ohio, where we supp
a large number of consumers, both domestic and industrial.

Q. Well, now, just about East Liverpool, Ohio, on
79 north, and also on the west, are indicated upon this map c
tain small lines. Are those lines connected with produci
wells?

A. A branch line shows, connecting the 8-inch main line betw
the City of Wellsville and the City of East Liverpool,—a line car
ing gas which we purchased. The line which you see directly no
of the City of East Liverpool is gas coming from our own prod
tion, and also conveys gas which we purchased.

Q. Your own production and gas purchased in Columbi
County?

A. Columbiana County, Ohio.

A recess was here taken until 1:30 o'clock P. M.

80 Wednesday Afternoon.

(May 12th, 1920.)

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed pursuant to adjournment.

HARRY A. QUAY resumes stand.

Direct examination (continued).

Mr. Weil:

Q. We stopped up here, Mr. Quay, near Chester, on the map this morning. Now, just describe the lines that come in there at Chester.
A. Chester is a town in West Virginia, directly opposite from the city of East Liverpool, Ohio. There are four gas lines crossing the Ohio River——
Q. Of what size?
A. I think there are three of them 10-inch and one 8-inch.
Q. There is one 12-inch there, isn't there?
A. That is across the river, Mr. Weil. Three 10-inch and one 8-inch, crossing the Ohio River and connecting the lines on the West Virginia side with the lines supplying the consumers in East Liverpool. About two miles——
Q. Just a moment. North of East Liverpool is a line indicated on the map——
A. You asked me about that this morning.
Q. All right, go ahead.
81 A. West of Chester and East Liverpool, about—approximately two miles, is another river crossing gas line, which connects with an 8-inch line on the West Virginia side of the river in Hancock County, and connects with an 8-inch and 10-inch line in Columbiana County, Ohio. There is a 6-inch line connected to the 8-inch line mentioned on the West Virginia side of the river, in Hancock County, which runs in a sort of an easterly, or notheasterly, direction, and crosses out of Hancock County, crosses the State line dividing the States of West Virginia and Pennsylvania, and continues on into Beaver County, Pennsylvania, and supplies consumers in the town known as Smiths Ferry.
Q. Now, coming back to these four lines which you say cross from Chester to East Liverpool, those lines also extend from,—what is this point (indicating)?
A. Frankfort.
Q. From a point known as Frankfort, Beaver County, Pennsylvania——

The Commissioner. That is below Beaver County, Mr. Weil; that is Washington County, I think.

Mr. Weil:

Q. (con.) —In Washington County. Where does that line c
the line between West Virginia and Pennsylvania?

A. The three lines, gas lines, beginning or connecting
82 these four river lines mentioned, connecting Chester and
Liverpool, leave Hancock County, West Virginia, and c
the State line dividing West Virginia and Pennsylvania near a t
called Tyrkeyville—or Turkeyfoot, I think it is called, a little t
in Hancock County, West Virginia, crosses over into Han
Township, Beaver County, Pennsylvania.

Q. What is the size of those lines?

A. 8-, 10- and 12-inch, in size.

Q. Now, coming down to the lines of the company at or
Majorsville compressing station, how many lines cross there, f
Ohio into Pennsylvania?

A. The lines going into Majorsville?

Q. No, it doesn't make any difference whether they go
Majorsville or not. How many lines cross back and forth betw
the two States at or near Majorsville?

A. There are six or seven lines which cross the State line betw
the States of Pennsylvania and West Virginia in the district m
tioned as Majorsville, Cameron District.

Q. I observe on the map a number of small lines, which I ass
are gathering lines. Are those lines taking any gas from gas w
below, south of Majorsville?

A. The lines south of the Majorsville compressing station,
in that vicinity, are gathering lines, conveying gas from
83 gas wells to the compressing station.

Q. And those wells are located on both sides of the
both in Marshall County, West Virginia, and in Greene Cou
Pennsylvania, and Washington County, Pennsylvania, are they

A. The wells connected to those gathering lines, a portion
them are situated in Marshall County, West Virginia, a portio
Greene County, Pennsylvania, and a portion in Washington Cou
Pennsylvania.

Q. Without following these lines throughout, as indicated upon
map, Pennsylvania Exhibit No. 1, do those lines, as laid down on
map, show substantially the name, the gathering lines—or som
the gathering lines—the compressing stations, reducing stations,
of the lines, and the crossings from one State to another?—Are t
substantially correct?

A. Yes, sir.

Q. And what is this map. Is it the office map of the Manu
turers' Heat & Light Company?

A. It is the official map of the Manufacturers' Light & Heat C
pany.

Q. Without taking up each of these lines separately, in orde
save time, can you tell us at how many points they cross and re-
the respective State lines between West Virginia and Ohio, and W

Virginia and Pennsylvania? How many such crossings are there?

84 A. I believe that there are forty-three different points at which our lines cross from West Virginia into Ohio, from West Virginia into Pennsylvania, and vice versa.

Q. And how many lines altogether are there thus crossing, there being a number of lines at individual points?

A. In naming the forty-three, there are forty-three lines.

Q. Forty-three lines?

A. Forty-three lines.

Q. You mean by that, there are, then, forty-three lines that cross back and forth, as you have described?

A. Yes, sir, at least forty-three.

Q. And at some of these points there are, as you have already pointed out, several lines that cross at the same point?

A. Yes, sir. I want to verify that statement a little: In the Majorsville field we are so close to the line, our large operation along the line, that there might be some smaller lines that I have not counted; I have taken the larger lines.

Q. Can you tell, for example, using the Majorsville field as an illustration, the gas that comes into those lines and goes into the different States? Can you tell from which State that gas comes, or into which State it goes?

A. I couldn't answer that.

Q. Is there any way of determining that, as you now oper-

85 ate your system?.

A. I wouldn't know of any way.

Mr. Weil: I now offer in evidence the map identified as Pennsylvania Exhibit No. 1, with the right—if counsel will so agree—to substitute therefor, for the use of counsel on both sides, blueprints to be made from this map but in a reduced size; reserving, of course, to counsel for the defendant the right to make such comparisons as they may desire to make from time to time between the blueprint and the original map. Is that satisfactory to counsel for the defendant?

Mr. Blue: The State of West Virginia by counsel agrees to the introduction of the map, and the arrangement as stated by Mr. Weil will be satisfactory.

Mr. Weil:

Q. Mr. Quay, was it the companies engaged in supplying gas in Pennsylvania and Ohio, or companies engaged in supplying gas in West Virginia exclusively, that first developed the gas fields and gas territory of West Virginia?

A. My belief is that it was companies that originally began operations outside of the State of West Virginia.

Q. And about how long was it after these gas fields were developed before local companies were organized in West Virginia for

86 the purpose of supplying West Virginia consumers exclusively.

A. That I am hardly in a position to answer. I might say this:

That at Cameron, West Virginia, there are two companies furnishi
gas to cousumers in that place, in addition to a few which we suppl
The one company, I believe, began operations in 1911, the seco
in 1913. I believe that our company was operating in there,—o
I imagine in 1889 or perhaps 1890.

Q. Well, do you know of any local companies in West Virginia,
or what is the earliest date that you know of any company bei
organized in West Virginia for the purpose of supplying local co
sumers in West Virginia exclusively—I mean, as distinguished fro
these companies supplying both in West Virginia and in oth
States?

A. The Dunkard Valley Gas Company at Blacksville, West Vi
gania, I am told, began operations in 1886. That is the earlie
one I know of.

Q. Are you familiar with, as part of your duties as Manager
the Manufacturers' Company, and keep advised as to the operatio
and the developments of gas territory by local companies in We
Virginia as well as these other companies?

A. Any company, no matter who, that operate- in the same d
tricts in which we operate, we keep informed as to their operatio
to the best of our ability.

87 Q. Now, then, what is the fact with reference to those lo
companies in West Virginia supplying West Virginia co
sumers only, obtaining and holding reserve acreage, for the purp
of supplying their consumers?

A. The reserve acreage—or the acreage, rather, that those co
panies have that I am familiar with, is very small.

Q. Has it been the practice of those companies to hold in the sa
proportion reserve acreage, and drill additional wells to take care
their consumption, in the same way as the larger companies, or t
companies generally supplying gas in Pennsylvania and Ohio as w
as in West Virginia?

A. The amount of acreage held is small, as I stated; and, as a ge
eral proposition, their operations are rather restricted, drilling wh
forced to, when there is an insufficient supply.

Q. What is the practice and custom and usage of the trade, o
company supplying in any territory, as to its making foresight
provision, by reserve acreage and additional wells, to take care of
prospective consumption?

A. Any company I know of, if there is gas territory availab
which has indications of being gas-producing territory, they lea
or undertake to lease, practically as much as they can secure. Re
tive to the drilling, the nature of the industry is so peculi

88 inasmuch that in cold weather they are called upon to supp
large quantities of gas, that it is necessary for them to d
sufficient wells to take care of this extraordinary demand, or wh
the gas man styles "peak load," in the winter time. These additio
wells provide fuel that ordinarily would not be required for perha
say ten months out of the year. In other words, it creates a surp
gas flow. Again, it takes some months to complete a well, and a

company which provides good service has that in advance before it is really called upon to furnish it.

Q. Do you know whether or not these local companies in West Virginia, supplying local communities there, were able to pay dividends to their stockholders upon their capital stock, when the larger companies engaged in supplying gas not only in West Virginia but in other States were unable to pay such dividends? Now, the question was simply if you know.

A. Only by information.

Q. Well, have you obtained information on that subject?—Just answer that yes or no.

A. Yes.

Q. Now, I will ask you the question, What is your information upon that subject?

89 Mr. Hoffheimer: We object to this line of evidence, as having no bearing on the issues involved in this case; particularly as having no bearing upon the regulatory power of the State of West Virginia, or the validity or operation of the legislation in question; and as incompetent, irrelevant and immaterial.

Mr. Weil: For the information of the Court, the testimony offered is for the purpose of showing that the local companies in West Virginia which supplied local communities made no foresighted provision for the supplying of those communities with gas by obtaining additional territory—or reserve territory, as it is called by the trade—and drilling or buying gas wells, for the purpose or supplying that trade, but instead, paid out of their earnings currently whatever was received, and thus were enabled to pay dividends upon their capital stock; while these companies engaged in interstate commerce, as alleged by the complainants, which made such foresighted provision, obtained such territory and made the expenditures

90 necessary in drilling and purchasing wells, were unable to pay such dividends: and that, under the provisions of the Act now under consideration, these interstate companies would be compelled to supply these local companies with gas which they now require for their respective communities, notwithstanding the fact that these companies made no such provisions,—this at the cost and expense of these interstate companies, and to the deprivation of their consumers for whom these foresighted provisions were made.

Mr. Hoffheimer: The State of West Virginia objects to the proffered line of testimony, upon the grounds previously stated; and also for the reason that whether or not this company, or any other company whose affairs may be brought into question here, has paid a dividend or can or will pay a dividend, cannot be the measure of the validity or invalidity of this statute or its operation; for the further reason that if we are to go into the question of dividend payments, or ability to pay dividends, we should have this case converted into the question of rate making, with which neither this case nor this statute has anything to do. Whether or not compliance

91 with this statute will bring into operation rates at one figure or another is a matter to be determined when the statute is

put into force, and, if it shall then appear that reasonable rates are not allowed, having in view the existence of this statute, and the proper elements going into the question of rate making to the companies of reasonable rates, that is a consideration with which this proceeding has nothing to do.

We object further to the procedure whereby this record is encumbered, or to be encumbered, by argumentative statements in reply to necessary objections, made by the opposing parties; and, in order to impress that objection, we move to strike out the statement made by Mr. Weil in opposition to the previous objection made by the State of West Virginia.

Mr. Weil: With reference to the last statement and motion, it is the practice in the State and Federal Courts of Pennsylvania, where a question is propounded and is objected to, to make an offer upon the record of what it is proposed to prove and the pur-
92 pose thereof; and that practice has simply been followed in this case, and will be continued, as being within the rights, the duties and the obligations of counsel; and for the information of the Court, not as implied in the statement—as an argument.

Mr. Hoffheimer: With all the good nature in the world, but, in order to be consistent, I repeat my last objection and move to strike out the last statement made by counsel for the opposing party.

The Commissioner: Let the objection be noted, and the answer to the question taken.

(Question repeated, as appearing on page 88 hereof.)

Mr. Weil:

Q. I don't mean by that, to go into the names of particular companies, and so forth, but just as to the general fact.

A. With one exception, the information is that they paid large dividends.

Q. From the records of your company, what is the comparison between the consumption of domestic consumers in West Virginia, as compared with the domestic consumers in other States,—as
93 to the amount per consumer used by the domestic consumers in Pennsylvania, compared to those in other States?

Mr. Blue: The State of West Virginia, by counsel, objects to the foregoing question and excepts to the answer thereto, as irrelevant and immaterial.

The Commissioner: Let the objection be noted, and the answer taken.

A. I have no data on that that I could give. In our company,—or, rather, I have taken the average consumption per year per consumer, and have never paid any great attention to what each consumer would average in each particular State. I cannot answer that definitely.

Mr. Weil:

Q. Did your company at any time supply industrial consumers in West Virginia?

A. They do, yes, sir,—and have.

Q. And did they formerly?

A. Yes, sir.

Q. I wish you would give us the facts as to the quantities of gas consumed by industries in West Virginia which you cut off from the use of natural gas?

94 A. To discontinue entirely, I don't know of any particular ones at this time. We have restricted greatly the use of gas by industrial consumers, and at times have discontinued entirely temporarily their supply.

Q. The question was intended to elicit the information as to the different departments, as well as the industries as a whole, which you cut off; and I wanted to obtain the information as to the quantities that some of these industries use?

A. The amount of gas, you mean?

Q. Yes,—giving us the names of some of them?

A. Take Follansbee Brothers, they manufacture tin plate——

Q. Now, wait a moment. Where are they located?

A. Located at Follansbee, West Virginia. There have been times that their requirements have run approximately 4,000,000 cubic feet per day.

Q. And for what purposes did you supply gas to that industry at that time?

A. Used generally throughout their plant.

Q. And they used the gas in what department?

A. Used it for boiler use, for the purpose of galvanizing, tinning; they used it for annealing purposes; lighting and heating.

Q. And when was that, how long ago did you supply them as much as that?

A. Within the past four years, I would say.

95 Q. And what are the facts now? What departments do you supply?

A. Practically only the tinning department. I don't—there might be times now that we are supplying some gas for annealing.

Q. About what quantity do you supply them now,—just an average?

A. I would say, at the present time, perhaps not to exceed 300,000 cubic feet.

Q. Now, give us some other companies.

A. The Wheeling Steel & Iron Company, located at Wheeling, West Virginia. We formerly sold them gas amounting to 2,500,000 to 3,000,000 cubic feet per day.

Q. What do they use now?

A. During the winter, they have been practically using no gas,—natural gas.

Q. Give us some other companies?

A. Take the Fostoria Glass Company, located at Moundsville, West Virginia. Their daily requirements a few years ago ran approximately 1,200,000 feet a day. During the past winter it would run perhaps 300,000, somewhere in that neighborhood.

Q. What did they use the larger amount for, what departments?

A. When they were using the full supply of gas, they used gas for the purpose of heating their tanks, glory holes, their layers, and high arches, and so forth,—gas engines.

96 Q. And what do they use it for now?

A. They are using natural gas now principally for their glory holes, and, with the assistance of producer gas, their layers.

Q. All right, give us some of the others.

A. Take the United Stamping Company, located at Moundsville. Their daily requirements ran approximately a million and a half cubic feet per day.

Q. How many years ago?

A. Within the past three or four years—five years. Their requirements now, in the winter time, have been as low as 60,000 feet to 80,000 feet per day.

Q. What would you say would be a fair average?

A. I would say 200,000 feet, during the past winter, would be a fair average.

Q. When you say "their requirements," what do you mean by that?

A. Their requirements, I considered as meaning all gas that they would desire to use, if there was an abundance, and had it for different purposes, or desired to use it—they would use it generally throughout their plant.

Q. And "under the present conditions," what do you mean by that?

A. Under the present conditions, there are times, in winter, that there is not sufficient gas to supply the industrial trade, and we restrict the amount of gas furnished each.

97 Q. All right, give us some other companies.

A. New Martinsville Window Glass factory, located at New Martinsville, West Virginia. Their requirements formerly were along 400,000 cubic feet per day. Their requirements, or gas furnished them during the past winter has been as low as 80,000, perhaps less, per day; a fair average, I would say, would be perhaps 100 or 120,000 cubic feet per day.

Q. Well, give us some others.

A. The Northwood Glass factory, located at Wheeling, West Virginia. Their requirements would run approximately a million cubic feet per day.

Q. How many years ago?

A. Within a period of from three or four to five years; in fact, in that particular instance, within the last year, there have been times during the past winter when the amount furnished them would be a trifle over 200,000 cubic feet per day. I might say that is one industrial concern on our lines which did not provide them-

ves with some substitute fuel—they only installed and began eration of substitute fuel, I believe some time about the first of bruary.

Q. What was that company?

A. That was the Northwood Glass Company, the last company I mentioned.

Q. What others?

A. We have a large consumer, the Laughlin China Company, located at Newell, West Virginia. They are engaged in the nufacture of pottery, and the amount of gas consumed varies atly each day, depending entirely on the number of kilns fired. eir monthly requirements are approximately 90,000,000 cubic t, which would average—better than 90,000,000 cubic feet, which uld make a daily average of approximately better than 3,000,000 bic feet.

Q. When was that?

A. That is within the past year—two or three or four years.

Q. How much are you supplying them now?

A. During the past winter, I think it was one month, January or bruary, their monthly consumption amounted to 30 or 31,000,000 bic feet. They fired with coal—that is, a great number of their as, with coal.

Q. Well, can you give us any others?

A. That, in a general way, is about the situation with all.

Q. Did you ever supply the La Belle Company—the La Belle Iron rks?

A. Yes, the La Belle Iron Works, I presume—there are three or r plants of the La Belle Iron Works that we supply. The one in st Virginia, there have been no large amounts that I recollect being furnished the La Belle Iron Works while I have been with them. If it was, it was in the very early days.

Q. Did you supply the Weirton Steel Company with any ?

A. We supplied the Weirton Steel Company, which is located at irton, West Virginia, with gas. Their requirements ran approxitely a million, or a million and a half.

Q. A day?

A. A day.

Q. When was that their requirements ran that amount, at what iod?

A. The amount they used?

Q. At what period?

A. Within a period of three, four, or five years.

Q. And what now?

A. I would say that they perhaps average 100,000 cubic feet per .

Q. Well, can you recall any other of the larger companies?

A. In West Virginia?

Q. Yes.

A. No, I think that covers the larger companies in West Virginia.

Q. Have you made any estimates of the quantity of gas that

would be required to supply the industrial plants in West Virginia if you were required to supply them with all of their requirements?

As to the amount of gas that they would take?

100 A. I have.

Q. And of what plants?

A. I have taken every industrial consumer at present connected to the lines of the manufacturers Company in West Virginia.

Q. Now then, taking the industrial plants in West Virginia that are now connected with the lines of the Manufacturers Company, what would be the estimated quantity of gas that you would have to furnish to them, if required by law to supply them with their full requirements?

A. If we were called upon to supply natural gas to meet all the requirements of the gas which they may desire to use, in all of the industrial plants, manufacturing companies, in West Virginia, it would require between 25 and 33,000,000 cubic feet per day.

Q. As I understand your answer, that applies only to those industrial plants that are connected with your own lines?

A. Yes.

Q. And of which you have information?

A. Yes.

Q. Does that include, in this estimate, the supplying of gas for use in the boilers or power plants of these companies, as well as for other purposes?

A. It does, to this extent: That it being an estimate, of course we estimated it. We took what we know has been their previous

101 consumption, together with information as to what the consumer has told us from time to time as to the amount of gas he could use, or might desire to use.

Q. Have you a list of those companies?

A. With me?

Q. Yes.

A. I have a partial list, of some of the larger companies.

Q. Just name them, please.

A. The Weirton Steel Company, Weirton, West Virginia; Wheeling Steel & Iron Company, Wheeling, West Virginia; the La Belle Iron Works, Wheeling, West Virginia; Whittaker Glass Company, Wheeling, West Virginia; Follansbee Brothers, Wellsburg, West Virginia; Fostoria Glass Company, Moundsville, West Virginia; United States Stamping Company, Moundsville, West Virginia. Those are the larger ones. Outside of the Homer Laughlin China Company, at Newell, West Virginia, the Smith and Taylor Company, at Chester, West Virginia, those are the larger plants. We have a total of 67 industrial consumers in the State.

Q. Have you made an estimate of the quantity of gas that you now supply to these same companies?

A. A minimum of 1,493,000 cubic feet.

Q. And what is the maximum?

A. The maximum, as I stated, would run between 25 and 33,000,000 cubic feet.

102 Q. No, I am not speaking of their requirements; I mean, what you are now supplying.

A. At the present time?

Q. Yes.

A. I will tell you, Mr. Weil, the interruptions to the industrial consumer have been frequent, some days being on in full, at other times restricted fifty per cent, and then here one day last week, I believe, entirely curtailed. It would be rather hard for me to answer that question. I can secure the information, though, and have it available in the morning for you. I would say, roughly, probably 6,000,000 feet.

Q. That is, a day?

A. A day, yes.

Q. There are a large number of industrial plants in West Virginia which, of course, are not connected with your lines, but connected with the lines of other companies, are there not?

A. Yes, sir.

Q. Did the Manufacturers Light & Heat Company or any of the other natural gas companies with which you were connected, the names of which you have already given, offer inducements to industries to locate at any points in West Virginia, by offering low-priced gas? And if so, when and where?

103 A. None that I know of.

Q. Those industries which you have described as connected with your lines, what, if any, provision have they made for other fuel in place of the natural gas which at one time you supplied to them?

A. Beginning with Follansbee Brothers, Follansbee——

Q. I don't care to go into each one, just state in a general way.

A. They have provided themselves with powdered coal, producer gas, fuel oil and other substitute fuels.

Q. Has there been any manipulation of the gas pressure on the lines of companies with which you have been connected, in the State of West Virginia, in order to prevent other operators of wells not owned by you from putting their gas into the lines?

A. None that I know of.

Q. What has been your experience as to the percentage of gas that will be discharged into the lines of your companies, as compared with the open flow of the well?

A. That, of course, would depend on the relative pressures of the well and of the line. The general amount, we figure that approximately 25 per cent of the open flow enters the line, under average conditions.

Q. Is that true of your own wells—the wells owned by your

104 company?

A. That is our belief, yes—approximately.

Q. Just explain what is meant by the "open flow."

A. The open flow of a well represents the amount of gas which that well puts out against the atmospheric pressure in the open air.

Q. And why is it that only 25 per cent of this, as estimated, is discharged into your lines?

A. It is impossible, of course, to maintain atmospheric pressure in your gas lines and convey gas to market. It is necessary to have the gas under pressure in order that the gas would be forced to

market. The gas coming from the well would first have to counteract and to overcome whatever pressure was on the gas then confined in your line; above that it would feed in.

Q. And the larger that pressure——

A. The higher that pressure, the less volume the well will produce.

Q. Does it sometimes happen that gas from the lines will flow into the well, instead of from the well into the lines?

A. It does, yes, sir.

Q. Are there any appliances in use by the trade for the purpose of preventing this?

A. Most all wells that are connected to lines now have a check valve installed on a side line, which would prevent it, in the event the check valve were working properly.

105 Q. What are the facts now as to competitive leasing by the respective companies, as compared with former conditions?

A. The competitive bidding for leases, I consider, is very much more extensive now than perhaps formerly. There is keen competition for leases.

Q. Is there any arrangement between your company and any of the other large companies operating in West Virginia, or any of the companies operating in West Virginia—and if so, what—with reference to not competing in the obtaining of leases for prospective gas territory?

A. There is none that I am aware of, none that I know of.

Q. What has been your experience, and, from your knowledge of the business, what is the result of this competitive leasing on the part of the gas companies and the drilling of wells upon adjacent territory, as to the exhausting of gas and the necessity of marketing the same?

A. Competitive bidding for territory makes it feasible, and has made it so, that various companies start operations in that field and, of course, drill wells and discover available gas, and, in order to secure returns from that gas, they market or sell the same.

Q. And what is the effect——

A. The effect has been that there has been a sort of a scramble on the part of each company to sell large quantities of gas, and has had the effect of diminishing greatly the former amount of

106 gas available for use. It has resulted in a condition whereby most gas companies are unable to supply all of their consumers with all of their requirements at all times. It has created shortages.

Q. What is the storage capacity or reservoir capacity of the lines of the Manufacturers Company with references to its daily consumption?

A. Very small, very small. The storage capacity of our company would consist simply of the amount of gas that would be confined in our pipe line system.

Q. And could that gas thus confined or stored in what we call the pipe line system, or reservoir, be at all used, unless other gas was put into the line to meet the consumption?

A. It would only last a comparatively small part of the day—of course depending entirely on the time of year, and so forth.

Q. Have you read the Act of Assembly in controversy here, the title of which is "A bill in relation to persons, firms and corporations engaged in furnishing, or required by law to furnish, natural gas for public use within this State, to provide remedies for the enforcement of this Act and penalties and punishment for violations thereof, and to extend the jurisdiction of the Public Service Commission and of the courts of this State with respect thereto"?

107 A. Yes, sir.

Q. If this Bill should go into effect and be enforced in the State of West Virginia, from your knowledge of the conditions in West Virginia, the operation of your lines, and the demands that would be made thereon from time to time by others in accordance with the provisions of this Statute, what would be its effect, or the effect of such enforcement of the Act upon the operations of your company, with respect to transporting gas from West Virginia into other States?

Mr. Hoffheimer: That is objected to,—first, as calling for an inadmissible opinion or conclusion of the witness; secondly, as calling for an opinion or conclusion of the law; thirdly, as not a subject of opinion of expert testimony; fourthly, because no facts have been shown upon which such opinion could be legitimately expressed; and, fifthly, because the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted, and the answer taken.

A. I would say that, if my company was compelled to fur-

108 nish gas in an amount equal to the possible requirements of all of our customers, connected to our lines in the State of West Virginia—and that would apply to all other companies in the State as well—that it would practically demoralize our business in the States of Pennsylvania and Ohio. It would make the physical operation of the property absolutely problematical; you wouldn't know what your requirements were going to be for a certainty in the State. It would result in very severe shortages in the State of Pennsylvania, for instances. During this past winter our company was short in its supply, for instance, in the city of New Castle, twenty-four days; there were periods of several days at a time in which there was practically no gas in parts of the city of New Castle. Our company had shortages throughout the Beaver Valley, at New Brighton, Beaver Falls, Rochester. We had shortages much nearer,—at Sewickley and in Pittsburgh, some three or four times; shortages in Bellevue, Avalon, and other towns, there were times when they were practically out of gas, not sufficient even for cooking. The town of Steubenville, or the city of Steubenville, Ohio, suffered from shortages five or six different times. East Liverpool fared better. We were short in the town of New Cumberland, West Virginia. We were short of gas in the towns of Martins Ferry,

Bridgeport, and I think one or two shortages in Bellair
109 Ohio. These shortages occurred at times when we were utili
ing all the gas that we could possibly purchase, and at time
when we were using all of the gas which our own company produce
and at times when we had the entire industrial load of this compan
in the States of West Virginia, Ohio and Pennsylvania discontinue
For that reason, I base my opinion, if we were called upon to suppl
ten, fifteen, twenty or twenty-five million feet a day in addition t
the amounts that we were furnishing, or if that amount of gas wa
taken out of the distribution end of the States of Pennsylvania an
Ohio and used in West Virginia prior to the time that it got into th
lines in those two States, it would mean that there would be time
there would be practically no gas in a great many lines of the com
pany in the two States of Ohio and Pennsylvania. It would creat
from an operating standpoint, a very, very dangerous situation.
I know of no condition in the industry which bothers, or is mor
dangerous to, life and property than a shortage existing in your sy
tem. Consumers, when a shortage occurs, naturally desiring to kee
warm and to utilize the gas, open, for instance, their valves wide, i
order to obtain as much gas as possible; and sometimes they leav
the home and go to purchase something, or go to theatres, they leav
the house for various reasons, leaving the gas regulated pe
110 haps with valves wide open; there is a lull or decrease in th
demand placed upon the company, and your pressure begi
to pick up, the flame in the stove becomes stronger, more full,—i
many instances, when the pressure regains normal, the flame is com
ing out over the consumer's stove, creating a blaze which sets h
home afire. At other times people might go to bed, permitting th
heating stove to burn in their home; perhaps the pressure declin
and the flame becomes extinguished; the pressure naturally increas
at night after people have gone to bed, because a great many peop
have a habit of restricting the amount that is used from the mi
night hours; the pressure accumulates, and the gas comes back in
the consumer's home, into his room, and asphyxiates hi
There is no situation so critical, I consider, as an insufficient supp
of gas, or a supply of gas which is liable to go completely out a
then come back on at unknown times. Again, if the service of
consumer is interrupted, no matter whether it is an industrial or
domestic consumer, he realizes that he can place no dependence
the service; he was depending on it for heating, and he found
was not getting sufficient gas for that purpose, and was forced
put in a substitute fuel; if he could not secure gas for cooking pu
poses or lighting his home regularly, satisfactorily to hi
111 he would be compelled to secure other fuel, substitute fu

Mr. Hoffheimer: I move to strike out the answer, on the grou
stated in the objection to the question, and also for the reason th
while eloquent, the answer consists of mere argument; also, the sa
is not responsive to the question.

Mr. Weil:

Q. What would be the effect upon the operation of the lines of your company if, at any time during the colder weather of winter, you were compelled to make a connection with the lines of companies in West Virginia supplying some of the larger cities or towns in West Virginia, in order to make up the deficit of gas of those local companies in so supplying the towns or cities which were upon their lines,—what would be the effect of being compelled to make such connections, upon the operations of your plant?

Mr. Hoffheimer: I repeat the same objection made to the last preceding question.

The Commissioner: Let the objection be noted and the answer taken.

112 A. It would have the result of further restricting the amount of gas available for customers in the States of Pennsylvania and Ohio.

Mr. Weil:

Q. Well, what would be the effect upon the actual operation of your lines, besides the restriction or diminution of the quantity?

Same objection.

A. It would further increase the shortages which we have at the present time on our lines.

An adjournment was here taken until Thursday, May 13th, 1920, at 10:00 o'clock A. M.

113 Thursday's Session.

(May 13th, 1920.)

And now Thursday, May 13th, 1920, the hour of 10:00 A. M., having arrived, parties met pursuant to adjournment.

HARRY A. QUAY resumes stand.

Direct examination (continued).

Mr. Weil:

Q. Mr. Quay, are your main transmission lines, or practically all of your transmission lines from West Virginia, connected onto the general transmission system of the company that runs into Pennsylvania, or are they separate main lines which have no connection one with the other?

A. They are connected one with the other.

Q. So as to constitute one general transmission system?

A. One large general system.

Q. What effect would the removal of gas from any portio
that system in West Virginia have upon the transmission of
gas into Pennsylvania? In other words, would it affect it?

A. It would.

Q. Would you be able to tell, or could you tell in any
114 or have you any devices upon the lines by which you c
tell as to where the effect would be most appreciabl
Pennsylvania, if thus removed in West Virginia?

A. If I get the question right,—in fact, I don't get it right.

Q. Well, I will put it in a different form then: Is there any m
of ascertaining, where any portion of gas is removed from the sy
in West Virginia, where it will have its greatest effect in Pen
vania.

A. There is.

Q. Just tell us about that.

A. To remove,—I presume you mean if taken out and t
ported to other points in the lines in West Virginia, where it w
have its effect in Pennsylvania?

Q. Where, yes,—where it would have its effect in Pennsylva

A. It would have its effect in all the lines in Pennsylvania,
particularly at the extreme end.

Q. And the extent of that effect, I presume, naturally woul
pend upon the quantity thus taken out?

A. It would.

Q. And if a large enough quantity was taken out,—that
large quantity, was taken out, could you then tell—and if so, h
where it would have its effect in Pennsylvania?

A. If a large quantity of gas is taken, of course it creates shor
in certain portions of the system, depending entirely upon the
tity taken out.

115 And where, what points in the system would it c
affect—I mean, in Pennsylvania?

A. The farthest point away from the source of supply.

Q. Under the present system of operation of your lines in
Virginia, state what the facts are as to the West Virginia consu
getting, during times of shortages at other points, their propo
of gas from the lines.

A. The domestic consumers in the State of West Virginia
not suffered any shortage.

Q. You mean those on your lines?

A. On our lines. With the exception of the domestic consu
in the town of New Cumberland, Hancock County, West Vir
The domestic consumers in Ohio have suffered shortages; the
age the past winter in the city of Steubenville, for domestic
sumers, at Martins Ferry, Bridgeport and Bellaire, Ohio, has
marked. The shortage for domestic consumers on the lin
our company in the city of New Castle has been very severe;
have been at least twenty-four different shortages in that city,
periods of time there being no gas whatsoever in the lines for
use. New Brighton, Beaver Falls, Rochester, various smaller
munities in the Beaver Valley have experienced severe shor

In the district, the domestic consumers in and surrounding Pittsburgh, Bellevue, Avalon, and in that territory have suffered
116 three or four severe shortages, in some cases there being no gas or not sufficient gas so that any would burn in their homes.

Relative to the industrial consumers connected to our lines in the State of Pennsylvania, the quantity of gas furnished them has been greatly curtailed. The same condition existed as to industrial consumers on our lines in Ohio. Relative to the industrial consumers on our lines in West Virginia, they have been greatly handicapped as well, although at any time when there was surplus gas over and above the requirements of the domestic consumers, and not sufficient to permit all of the industrial consumers on our lines to have gas, we have distributed, or gave to each of the industrial consumers in the State of West Virginia at least some portion of their requirements. I mean by that, that there have been many times when the industrial consumer in West Virginia has received gas, while industrial consumers in the other two States were not permitted any.

Q. While we are talking now about these industrial consumers, and so forth, what have you done with reference to withdrawing your industrial rate in Pennsylvania—or industrial classification in Pennsylvania and in Ohio?

A. The company has withdrawn its industrial classification in the States of Pennsylvania and Ohio.

117 Q. What is the practice of the company, and what has been its practice and policy since that time, during the last year—and at present—in dealing with industrial consumers?

A. The company's practice has been to curtail the amount of gas furnished the industrial consumer. It has not made or entered into any contracts with any new industrial consumers, other than three or four made during the time the Fuel Administration had the operation of the company under license.

Q. You mean the United States Fuel Administration?

A. Yes. In making, or renewing the contracts with those of its old customers who have been on its lines, we did not undertake to contract for, nor did we contract for, their full requirements. We undertake, and only contract to supply, or attempt to supply, sufficient gas for such subjects in their plant in which other fuel cannot be readily substituted. With the exception of boilers used for the purpose of drilling, we have not entered into any contract to supply gas to boilers. Any plant which has had a producer installed for the purpose of making producer gas, and which has not had the same in operation, has been requested and required to use the same.

Mr. Hoffheimer: While we are not able to foresee the possible development of this line of evidence, we reserve the right to
118 move to strike it out, and to require the production of contracts referred to, in so far as they may be in writing, under the Best Evidence Rule.

Mr. Weil:

Q. In your contracts with industrial consumers, since the withdrawal of the classification, what is the stipulation of the company

with reference to supplying them only out of their surplus gas supplying domestic consumers?

A. There is a clause in each contract under which the co reserves the right to temporarily discontinue in whole or in p supply of gas furnished them, in the event that the domesti sumers require all the gas which the company has available.

Q. Is that done with every consumer in Pennsylvania and

A. Yes, sir.

Q. Every industrial consumer, I mean.

A. Yes, sir.

Q. During the last year, last winter, as a matter of fact, di shut off, at certain periods, all of the industrial consumers your line; and if so, what periods?

A. There were many periods during the past winter wh supply of gas furnished to industrial consumers in the of Pennsylvania and Ohio was discontinued and sh

119 Q. And for how long periods did that continue, time to time?

A. That period,—oh, Mr. Weil, it would run for days at a

Q. Well, that is what I wanted to show, whether it was just few minutes or for any considerable time. What were the during those periods when the industrial consumers were sh as to your then having enough gas for your domestic consum

A. There was not sufficient gas for our domestic consumers though we had discontinued the supply to the industrial cons

Q. What is the practice of the company in its operations, in ting off an industrial consumer, with reference to the investi of conditions at the plant of the industrial consumer?

A. The practice showed us that, although we could issue and instructions to discontinue the supply of gas furnished we found it necessary to patrol and visit practically each ind plant on our system, for the purpose of ascertaining, satisfyin selves that the order was obeyed and the gas discontinued, dered. We have found it necessary to do that const

120 day and night. The tendency of some industrial cons was to use the gas, further affecting the shortage which then be existing on our lines. It is the only manner in whi can positively stop them from using the gas.

Q. Do you make any investigations, in shutting off gas fr dustrial consumers, as to the losses that will be thereby en upon such industrial consumers; and, if so, what?

A. I have had a great many tell me of the thousands, and dreds of thousands, of dollars that they have lost by having th ply of gas discontinued, and causing a shut-down or hindra their operations. Only a very short time ago, one pottery i Liverpool stated to me that, due to the discontinuance of the s of gas in the months of January and February, their loss was 000.

Mr. Hoffheimer: I think I should move to strike out the obvious hearsay, as going a little beyond even tolerable limits

Mr. Weil: I would say that the information that was give

not what the interrogation was intended to obtain; and, so far as counsel for complainants are concerned, that portion of the evidence may be stricken out.

121 Mr. Weil:

Q. The portion of your line in what is called the Panhandle of West Virginia—Panhandle District—which are the largest towns in that district, supplied by you?

A. The town of Chester, town of New Cumberland, Weirton, Holliday's Cove, Follansbee and Wellsburg.

Q. Are any of those towns in that Panhandle supplied by your lines with gas substantially all from Pennsylvania?

A. Yes, sir.

Q. Which?

A. I would say that there are probably many times when every one of those towns are being supplied with gas coming from Pennsylvania or Ohio.

Q. And what would you say as to Chester and New Cumberland?

A. Chester and New Cumberland, there can be no question but that both those towns are supplied from gas coming from Pennsylvania into West Virginia and from Ohio into West Virginia.

Q. What portion of the time, would you say?

A. At all times.

Q. If a sufficient quantity of gas was taken out of your lines to comply with the provisions of this West Virginia Act in controversy here, what would be the effect thereof, as to gas from Pennsylvania flowing into the State to take its place in the lines?

122 A. Well, it would, of course, mean that the gas from Pennsylvania would be more inclined to flow into the State of West Virginia.

Q. It would depend, would it not, upon the quantity and the length of time it was taken out?

A. It would.

Q. Calling your attention to certain sections of the lines and operations of your company, as, for example, in the Majorsville district, and south of that, on the line between Pennsylvania and West Virginia, and in the Hundred district near the line between Pennsylvania and West Virginia, in all of those sections, as shown in this map—(referring to Pennsylvania Exhibit No. 1)—there are operations, are there not, on both sides of the State line?

A. Yes, sir.

Q. And when I say "operations," I mean there are gas wells drilled and producing gas.

A. Yes, sir.

Q. As to the Majorsville section, I believe you stated this map does not show all of the wells, but just the general gathering lines.

A. The map does not show all the wells.

123 Q. Well now, have you any recollection as to about the number of wells in that immediate section—Majorsville, say, and south of that?

A. We have, all told, in the district, something over 400 oil and gas wells combined. I would not be in position to give you the number of gas wells alone.

Q. In that section?

A. In that section.

Q. Now, are some of those wells on one side of the State line and some on the other?

A. Yes, sir.

Q. Some in West Virginia and some in Pennsylvania?

A. And some in Pennsylvania.

Q. And how close are some of them to the line—to the State line?

A. I don't know. If my recollection is correct, there are a few of those wells that are very close to the State line, quite close.

Q. Is there any way for the operator to tell whether the gas coming into those wells on either one or the other side of the line is taking its gas either from West Virginia or Pennsylvania?

A. I know of no way, no.

Q. What is the fact as to the distance at which a well will drain adjacent territory? Is there any rule on the subject?

124 A. No known rule that I have ever heard of.

Q. What is the experience of operators in that particular, as to the distance from which a well will sometimes draw its production, as illustrated by other wells?

A. I have known wells within a proximity, say of one well located 300 feet from the farm line, another well located say 300 feet on the opposite side of the farm line, making a total distance, say, of approximately 600 feet, with no appreciable effect,—that is, I mean by that, that one of these wells had been drilled, and the second well, as I stated, approximately 600 feet away, was drilled, it had no appreciable effect on the volume of gas the original well was producing. On the other hand, take this McKeesport gas field, there are wells there,—it has been our experience, at least, that practically every well of any size that is drilled into the McKeesport gas field affects the production of every other well,—practically so—in the field.

Q. And how big a field is that in acreage, would you say?

A. Very, very small, comparatively.

Q. Well, about how many acres in the whole field?

A. Oh, I would say,—I was going to say that a mile square would cover the whole field.

Q. Well now, how large a distance have you known—in your experience as an operator—one well to affect the production

125 of another, showing that its drainage extended that distance?

A. Why, I wouldn't know, Mr. Weil; they vary so; some wells are affected, and others are not.

Q. I understand that, but I just want an illustration; about how far, according to your recollection now, was the longest distance?

A. Well, in this McKeesport field, I think I would be safe in saying approximately a mile.

Q. Have you known any wells in any other fields, of any greater distance than that, that you can recall at the moment?

A. I do not.

Q. Whether or not it so affects, depends, does it not, upon the porosity of the sand?

A. Some people state that it is perhaps due to a looseness or hardness of the sand, but I know of no way really to determine what does cause those things.

Q. As a matter of fact, is there any explanation of it known to the trade?

A. None that I know of.

Q. What would be the effect upon the domestic consumers of your company in the State of Pennsylvania if, through the operation of this Act now in controversy here, a large portion of the gas now being obtained by your company and transported from West
126 Virginia and Pennsylvania was shut off or consumed in West Virginia, as to their health and comfort?

A. It would affect seriously their health and comfort.

Mr. Hoffheimer: I move to strike out that answer, as a statement of a conclusion; we have no objection to concrete facts being stated by the witness.

Mr. Weil:

Q. How?

A. By creating a shortage in the gas supply, which would not permit our company to furnish them any, leaving them without any heating, or fuel for cooking, or heat for heating water, things *for* that kind.

Q. As to your industrial consumers in the State of Pennsylvania, if you are compelled to give the preference to the industries in West Virginia, and the domestic consumers in West Virginia as well, what would be the effect of such preference upon your industrial consumers in Pennsylvania; and what would be the effect upon the industrial consumers in West Virginia.

A. I would not be in position to furnish any gas to any industrial consumers whatsoever.

Q. What effect would that have as to competition, as between the respective industries in Pennsylvania and in West Virginia that engage in the same lines of activity?

127 Mr. Hoffheimer: That is objected to, as irrelevant and immaterial.

The Commissioner: Let the objection be noted, and the witness may answer the question.

A. I would say that the industrial consumers in the States of Pennsylvania and Ohio would be handicapped in their operations, while those industrial consumers in the State of West Virginia who had a supply of gas would not be handicapped in their operations.

Mr. Hoffheimer: I move to strike out the conclusion contained in the answer.

Mr. Weil:

Q. What is the fact as to gas as fuel in industrial enterprises, as compared with other fuels?

A. The industrial consumers on our lines have equipped themselves, or the majority of them have——

Q. No, that wasn't the line of inquiry I wanted to develop, Mr. Quay. I want to ask you what, if any, advantages are there in burning natural gas, over other fuel?

128 A. There are advantages in natural gas as a fuel.

Q. And what are they?

A. First, in the heating value of natural gas, the manner in which this heat can be applied, the manner in which gas can be used. There are some industrial consumers on our lines who have no storage capacity for other fuels, as their plants are now constructed,—and things of that nature. A great many of them would have to change their plants. Owing to the use of natural gas, there are some of them who have appliances constructed especially for the use of natural gas.

Q. If the domestic consumers in Pennsylvania and Ohio, through the operation of this Act, should be prevented from obtaining a supply of natural gas, what would be the average cost and expense to which domestic consumers would be subjected in installing other appliances to heat their houses, for cooking and hot water heating?

A. I would say that I consider it would cost those consumers on an average of at least $200 per consumer, to substitute other fuel for the purpose of cooking, heating and lighting their homes.

Q. What items do you take into consideration in making that estimate?

A. In making that estimate, I took into consideration the fact that last fall I put in substitute heating appliances, sub-
129 stitute lighting appliances, in my home, which cost me two hundred and approximately seventy-five dollars for my heater and the accessories; wiring my home for electric lights, the total expense was approximately $250. I secured prices on coal cook stoves; one cannot purchase at these times a very elaborate cook stove—coal cook stove—short of $40 or $50.

Q. Do you mean a very elaborate stove?

A. They cannot buy a very elaborate cook stove.

Q. Well, I said, do you mean a very elaborate stove, when you say $40 or $50?

A. No, you cannot buy much of a coal cook stove for that price. Realizing that perhaps the expense incurred by me in our place was much higher than it would be in the average, I threw off a couple or three hundred dollars and figured that $200 would perhaps be much lower that it would cost the average customer.

Q. We have had some reference during the examination to what you term "peak load" upon the lines of the natural gas companies. I wish you would give us somewhat in detail what you mean by the "peak load"—what it is, and what it means in the operation of gas companies.

A. The peak load period of a natural gas company occurs in the

xtreme cold weather. During the summer gas is used practically only for the purposes of cooking, lighting and hot water heating for bathroom purposes, and so forth; as colder weather approaches in the fall, stoves—heating stoves, grates and urnaces—are used; the temperature being rather moderate, these arious appliances that I have mentioned are not used to their full- st extent; as more severe cold weather approaches, more of these ppliances mentioned are put in operation and used to a greater xtent—at times, when there is extreme cold weather, each customer n our lines is no doubt using every subject—or practically every ubject—in his home which he has for the purpose of heating; the xtreme cold weather must be counteracted by the heat, and he uses ll of his appliances, and uses them to their fullest extent. All of ur customers doing this has the effect of creating a demand for and aking from the lines all the gas that they can possibly use at those eriods. That is what we term the peak load.

Q. What would you say the maximum variation would be between ie demand for the peak load and the minimum load on the line?

A. About one to fifteen.

Q. That is, the peak load would be fifteen times as much——

A. It would be at least that.

Q. —as the minimum load?

A. In the summer time?

Q. Yes.

A. Yes, sir.

Q. I said the minimum load.

A. Yes.

Q. And what would you say would be the variation between the eak load, even in the winter time, as compared with the normal emand on the line?

A. That would vary. I would say from one to five—in that ratio. hat is, even in the same periods of the day there is a fluctuation, ou know; even on the coldest day in winter, there are periods dur- g those twenty-four hours when the amount still increases.

Q. Well, explain that to us. What do you mean by that?

A. Well, people, when they are retiring at night, unless the eather is very severe—and some even at those periods—have re- uced the amount of gas used for heating. Some people desire to ep in a cold room, for instance—so that the requirements in the rly part of the morning are not so heavy. As people arise in the orning, the house being cool—cold—they light grates and stoves, d increase the heat in their furnaces, so as to bring the home up a comfortable temperature; right at that period, too, gas ranges e being used for cooking purposes, probably washing, and that creates a much larger demand and use of gas at those periods than in the earlier period which I mentioned here. At dinner time, times when people are doing their cooking, that of urse creates a larger demand for the gas than at other times, over d above the heating load.

Q. Do the natural gas companies, in their practical operation,

endeavor to make any provision for taking care of this peak load upon their lines?

A. This company, through drilling, has always attempted, during the spring, summer and fall, to drill a sufficient number of wells to secure a sufficient amount of gas to carry the entire demand of its domestic consumers at all times. They have not been successful in doing that, in the past three or four years, at least.

Q. What is the cost—I will say the average cost—of drilling wells, including the building of rigs, casing, tubing and equipping for turning into the line?

A. That depends on what district. Taking our wells as a whole, it has run us an average of about $18,000, I believe—approximately—to drill the well, put it in shape to produce gas, connect the same into the gathering lines.

Q. At the present prices today, as compared with the average to which you have referred of some months ago, or a year ago, would you say $20,000 would be a fair average?

133 A. You mean at the present time?

Q. Yes. Or would it be too small? What would be the fair average today?

A. I say that $18,000, that I mentioned, is perhaps the average price for our wells drilled during the year 1919.

Q. I understood that. Well, what would it be, taking the conditions today, when, as I understand, everything is higher?

A. I wouldn't be surprised if it would reach $20,000.

Q. Today?

A. Today, yes, sir.

Q. That is, in 1920?

A. Yes, sir, at the present time.

Q. That is what I want, the present time.

A. I make that assertion for the reason—simply on the wages paid tool dressers—drillers; we have had to increase their wages three different times, a dollar a day each time.

Q. Within the last year? Has that been increased this year?

A. Yes, sir.

Q. Could you give us, in round numbers, the amount of the investment today of the Manufacturers Light & Heat Company in its wells—in its gas wells in West Virginia—in its gas territory in West Virginia, and in its transmission lines in West Virginia; I

134 mean, these as separate and distinct from its total investment in those items in all States?

A. No, I don't believe I could, Mr. Weil. I could secure the information. For taxing purposes, the property returned fo- taxing purposes——

Q. I know, you gave us that; that would be the whole property.

A. That would be about all I could state.

Q. I presume we can get that from the Accounting Department of your company?

A. Yes, sir, it would be guess work on my part.

Recess taken until 1:30 o'clock P. M.

Thursday Afternoon.

H. A. QUAY resumes stand.

Cross-examination.

Mr. Hoffheimer:

Q. Mr. Quay, you have given us some very interesting informa-
on here, and perhaps you can help us a little further in this mat-
r. You have given some description of the conditions of gas pro-
uction; did you, in referring to that, intend to cover merely the
development and operation of the Manufacturers Light & Heat
35 Company, or to refer generally to the natural gas industry?
A. There were certain inquiries made of me which per-
ined to conditions existing in my own company; there were other
uestions, I believe, asked me which referred to the general condi-
ons in the industry.
Q. Of course, I understood that when you referred to particular
gures in the consumption, investment, and the location of pipe
nes, compressor stations, and that sort of thing, that you were re-
rring particularly to the Manufacturers Light & Heat Company.
A. Yes, sir; if those questions were asked me relative to my own
mpany, yes.
Q. And when you referred to the natural conditions of gas pro-
uction, you then were referring to general conditions and not those
eculiar to the Manufacturers Light & Heat Company?
A. If I recollect correctly, there were questions asked me per-
ining to the production of the Manufacturers Light & Heat Com-
ny. Those answers, of course, referred directly to the production
the Manufacturers Light & Heat Company. On the other hand,
believe I was asked questions which pertained to general condi-
ons, and my answers to those, of course, pertained to the general
nditions.
Q. Well, to get back to the beginning: It is true that, whether
within or without the territory operated by the Manufacturers
36 Light & Heat Company, natural gas is found in certain gas-
producing strata?
A. That is co.rect.
Q. That is true generally?
A. Yes, sir.
Q. That is true in Pennsylvania, it is true in Ohio, in West Vir-
nia, Indiana, and other sections of the country with which you are
miliar?
A. Yes, sir.
Q. And in all of that territory, and in the whole natural gas ter-
ory, as far as you know, the method of drilling wells is substan-
lly the same?
A. No, I would say not.
Q. Where is the difference?
A. Well, take, for instance, Louisiana. Their manner of drilling

is rotary drilling, a different process entirely from the standard way of drilling—for instance—in this territory.

Q. But, after all, it gets back to an operation puncturing the earth, as you have stated?

A. It gets back to the point that a hole has to be developed or made in some manner, in the earth, so as to permit the production to come to the top of the surface.

Q. The territory with which we are particularly dealing—Pennsylvania, Ohio, West Virginia, and let us say Kentucky and
137 Indiana, is the area embraced in the Appalachian field, in a general sense—is that correct?

A. Yes, sir.

Q. The method throughout that field is pretty substantially the same, and has been?

A. Yes, sir.

Q. Since the inception of the development, so far as you know?

A. In a general way, yes, sir.

Q. How far back did you go in your history of gas development in Pennsylvania?

A. I think in the development, I believe that I stated my first experience with the natural gas industry,—I first became aware of natural gas—was about the year 1882 or '83.

Q. Was Pennsylvania the first State in the general territory I have indicated in which natural gas was discovered or utilized?

A. I wouldn't be prepared to state whether Pennsylvania was the first State in which natural gas was discovered. My recollection is that at Bradford, Pennsylvania, was the first large community that was piped and served with natural gas service. Various localities lay a little claim to that honor—for instance, East Liverpool, Ohio, a great many of the citizens of that town claim that the Encyclopedia Britannica states that natural gas was first used for industrial purposes in that town.

138 Q. Well, from the time that you have described, in Pennsylvania, of course, the development of natural gas and its utilization for domestic and industrial purposes was a matter of constant increase, was it not?

A. Constant.

Q. In Pennsylvania, I said.

A. Yes.

Q. And in the meantime, it is true that the development and production of gas for domestic and industrial purposes proceeded in other territories in this Appalachian field?

A. Yes, sir.

Q. Aside from Pennsylvania, what was the next State in which you recall that development and use to have occurred?—you don't need to get down to exact dates, or anything like that.

A. Ohio, and in West Virginia.

Q. How about Indiana?

A. The Indiana gas field is one that I am not very familiar with, only in a very general way. There was a great development, natural gas development, in Indiana which more or less became rapidly exhausted.

Q. In this way in which you have acquired a good deal of other eneral knowledge in regard to the gas business, you do know it to be ue that at a comparatively early period in the industry there was a retty extensive development in Indiana and then a decline in production there?

39 A. I will answer that question in this way: That at my home, in Meadville, Pennsylvania, we had natural gas, and at when natural gas was first introduced into the community there here were several glass factories located there; that in a period of vo or three years, perhaps four years, due to conditions more or less f shortage in gas supply, I know that one of those factories left leadville and located in Indiana. That, I would say, was about 888—now, wait,—about 1890, or possibly '92,—that there was said o be large quantities of gas there at that time. Now, I do know at the town of Indianapolis, Indiana, was piped for natural gas, nd that a little later there was not sufficient supply, and service there as discontinued. I will say that that was about the year '92, or '91, at gas was piped into Indianapolis,—I might be a little in error here, either way.

Q. Now, still proceeding a little farther west than Pennsylvania nd West Virginia, there was a rather considerable history of gas evelopment in Ohio, was there not?

A. There was, yes, sir.

Q. When did that development begin, approximately?

A. In Ohio?

Q. Yes.

A. I would say along, approximately 1885,—it might have been a couple of years earlier than that, there might have been

40 earlier operations than that.

Q. And that development, within the limits of the supply, as continued to the present time,—is that true?

A. I wouldn't want to say that all the territory which was deeloped—gas territory which was developed in Ohio, is still proucing gas.

Q. I think you did refer to a tendency to depletion in Ohio, s well as the other two States with which we are immediately conerned.

A. Yes, sir.

Q. When did that tendency to depletion in Ohio first manifest itself?

A. That would depend a good deal on what district you refer to, r whether you refer to the State as a whole.

Q. Well, if you are able to do so, you may give it to us either s a whole or divide your answer.

A. In some localities, the supply diminished by gravity; in ther districts, in a gradual decline. For instance, my company ad a production in what was known as the Brilliant field, I believe here are one or two wells yet remaining and I believe they are eing abandoned at this present time. My first work done for the Northwestern Natural Gas Company, which supplies Toledo, Maumee nd Perrysburg, was about the year 1903 or '04; they had had an

abundance of gas in fields about south of Toledo. The Ci
141 of itself had installed a municipal plant. Two compani
had been operating. The source of supply for the muni
pal plant became practically exhausted, and they ceased to opera
the plant. The Northwestern had had an abundance of gas, b
they were short at that time.——

Q. What date is that you are referring to?

A. That was about the year 1903 or 1904—now, I think I a
within a couple of years of my exact time.

Q. I am not trying to bring you down to exact dates, I just wa
to get a little history.

A. Now, if you refer to the gas field designated as the Clev
land gas field, that was discovered in rather recent times, compar
tively, and I am told—in fact, I have seen figures on it, which sho
that it has been rapidly depleted. If you refer to the gas fie
which was struck some five or six years ago opposite Wheelin
or Chester, north of Wheeling, known as the Warwood Pool,
will state that there were large quantities of gas taken from that ar
within a year's time it had been practically exhausted.

Q. Well, we will transfer our affections to the State of Pen
sylvania. I suppose that that is true here in Pennsylvania, th
in particular sections that tendency to depletion manifested itse
pretty early, did it not?

A. It did, to a greater or less extent, yes.

Q. How early, would you say, that tendency appeared?
142 A. I would say on part of that territory that the tendenc
was marked enough to show that the gas was being deplete
within a year or two after a considerable market had been develope
by the company. I have in mind the company then known as th
Oil City Fuel Supply Company, which supplied the town of Mea
ville, in which I resided. I stated in my direct testimony that th
manner of burning the gas in those times was not by meter, bu
at a rate of so much per month per stove. I think I am absolutel
correct when I stated that it was the second or third year that the
was more or less shortage, which would naturally indicate depletio

Q. So that the result was that, in that particular district, it b
came apparent that, if the volume of production was to be kept up
the operators would have to seek a little broader territory, was
not?

A. As the market increased, the demand increased for their ga
and as the available production from the wells which they ha
already drilled decreased, it was only natural that they desire
to stay in the business, to seek new fields, additional supply—fo
if they desired to extend their territory, take on new customer
it would be desirable to extend to new fields.

Q. You had two conditions to meet: First, that the wells a
ready drilled were declining in production; and, second, that the us
of gas was becoming more general, more customers wer
143 being connected; and naturally an additional supply wa
needed?

A. That would be the condition at that time.

Q. And what you have said about that particular field has bee

applicable pretty much to the development of the whole natural gas territory, hasn't it?

A. You refer to depletion?

Q. Yes.

A. I would say yes.

Q. In fact, that tendency and that experience have been part of the history of the natural gas business almost from the beginning—is that correct?

A. That is one of the peculiarities of the natural gas industry, that once natural gas is used, it is gone.

Q. Well, in Ohio and Pennsylvania, you had the conditions you have described; and I suppose that it is true that similar conditions developed in West Virginia, is it not?

A. You refer, of course, to depletion?

Q. Depletion.

A. The fields in West Virginia have been depleted, are being depleted.

Q. The conditions you have had to meet there have been practically the same as in Pennsylvania and Ohio?

A. Yes, sir, I would say the same, to a greater or less extent.

Q. The Manufacturers Light & Heat Company, with which
144 you are connected, has been in the natural gas business how long?

A. I would say that the Manufacturers Light & Heat Company has been in the natural gas business, I believe, since the year 1885, possibly 1884.

Q. The company to which you now refer is incorporated under the laws of what State?

A. Pennsylvania, I believe.

Q. And how long has that particular company been engaged in the production and transportation of gas in West Virginia?

A. That company, as the Manufacturers Light & Heat Company, I would say that it has been since the year 1902 or 1903—it might have been a little time prior to that—as the Manufacturers Light & Heat Company; that is, I mean by that, that in 1902 or '3 they secured by purchase or merger certain companies which were operating in West Virginia, and became the owner of them, at that time, either 1902 or '3.

Q. What were those companies?

A. They purchased the Tri-State Gas Company, the Wheeling Natural Gas Company, and the Fort Pitt Gas Company.

Q. Will you please tell us in what particular sections of West Virginia these companies were operating at the time they were taken over by the Pennsylvania company?

A. The Wheeling Natural Gas Company, I believe, was operating in what is known as the Cameron field, the Proctor field, and in the Hundred field, and Sedalia field. The Fort Pitt Gas
145 Company——

Q. Let me interrupt you: I think you pointed out here yesterday the Hundred field and the Sedalia field.

A. Yes.

Q. And what was the other field, with respect to the Wheeling Natural Gas?

A. Sedalia.

Q. The third one—the Proctor. Now, where is that Proctor field, with respect to the map you have in evidence.

A. (Referring to Pennsylvania Exhibit No. 1)—The Proctor field is located in Marshall County and part of Wetzel County, the northern part—is what we style our Proctor field.

Q. You are now referring to the territory in the vicinity of the town of Proctor, on the Ohio River, and running northerly up to or very close to the Rosbys Rock Compressing Station?

A. Yes, sir.

Q. Now the Fort Pitt?

A. The Fort Pitt Gas Company, I believe their operations were in Pennsylvania. The Tri-State operated down through the east Liverpool district, Steubenville district, taking in towns on both sides of the river, both States.

Q. The Wheeling Natural Gas Company was a West Virginia corporation, was it not?

A. I am unable to tell you definitely whether it was or not.

146 Q. And you are no more definitely informed as to the Fort Pitt or the Tri-State?

A. I believe the Fort Pitt was a Pennsylvania corporation.

Q. Was the Manufacturers Light & Heat Company a West Virginia corporation that preceded or was a subsidiary of the Manufacturers Light & Heat Company, a Pennsylvania company?

A. I don't know whether it was or not. It is not my recollection. If I understood you correctly, was there a Manufacturers Light & Heat Company of West Virginia?

Q. Yes.

A. There was not.

Q. Was there a Manufacturers Gas Company?

A. There was a Manufacturers Gas Company, yes, sir.

Q. Where did that come into the organization of the Pennsylvania company?

A. The Manufacturers Gas Company was a subsidiary company of the Wheeling Natural Gas Company, I believe, organized and delivered gas to industrial consumers in the city of Wheeling.

Q. Did it have any field of its own?

A. I believe not.

Q. Do the companies which you have named exhaust the list of those which became absorbed into the Manufacturers Light & Heat Company of Pennsylvania?

A. The companies which I have named are not the only

147 companies which went into the making of the Manufacturers Light & Heat Company as it stands today. They had other companies which from time to time, I believe they bought or merged.

Q. Perhaps you can tell us what they were.

A. There was the Canonsburg Light & Fuel Company, I believe it was called.——

Q. Will you tell us, as you go along, where they operated?

A. Located at Canonsburg, Pennsylvania; was the Blacksville Oil & Gas Company, located at Blacksville, West Virginia; there is —or was, and is yet—the New Cumberland Gas & Water Company, located at New Cumberland, West Virginia,—I say is yet, I believe the gas part of that is with the Manufacturers, the water perhaps separate, I am not quite sure whether that is kept separate or not, it is a separate company in New Cumberland; there was a company called the Ohio Valley Company—not the Ohio Valley which, I believe, the Tri-State purchased, but one in what is known as Sewickley, Pennsylvania; there was the Shenango Valley Company, which operated in and around what is known as the New Castle district, Pennsylvania. There might be a few others.

Q. When was it that the Manufacturers Light & Heat Company, the Pennsylvania corporation, took over the properties of the Wheeling Natural Gas Company, the Tri-State and the Fort Pitt companies?

48 A. As stated previously, if my recollection is correct, about the year 1902 or '3.

Q. Are you able to tell us about when the three companies you have indicated began their operations in the West Virginia field?

A. I stated yesterday, if I was correct, along 1888 or '89. I stated then I might be in error as to the exact time.

Q. As a matter of fact, did those three companies—the Wheeling Natural Gas Company, the Tri-State and the Fort Pitt—each originally engage in West Virginia, or, on the contrary, is it not a fact that those companies took over other companies entirely, which had preceded them in the same fields?

A. As to that, I wouldn't know as to what companies they took over, particularly which might have been operating in West Virginia. I don't pretend, you know, to know the detailed history, only in a general way, of those I have mentioned.

Q. As I understand, you have to deal somewhat in general information.

A. Yes, sir.

Q. I don't want to pin you down to details.

A. Thank you, sir.

Q. Do those three companies which you have just mentioned still exist?

A. They do not.

49 Q. How about the New Cumberland Water & Gas Company?

A. It still exists.

Q. That supplies what territory?

A. New Cumberland, West Virginia.

Q. How about the Blacksville Gas Company?

A. To the best of my recollection, the Blacksville Oil & Gas Company does not exist.

Q. When did that Blacksville company go out of existence?

A. I think it has been about four years.

Q. Up to the time it went out of existence, what territory was i supplying?

A. It supplied a few customers located in the town and vicinity of Blacksville, West Virginia.

Q. What county is that?

A. It is in Monongalia County, right close to the State line dividing West Virginia and Pennsylvania.

Q. That was a West Virginia company?

A. I don't know for certain whether it was West Virginia incorporated or not.

Q. What territory did that Blacksville Company hold?

A. I think all they had was some pipe lines; there might have been one or two wells,—it was very small.

Q. At the time the Wheeling Company was absorbed, what territory did it hold—the Wheeling Natural Gas Company?

A. The Wheeling Natural Gas Company; I believe the Wheeling Natural Gas Company had territory in Pennsylvania and
150 also territory in West Virginia.

Q. Do you know what the extent of the territory was?

A. At that time they were operating in what is known as the Cameron field and in the Hundred field, West Virginia; I believe also in the Sedalia and Proctor fields.

Q. Are you able to give us the acreages in West Virginia operated or held by the Wheeling Natural Gas Company when taken over by the Manufacturers?

A. No, I would not be in position to tell you that; I haven't an idea of what their acreages were.

Q. Your records would show, would they not?

A. The records of old companies of that kind, more particularly when they have been purchased by another company, are ofttimes found to be incomplete. Certain records which should have been transferred, perhaps have not been. I don't mean to say that we could not furnish you that information, I don't know whether we can or not.

Q. I would be glad, when we next resume, if you are able to do so, if you would tell us what territory and what number of wells these several companies operating in West Virginia, which you have mentioned, had at the time they were acquired or taken over by the Manufacturers Light & Heat Company; and also what territory each of them was serving.

A. You mean, in both States, or simply in the State of
151 West Virginia?

Q. West Virginia.

A. I will make my best endeavors to supply or have the information.

Q. Prior to the period of actually taking over the properties of these several companies which you have mentioned, were the companies independently operated, or operated as subsidiaries of some other company—holding company?

A. You mean, at the time the Manufacturers Light & Heat Company acquired them?

Q. During the time preceding that.

A. I think they were unquestionably operated independently of the Manufacturers.

Q. That is, the Wheeling Natural Gas Company was operated as an independent company?

A. I believe so.

Q. The same w[illegible]he Blacksville, the New Cumberland, the Tri-State and the F[illegible]tt?

A. I believe s[illegible].

Q. You gave us quite a history of the utilization of natural gas in Pennsylvania, and the adaptation of dwelling houses and industries to [illegible]e consumption and use of gas. Was that true exclusively of Pen[illegible]lvania, or did similar situations spring into existence elsewhere?

152 A. I would say, as a general proposition, that the same conditions exist in the States of Ohio and West Virginia.

Q. In other words, the people of West Virginia in the territories accessible to natural gas supplies built their houses, places of business and public institutions with respect to the consumption of natural gas, and fitted them out with appliances for such consumption,—is that true?

A. I wouldn't care to state that all of the consumers in West Virginia did that; neither that all the consumers in Pennsylvania or Ohio did that. There are, I stated, many instances in Ohio and Pennsylvania that people built with the thought entirely of using natural gas, and I would say that the same system no doubt prevailed in West Virginia.

Q. Perhaps we are not driving at exactly the same thing. I was not referring particularly to any exclusive construction, but to the fact that in the territory in West Virginia with which you are familiar, that at an early date, co-incident with the development of the natural gas companies, the people did build or arrange their houses with a view to the consumption of natural gas as fuel, both for heating and lighting purposes?

A. I haven't any doubt that some of the houses constructed were constructed with that idea in mind. I wouldn't say that all
153 of the houses constructed were constructed with that idea in mind, because I know better.

Q. Well, let us put it this way then: The people did equip their houses with appliances for burning natural gas, both for heating and lighting, in West Virginia?

A. That is true.

Q. In very many instances with which you are personally familiar, from your wide experience, people, in building their houses, installed open fire places with an equipment for burning natural gas for heating?

A. Yes, sir.

Q. In very many instances with which you are familiar, they

piped their houses for the purpose of burning gas for light as well as heat?

A. Correct.

Q. It is true that the people of West Virginia so far as you have observed them, have also installed—and did at a very early date install—cook stoves and ranges constructed for the consumption of natural gas?

A. Yes, sir.

Q. From what you know, a great many different districts and areas in that state have, for twenty-five or thirty years past, burned natural gas almost exclusively for domestic fuel?

A. I wouldn't want to make that statement. I would say that there are some districts that use a great deal of gas in their homes for the purpose of heating, cooking, and lighting their homes;
154 that we serve other districts in West Virginia, places like Wellsburg, in which a great many of the inhabitants do use natural gas for cooking, heating and lighting, but there are many others who do not use gas exclusively for heat. The districts I refer to would be such as Chester, and Newell, New Cumberland, on down to Moundsville.

Q. You told us this morning, in a general way, the cost of converting conditions in Pennsylvania dwelling houses so as to use a fuel other than natural gas, in case of shortage or deprivation. Have you any reason to revise your figures as to cost, if a respectable householder in West Virginia should find it necessary to re-convert his appliances to put in a coal cook stove, or electric light wiring, or a central heating plant for the consumption of coal?

A. I would say that I see no reason particularly why I should. My figures this morning were an estimate which covered what I believe to be the average cost to consumers.

Q. Whether in Pennsylvania or West Virginia?

A. Yes. I referred in my testimony this morning to Pennsylvania and Ohio.

Q. In your operations in West Virginia, you necessarily have some idea as to costs of material and construction?

A. I have. Of course, there would enter into an estimate, you know, the general size and character of the houses which you serve.

155 Q. You have houses of all classes and types in Pennsylvania and also in West Virginia.

A. All types and sizes, both in Pennsylvania and in West Virginia, perhaps in an equal number.

Q. Now, with regard to the use of natural gas for industrial purposes, of course you have had a greater range and variety of industries in Pennsylvania than West Virginia; but it is true that the general character of the use of natural gas for industrial purposes in Pennsylvania and in West Virginia has been very much the same?

A. I would not want to state that the uses of gas in Pennsylvania were much larger; that varies, you know, in the character of the industries we serve,—there is some, of course. Conditions would be about the same in both states relative to the character of the com-

and the product which they manufacture, or the purpose for they use the gas.

How long have you known natural gas to be used as fuel for ustrial purposes in West Virginia?

A. For some years. I would say twenty or twenty-five years, of own knowledge.

Q. When the Manufacturers Light & Heat Company, in 1902 or 03, or whatever the date was, engaged in business in West Vir-ia, it found gas being used industrially?

A. Yes, sir.

Q. Was the Wheeling Natural Gas Company at that time furnishing any gas for industrial purposes?

A. Prior to the time of its sale to the Manufacturers?

Q. Yes.

A. I believe so.

Q. What plants were being supplied—what individuals and what itory?

A. You mean, at that time?

Q. At the time the Manufacturers took over the company.

A. Took over the plant.—They were, I believe, supplying the eeling Steel & Iron Company, Wheeling, West Virginia; the thwood Glass factory, Wheeling, West Virginia; the Whittaker ilesner plant, Wheeling, West Virginia; the La Belle Iron rks. Those, I believe, are the largest.

Q. And in regard to such concerns as Follansbee Brothers and the irton Steel Company and some others you named, those were ight on the list of gas consumers for manufacturing purposes r the Manufacturers Light & Heat Company itself engaged in ness in West Virginia?

A. No, I would not want to say that. I believe Follansbee Broth- located at Follansbee, West Virginia, probably came on as a sumer of the lines perhaps of the Tri-State Gas Company; and I eve that the Weirton steel plant, located at Weirton, West Vir-a—the Weirton Tin Plate, rather, located at Weirton, West Virginia, came on as a consumer of the Tri-State Gas Company.

Q. At the present time the Manufacturers Light & Heat Company is supplying what cities and towns in West Vir-a?

A. At the present time the Manufacturers Light & Heat Com- y is supplying gas into the town of Chester.

Q. How long has that been? I don't want the exact date, but roximately.

A. I would say, roughly, perhaps twenty or twenty-five years, haps longer—that is, in that locality, and perhaps not only in town of Chester; I think Newell was a town that developed on unt of the location there of the Laughlin China Company, I k that is what made the town of Newell,—I may be wrong t that. They supply gas in the towns of Chester, Newell, New mberland, Wellsburg, Warwood, McMechen, Moundsville, the e town of Glendale, Brooklyn, New Martinsville. Those are the cipal towns; we also supply gas to Middlebourne.

Q. Aside from those cities and towns which you have just enu-

merated, there is considerable rural population in between, which the company supplies?

A. We no doubt supply rural consumers—that is, consumers along our lines. I presume you refer to towns like Cameron and those places; we don't supply the bulk of them, we might have a few consumers in places like Cameron, Hundred, and so forth.

158 Q. As a matter of fact, between the incorporated cities which you have mentioned, your gas supply is pretty much confined to villages or centers of population of various sizes in between, rather than a farm country?

A. No, I would not want to say that we don't have consumers along the main lines of the company, because I know we do serve customers along our main lines.

Q. From the nature of those cities which you have mentioned, your company has a full array of gas mains in the public street, and I suppose service lines running into the houses in the ordinary manner of gas distribution?

A. Yes, sir.

Q. And I suppose, from the nature of these cities in West Virginia, you are operating under municipal franchises giving you rights to be there?

A. I really would not want to say whether we are operating in all the towns in West Virginia under a franchise.

Q. Perhaps you can remember a few where you are quite certain.

A. Well, I believe I am correct when I state, for instance, the town of Follansbee; I don't believe that we are in there franchised. My recollection is that the major portion of our lines were laid prior to the time it was incorporated, or known as a city or town. I, without looking it up, would hesitate to tell you, with any degree of accuracy, as to whether we have franchises or ordinances

159 in the other towns or not. We serve, I might say hundreds of communities. I know I did at one time attempt to gain that knowledge, and there were so many of them I had to give it up. So I am not prepared to state which towns in West Virginia we have an ordinance, or whether we have one, or—in fact, we discovered instances where we thought we had one and we didn't have.

Q. Take the situation in Follansbee, as you think it to be,—Where you went into the business of gas supplying, and the town incorporated around you; up to the time that town sprang into existence, what afterwards became public streets were public highways of the County, were they not?

A. Of the town and County.

Q. And you had some permission, or something in the way of permission from the County Court, in that instance?

A. I would be unable to state. I think, though, there was.

Q. Then the fact remains that, while you are uncertain as to the places at which you have or have not municipal franchises in West Virginia, you are operating, and have been operating for a number of years in the past, under some sort of municipal——

A. Power.

Q. Permission or power or tolerance or acquiescence—is that correct?

A. That is correct.

160 Q. How about the town of New Martinsville, do you recall whether you have a franchise there?

A. I couldn't tell you.

Q. At the time the Manufacturers Light & Heat Company took over the Wheeling Natural Gas Company and the other companies which you have mentioned, the Manufacturers Company acquired whatever rights the Wheeling Company and the other lesser companies had?

A. I would be unable to answer that question, I don't know. I know that there have been some purchases made by the company in which they did not take over the franchise rights, they simply purchased the physical property of the company.

Q. What company was that?

A. The competing company in the town of Middlebourne, for instance.

Q. That is in Tyler County?

A. Yes. There they purchased the physical property. Take the Newell Gas Company, which was in Hancock County there at Newell and Chester, that company was acquired by purchasing just the physical property.

Q. When was that purchase made, by the way?

A. That, I would say, roughly, has been about six or seven years ago, for the Newell Gas Company; the purchase of the company I mentioned at Middlebourne, I would say, two years ago, or two years and a half ago—now wait, I have that wrong, probably a year

161 or a year and a half,—about a year, I would say.

Q. What territory did they have?

A. The company mentioned at Middlebourne had to supply a portion of the consumers, domestic—and I believe a little industrial business—down in Middlebourne. It purchased and secured its gas in that vicinity. The Newell Gas Company had some industrial business, I believe, over at Newell, Chester, and also in the city of East Liverpool, Ohio, directly across the river from Newell and Chester. I might state that I made an answer to you that I didn't know whether or not we were operating in the town of New Martinsville under an ordinance or a franchise. I want to correct that, because it has flashed into my mind that there is some provision of some free gas there which they receive under a clause in an ordinance. Now, if my recollection is correct, we would have the ordinance in New Martinsville, West Virginia.

Q. Now, with regard to the system of pipe lines you have mentioned, the extent of the system which you have pointed out is as of what date—the present?

A. My instructions to the engineering department were to bring the map up to date, anything that might have been laid or extended

162 the past couple of months,—it was brought up to date, I think, several months ago,—it was supposed to be up to date as of this week, or the past week.

Q. When did the construction of that system of pipe lines of the Manufacturers' Light & Heat Company commence in West Virginia?

A. That I would be unable to state, only in a general way. I presume you refer to their main lines, or the system as a whole?

Q. Well, let us say the system as a whole.

A. I wouldn't know.

Q. Suppose you take the larger main lines, trunk lines.

A. The 16-inch and 20-inch line, which the 12-inch discharge line from Hundred station enters, and also the discharge line from the Sedalia station enters, and passes through Marshall County, West Virginia, crossing the State line dividing the States of West Virginia and Pennsylvania, in a northeasterly direction,—the construction of that line was begun and completed in the year 1903-1904, I believe.

Q. Was that construction by the Manufacturers Light & Heat Company, or by the Wheeling Natural Gas Company, or the other acquired companies you have named?

A. That line was constructed, I believe, by the Manufacturers' Light & Heat Company.

Q. Before those particular lines were constructed, in 1902
163 or 1903, what was there in the way of a pipe line system?

A. There might have been, and were, I believe, these various companies which they purchased, but were not connected; I believe that after the—immediately after the purchase, one or two of those companies were connected in some manner with smaller connecting lines.

Q. The fact about it is that each of these smaller companies, from their very inception, had to construct field lines from their wells, and main lines of at least modest proportions, in order to supply the particular communities which they were serving—is that correct?

A. That is correct?

Q. And naturally, when the business assumed larger proportions the pre-existing lines, which had been built by the smaller companies were availed of so as to form parts of the larger system?

A. The plants purchased were tied together in a manner so as to make one whole general system.

Q. What pipe line, if any, did the Wheeling Natural Gas Company have in their Sedalia field at the time of acquisition by the Manufacturers Light & Heat Company?

A. I would be unable to answer that question, because of my unfamiliarity with it; the fact is, I never made any particular inquiries
as to sizes of their lines, or how they were connected or
164 how laid.

Q. Well, you know, as a matter of the history of your company, that the construction of a pipe line in the territory around Sedalia was undertaken by the Wheeling Natural Gas Company many years ago?

A. To the best of my recollection, in going over the history of the company, the Wheeling Company did operate in the Sedalia field.

Q. And gas from that field was transported by lines of the Wheel

ing Company to New Martinsville, and the Ohio River towns up to Wellsburg?

A. The company which supplied New Martinsville was called the Wetzel Natural Gas Company, I believe.

Q. I believe you are right about that.

A. Now, the Wetzel Company probably was a subsidiary company of one of the others which were purchased.

Q. So that, in the final absorption, the Wetzel Natural Gas Company was also taken over by the Manufacturers Company?

A. Yes, the Manufacturers Company owns, or did own, the Wetzel Gas Company; it is out of existence now.

Q. But to go back to my question: Whether it was the Wetzel Gas Company or the Wheeling Natural Gas Company at New Martinsville, it is true that the gas from the Sedalia field was being transported by a line of the Wheeling Natural Gas Company to
165 New Martinsville and that Ohio River territory up to Wellsburg?

A. Either the Wheeling Natural or the Tri-State, either one of those two companies. When you refer to Wellsburg, that, I believe, was Tri-State—Wellsburg, the town of Wellsburg, that was served by the Tri-State Company.

Q. What would you say was the main line mileage of the Manufacturers Light & Heat Company pipe line system in West Virginia?

A. I wouldn't know. I can give you the total mileage of the company, the total mileage of their pipe line system, pipe 2 inches or larger in size, if that would be of any value to you,—approximately 2,900 miles.

Q. How much?

A. 2,900 miles.

Q. That is, West Virginia alone?

A. No, that is our total system, as stated—the entire system.

Q. Now, your main lines in West Virginia are built on rights of way acquired in some manner?

A. Yes, sir. On that I want to say that we have a right of way for every foot of ground covered by pipe lines—stating in a very general way, all the pipe lines which we laid, rights of way were obtained by the company.

Q. Well, without questioning your title in any particular instance, those rights of way were acquired how?

A. Some, I presume, by paying for them—in fact, I know
166 so; some by agreement in which the company made a special rate for the gas consumed by the owner of the lands over which the pipe line crosses.

Q. In either event, you had an agreement or deed of grant from the land owner?

A. I would say in practically all instances there is some written instrument which gives us the right to lay our lines. I want to impress as I did state, every foot of our line is covered by a right of way.

Q. How much of your mileage did you acquire by condemnation?

A. Of my own knowledge, I don't know of any that was acquired by condemnation. I want to say by that now that there might have been some acquired in that manner, but I know of none personally.

Q. Are you referring now particularly to the Manufacturers Light & Heat Company or to the Wheeling Natural Gas Company and other lesser companies?

A. I considered your question to mean any of the lines now owned by the company, no matter who owned them formerly.

Q. Do those pipe lines traverse any land other than that acquired by private grant or agreement—waiving any minor questions of title?

A. I would say that perhaps they do. Some of the lines run along the highways and roads in the State.

Q. In a general way, what lines are those?

A. Oh, I don't refer to any particular line, only that, driv-
167 ing through the State, "this is our line" or "that is our line," and I see it laying beside the road. Take, for instance, down below Wellsburg, we have lines that are run on a portion of the highway. We have lines at Wheeling that are supposed to be on the National Turnpike, and so forth. We have, no doubt, hundreds of places where we cross the roads, one farm to another.

Q. I was going to suggest that in a vast number of instances you necessarily have to cross the public roads.

A. That condition would exist, yes, sir.

Q. And in a less number of instances, any pipe line system of the size of the Manufacturers Company in West Virginia would have to pass for some distance, in various places, along public roads or highways?

A. Along and across public highways, yes.

Q. Are you able to tell us where your company secured those rights of crossing and running along public roads or highways, so far as you can do so?

A. The custom in West Virginia, I believe, is to apply to what is known as the County Court.

Q. You have from them franchises or permits in the nature of franchises?

A. Yes, permits, which permits are to move our line or lay a new one. For instance, on the bridge connecting the towns of New Martinsville and Brooklyn, we desired to lay a line there on the bridge; it was necessary to go to the County Court and secure
168 a permit before it could be laid.

Q. You undertook to give us at the outset the amounts of gas produced or ocquired by purchase in Pennsylvania, West Virginia and Ohio, and the amounts supplied to your customers. That was as of the year 1919?

A. That was of the year 1919, and the figures quoted were approximate figures, very near accurate as to the amount.

Q. When we resume, if you do not now have the figures, I wish that you would have available the figures of natural gas production and purchase in the three States, beginning with the year 1910,

year by year, up to and including 1919—revising your figures for 1919, if you deem it necessary to do so.

A. I will give you the figures.

Q. I would be glad also if you would give us the gas acreages of your company, year by year, during the same period, both operated and unoperated; the number of wells, year by year, covering the same period. I think my previous request did cover, but I want it to cover the classes of consumption by your consumers, as divided into domestic and industrial and——

A. Miscellaneous.

Q. If your records show miscellaneous, or public institutitions, let that be covered.

A. I will do so.

169 Q. Will your miscellaneous consumption, or what you term that, cover consumption in the field for drilling?

A. Yes.

Q. If you are able to separate that from the other items of Miscellaneous, I would be glad to have you do so.

A. You want the total amount of gas used simply for drilling operations, or to include, if possible for us to ascertain, the amount of gas sold for all field purposes?

Q. Let us say field operations, yes.

A. Yes.

Q. And include pump station operations also.

A. Miscellaneous includes compressing stations. Do I understand you want those separate from the other items?

Q. No, I think not to separate compressing stations from your other operations, but include that item in the total of operating fuel.

Mr. Weil: That would be included in field operations?

Mr. Hoffheimer: Yes.

Mr. Hoffheimer:

Q. If your records will give us your pipe line mileage year by year, we will be glad to have that also—beginning with 1910, let us say.

A. You mean the total mileage in——

170 Q. In West Virginia.

A. Do you want the field separated from the city plants?

Q. Let me see—what is your minimum line, 4 inch?

A. Two, we class it 2 inches or larger.

Q. Let us begin with that, then, without getting out in the smaller field lines—that is, start at 2.

A. I will do so.

Hearing adjourned, it being agreed by counsel for the complainants and defendant respectively that said hearing shall be resumed on the 31st day of May, 1920, at 11.00 o'clock a. m., at the offices of The Peoples Natural Gas Company, Pittsburgh, Pennsylvania; all other notices thereof being waived.

ORIGINAL, #23 & #24.

October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of May 31st–June 3d, 1920.

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171 Monday, May 31st, 1920.

And now Monday, May 31st, the hour of 11:00 o'clock A. M. having arrived, parties met pursuant to adjournment.

Present: The Commissioner, Levi Cooke, Esq.; for the Commonwealth of Pennsylvania and State of Ohio, A. Leo Weil, Esq.; for the State of West Virginia, Attorney General Edward T. England, Philip R. Steptoe, Esq., George M. Hoffheimer, Esq., and W. S. John, Esq.

H. A. QUAY recalled.

Mr. Weil: Before we proceed, you asked us to obtain for you certain data and information at this hearing. First, the number of wells the several companies had in West Virginia when they were acquired.

Mr. Weil:

Q. Have you been able to obtain that, Mr. Quay?

A. We have been unable to secure that information. I do not know, in the first place, whether it is possible for us to secure the same, but, if it is, it would mean a research through many books

and records of the company. I can supply that data s
172 1910 or 1911; that was also asked.

Q. Now, you were also asked to obtain, if possible, territory that these respective companies were serving at the time were taken over, these companies that were taken into the M facturers Light & Heat Company. Have you been able to ob that?

A. The acreage which those companies had, I have been un to secure the same.

Q. No, I am not speaking of acreage now. I am speaking a the territory that was served by these companies at the time were taken over.

A. They refer to the communities served?

Q. Yes.

A. I believe I could answer that fairly well.

Q. Well, suppose you give us that then.

A. The Wheeling Natural Gas Company,—the principal p of consumption: In the city of Wheeling, the city of Bell Bridgeport and Martins Ferry; later, Moundsville, West Virg The Wetzel Natural Gas Company supplied the town of New tinsville, and also the town of Brooklyn, and to smaller commun and isolated communities along their main line. The Tri-State Company supplied a portion of East Liverpool, Ohio; a portio Wellsville, Ohio; Toronto, Ohio; New Cumberland, West Virgi Steubenville, Ohio, and Wellsburg, West Virginia. The
173 Pitt Company supplied up towards New Castle, Pennsylv and towns in the Beaver Valley, such as a portion of Brighton, Beaver Falls, Beaver, Rochester; also at one time sup a portion of consumers through Bellevue and Avalon.

Q. Now, you did not give us the territory in Pennsylvania was supplied by the Tri-State. Can you recall that now,—wh was?

A. The Tri-State supplied in Pennsylvania—the principal t were McDonald and Midway; part of Pittsburgh, some of boroughs in and about Pittsburgh, a portion of them.

Q. Now, then, you were asked to have prepared the figures reference to the natural gas production and purchases in the States for the years from 1910 to 1920. Did you have that s ment prepared?

A. As far as our record——

Q. Now, before we get to those figures, Mr. Quay, I want to re your recollection as to some of these other gas companies and territory they were serving. I call your attention to the follo companies: The Ohio Valley, the New Cumberland Water & the Franklin and Washington Gas Company, the Peoples Lig Heat, and the Bellevue and Glenfield Gas Companies. Were all taken in by the various constituents of the Manufacturers L & Heat?

A. Yes, sir.

Q. What did the Ohio Valley supply?

174 A. They supplied gas to consumers in the city of East Liverpool, Ohio; Newell and Chester, West Virginia.

Q. And the New Cumberland Water & Gas Company?

A. Supplied gas and water to customers at New Cumberland, West Virginia.

Q. And the Franklin and Washington Gas Company?

A. Supplied a portion of the city of Washington, Pennsylvania; West Washington, Pennsylvania, also.

Q. And the Peoples Light & Heat Company?

A. The Peoples Light & Heat supplied a portion of the customers at Washington, Pennsylvania.

Q. And the Bellevue and Glenfield Gas Company?

A. They supplied gas through Bellevue, or a portion of Bellevue, Avalon, Sewickley, and smaller towns adjoining.

Q. I think you stated all of those companies were absorbed or merged into one or the other of the companies that finally became the property of the Manufacturers Light & Heat?

A. They are now the property of the Manufacturers Light & Heat Company.

Q. Now then, those figures that I asked for, have you them?

A. There is the gas purchased since the year 1910. (Producing paper.)

Q. Will you give us the number of thousand cubic feet purchased in Pennsylvania, West Virginia and Ohio, and the total amount purchased in the three States, from 1910 to 1919, inclusive?

175 A. There was purchased in the State of Pennsylvania, in the year 1910, 1,333,105,000 cubic feet; in the State of West Virginia, in the year 1910, there were purchased 17,411,392,000 cubic feet; in the State of Ohio, in the year 1910, there was purchased 155,573,000 cubic feet. Making a total of 18,900,070,000 cubic feet, purchased in the year 1910.

Q. Now, instead of putting that "in the year 1910," just say, first, "in the year 1910," and then say "in the same year."

A. In the year 1911 there was purchased in the State of Pennsylvania, 842,071,000 cubic feet. In the same year there was purchased in West Virginia 14,066,735,000 cubic feet. In the same year there was purchased in Ohio 307,969,000. A total of 15,156,775,000 cubic feet. In the year 1912, there was purchased in the State of Pennsylvania 3,041,975,000. In the State of West Virginia, the same year, 11,731,635,000. In the same year, in the State of Ohio, 159,385,000. Or a total of 14,932,995,000 cubic feet. In the year 1913 there was purchased in the State of Pennsylvania 3,460,463,000. In the State of West Virginia, the same year, 12,004,454,000. In the State of Ohio, same year, 149,789,000. A total of 15,614,706,000 cubic feet.

176 In the year 1914 there was purchased in the State of Pennsylvania 4,589,031,000. In the State of West Virginia, for the same year, 11,378,840,000. In the State of Ohio, same year, 23,868,000. A total of 15,991,739,000 cubic feet.

There was purchased in the State of Pennsylvania in the year 1915, 3,384,340,000. In the State of West Virginia, for the same

year, 11,004,955,000. In the State of Ohio, in the same year, 51,548,000. Or a total of 14,440,843,000 cubic feet.

There was purchased in the State of Pennsylvania in 1916, 2.715,733,000. In the State of West Virginia, the same year, 15,578,481,000. In the State of Ohio, the same year 72,738,000. A total of 18,366,952,000 cubic feet.

In the year 1917, in Pennsylvania, 2,157,715,000. In the State of West Virginia, same year, 15,523,979,000. In the State of Ohio, in the same year, 72,538,000. A total of 17,754,232,000 cubic feet.

In the year 1918, in Pennsylvania, 1,339,358,000. In the State of West Virginia, same year, 13,371,073,000. In the State of Ohio, same year, 57,360,000. A total of 14,767,791,000 cubic feet.

In the year 1919, Pennsylvania, 971,010,000. In the State of West Virginia, the same year, 13,589,149,000. In the State
177 of Ohio, 72,867,000. Or a total of 14,633,026,000 cubic feet.

Q. Now, have you, for the same period, your gas production in the three States?

A. The Company has no way of determining their gas production. That is, we have no meter installations which would tell us the amount of the gas produced in the separate States. We can, from an estimate prepared since the year 1916, apportion our gas production.

Q. How do you make that estimate?

A. That estimate is based on pressures taken at the wells each month. They take the first minute raise in pressure above line pressure. Knowing the depth of the well and the tubing and casing, in that manner, arrive at the gas that well will produce under those conditions at the time at which the test was made. We take our total sales, minus the gas purchased, which would indicate our own—or, gas sold from our own production. We take through percentage the gas—by using percentage—taking into consideration the amount of the gas produced in each field, and by applying those percentages, arrive as to the amount of gas each field produces.

Q. Is that method which you have described one in common use by the trade?

A. Yes, sir, the method which we have used has been a
178 method which has been accepted, I believe, by the West Virginia Public Service Commission in making reports as to our gas production.

Q. Well, it is one in general use by the trade, is it not?

A. For determining the amount of gas, yes, sir.

Q. Well now, you say you can give that from the year 1916?

A. Yes, sir.

Q. Suppose you give it to us then.

A. The figures show that in the year 1916 there was 10,770,472,000 cubic feet of gas produced from our own wells in the State of Pennsylvania. In the same year they showed that our own wells produced, in the State of West Virginia, 7,757,486,000. In the State of Ohio, for the same year, 57,105,000 cubic feet.

In the year 1917, in Pennsylvania, 9,308,935,000. In the State

of West Virginia, for the same year, 7,279,565,000 cubic feet. In the State of Ohio, 67,215,000.

In the year 1918, in the State of Pennsylvania, 8,291,800,000. In the State of West Virginia, for the same year, 6,431,445,000. In the State of Ohio, the same year, 26,524,000.

In the year 1919, in the State of Pennsylvania, 6,766,712,000. In the State of West Virginia, for the same year, 5,796,232,000. In the State of Ohio, for the same year, 27,812,000.

179 Q. You were asked to produce at this hearing, if you could obtain the same from your books and records, the gas acreage, year by year, from 1910 to 1920, separating the operated from the unoperated acreage. Can you give us that?

A. I can give you that in that manner since the year 1913.

Q. All right. You can not give it prior to that time?

A. I cannot, without a great deal of work on the part of the Accounting Department. They state to me that to secure the information in that form would require the going over of hundreds of thousands of leases, and picking out from their records, in that manner, their acreage.

Q. I suppose, since 1913, you have kept what you would call a real estate record——

A. A general record, I believe, which shows it, combined.

Q. That is, since 1913?

A. Yes, sir.

Q. Very well. Give us the figures from that date.

A. In the year 1913, in the State of Pennsylvania,—is it necessary to give fractional parts of acres?

Q. No.

A. In the year 1913——

Q. We don't care for the fractional parts of an acre. We will let that go.

A. In the year 1913, in the State of Pennsylvania, the com-
180 pany had 62,233 acres operated territory, and 132,339 acres of unoperated territory. In the State of West Virginia, for the same year, we had 33,918 acres of operated territory and 60,704 acres of unoperated territory. In the State of Ohio, for the same year, we had 3,260 acres of operated territory and 6,699 acres of unoperated territory. Do you want the totals in each year?

Q. Yes.

A. Or a total of 99,411 acres of operated territory in all States, and 199,743 acres of unoperated acreage, in the year 1913.

In the year 1914, we had in the State of Pennsylvania, 65,734 acres of operated territory, and 105,406 acres of unoperated territory. In the State of West Virginia, for the same year, we had 35,627 acres of operated territory, and 59,800 acres of unoperated acreage. In the same year, in the State of Ohio, we had 3,291 acres of operated territory, and 7,031 acres of unoperated territory. A total of 104,652 acres of operated territory, and 172,238 acres of unoperated territory.

In the year 1915, we had in the State of Pennsylvania, 65,224 acres of operated territory, and 104,359 acres of unoperated territory.

In the State of West Virginia, for the same year, we had
181 32,023 acres of operated territory, and 66,158 acres of unoperated territory. In the same year, in the State of Ohio, we had 1,644 acres of operated territory, and 22,934 acres of unoperated territory. In the year 1915, in the State of Kentucky, we had 4,297 acres of unoperated territory. A total of 98,892 acres of operated territory, and 197,749 acres of unoperated.

In the year 1916, we had, in the State of Pennsylvania, 67,805 acres of operated territory, and 112,591 acres of unoperated. In the same year, in the State of West Virginia, we had 34,708 acres of operated territory, and 76,595 acres unoperated. In the same year, in the State of Ohio, we had 2,187 acres of operated territory, and 22,447 acres of unoperated territory. In the same year, in Kentucky, we had 5,547 acres of unoperated territory.

In the year 1917, we had, in the State of Pennsylvania, 76,011 acres——

Q. Read the total before there.

A. A total acreage, in 1916, of 104,700 acres operated territory, and 217,180 unoperated.

In the year 1917, we had, in the State of Pennsylvania, 76,011 acres of operated territory, and 115,005 acres unoperated. In the same year, in the State of West Virginia, we had 41,525 acres of operated territory, and 76,109 acres unoperated. In the same
182 year, in the State of Ohio, we had 1,998 acres of operated territory, and 18,825 acres unoperated. In the State of Kentucky, the same year, we had 5,622 acres unoperated territory. Making a total of 119,535 acres operated territory, and 215,562 acres unoperated.

In the year 1918, we had in the State of Pennsylvania, 79,634 acres operated territory, and 122,122 acres unoperated. In the State of West Virginia, for the same year, we had 45,268 acres of operated territory, and 73,304 acres unoperated. In the State of Ohio, for the same year, we had 1,635 acres operated territory, and 18,715 acres unoperated. In the State of Kentucky, we had 9,958 acres unoperated. In the State of Kansas, the same year, we had 844 acres unoperated. In the State of Texas we had 9,772 acres unoperated. Making a total of 126,538 acres operated, and 234,713 acres unoperated.

In the year 1919, we had in Pennsylvania 82,807 acres operated territory, and 103,221 acres unoperated. In the State of West Virginia, the same year, we had 48,155 acres operated, and 94,280 acres unoperated. In the State of Ohio, the same year, we had 1,066 acres operated, and 17,961 acres unoperated. In the State of Kentucky, the same year, 9,958 acres unoperated. In the State of
183 Louisiana, 4,073 acres unoperated. In the State of Arkansas, 40 acres unoperated. In the State of Kansas, 280 acres unoperated. In the State of Texas, 10,567 acres unoperated. Making a total of 132,028 acres operated, and 240,382 acres unoperated.

Q. You were asked to give us, during the same period, the number of wells in each of the States. Are you prepared to do that now?

A. I can furnish you a record of the wells since the year 1910, by States.

Q. Very well, give that to us.

A. In the year 1910, or rather, at the close of the year 1910, the Company had in the State of Pennsylvania 682 wells. In the same year, in the State of Ohio, 43 wells. The same year, State of West Virginia, 278 wells. In the year 1911, we had 652——

Q. Wait a minute. Give us the total of each year.

A. A total of 1,003 in the year 1910. In the year 1911 we had in the State of Pennsylvania 652 wells. The same year, in the State of Ohio, 29. The same year, State of West Virginia, 270; or a total of 951.

In the year 1912, we had in the State of Pennsylvania, 639 wells; in Ohio, 25; in West Virginia, the same year, 267; making a total of 931.

In the year 1913, we had in the State of Pennsylvania,
184 656 wells; the same year, in Ohio, 20 wells; the same year, in West Virginia, 289 wells. Total, 965 wells.

In the year 1914, we had in the State of Pennsylvania, 672 wells; in Ohio, the same year, 21 wells; in West Virginia, the same year, 313 wells. A total of 1,006 wells.

In the year 1915, we had in the State of Pennsylvania, 666 wells; in Ohio, the same year, 15; in West Virginia, the same year, 324. A total of 1,005.

In the year 1916, we had in the State of Pennsylvania, 692 wells; in the State of Ohio, the same year, 18; in the State of West Virginia, the same year, 363. A total of 1,073.

In the year 1917, we had in the State of Pennsylvania, 722 wells; in Ohio, the same year, 18; West Virginia, the same year, 389. Total 1,129.

In the year 1918, we had in the State of Pennsylvania, 748 wells; in the same year, in Ohio, 14 wells; the same year, in West Virginia, 437 wells. A total of 1,199.

We had in the year 1919 in the State of Pennsylvania, 764 wells; in the State of Ohio, 10 wells; and in the State of West Virginia, the same year, 461 wells; making a total of 1,235 wells as of December 31st, 1919.

Q. You were asked to have prepare[illegible] the present examination,
the classes of consumers of the [illegible]mpany, divided into the do-
185 mestic, industrial, and so fo[illegible] in the respective States. Have you been able to obtain that?

A. We have been able to secure figures as to the total sales, beginning with the year 1911. There was no analysis of earnings by States for the years 1911, 1912 and 1913. In the year 1911, we sold for domestic purposes 8,121,714,000 cubic feet. The same year, public institutions, 234,518,000 cubic feet. The same year, for industrial purposes, 16,980,108,000 cubic feet. Field gas, for the same year, 169,299,000. Miscellaneous sales, same year, 1,151,829 cubic feet. A grand total for the year of 1911 of 26,657,468,000 cubic feet.

In the year 1912, we sold in all States, for domestic purposes,

8,953,625,000 cubic feet. To public institutions, the same year, 189,266,000. For industrial purposes, the same year 20,262,505,000 cubic feet. For field use, the same year, 376,303,000. For miscellaneous use, the same year 1,474,751,000. A grand total for the year 1912 of 31,256,456,000 cubic feet.

In the year 1913, we sold for domestic use 8,657,674,000. For public institutions, the same year, 165,187,000. For industrial use, the same year, 22,416,830,000. For field use, the same year, 636,417,000. For miscellaneous purposes, the same year, 1,994,967,000; or a total for the year 1913 of 33,871,075,000 cubic feet.

186 For the year 1914, we can divide it by States. In 1914, in Pennsylvania, we sold for domestic use 6,280,031,000 cubic feet. Do you want Pennsylvania read off first?

Q. Read each class in each State.

A. Together?

Q. Together, yes.

A. In the State of Ohio, in the year 1914, we sold for domestic use, 2,295,357,000 cubic feet. For the same year, in West Virginia, for domestic use, we sold 848,481,000. For the year 1914, we sold in the State of Pennsylvania, to public institutions, 153,577,000 cubic feet. The same year, in Ohio, for public institutions, 61,940,000 cubic feet. For the same year, in West Virginia, for public institutions, 22,064,000 cubic feet. We sold in the year 1914, in the State of Pennsylvania, for industrial use, 10,601,230,000 cubic feet. For the same year, in Ohio, we sold for industrial use, 5,846,446,000. The same year, in the State of West Virginia, we sold for industrial use, 4,356,300,000. In the year 1914, we sold in Pennsylvania for field use, 542,203,000. In the same year, in Ohio, there was no gas sold for field use. For the same year, in the State of West Virginia, we sold 171,058,000 cubic feet for field use. In the year 1914 we sold in the State of Pennsylvania for miscellaneous use 1,139,

187 415,000. In the same year, in the State of Ohio, we sold for miscellaneous use, 251,911,000. In the State of West Virginia, the same year, for miscellaneous use, 468,853,000. Now, do you want the totals?

Q. Yes.

A. We sold for all purposes in the State of Pennsylvania, in the year 1914, 18,716,456,000 cubic feet. In the same year, in the State of Ohio, for all purposes, 8,455,654,000 cubic feet. In the same year, for all purposes, in the State of West Virginia, 5,866,756,000; or a grand total of 33,038,866,000 cubic feet.

In the year 1915, we sold for domestic use, in the State of Pennsylvania, 6,214,839,000 cubic feet. In the same year, in the State of Ohio, we sold for domestic use, 2,242,060,000 cubic feet. For the same year, in the State of West Virginia, we sold for domestic use 839,760,000 cubic feet. In the year 1915 we sold in the State of Pennsylvania to public institutions 162,858,000 cubic feet. For the same year, we sold in Ohio, to public institutions, 60,718,000 cubic feet. In the same year, in West Virginia, for public institutions, 19,558,000. In the year 1915, we sold for industrial use in the State of Pennsylvania, 11,419,780,000 cubic feet. In the same year, in Ohio, for industrial use, 5,202,657,000 cubic feet. In the same year,

in the State of West Virginia, for industrial use, 4,685,761,-
188 000 cubic feet. In the year 1915, we sold in the State of Pennsylvania, for field use, 281,279,000 cubic feet. In the same year, in Ohio, for field use, 2,320,000 cubic feet. For the same year, in the State of West Virginia, for field use, 194,986,000. In the year 1915, in the State of Pennsylvania, we sold for miscellaneous use, 1,136,235,000 cubic feet. In the same year, in Ohio, for miscellaneous use, 234,446,000. In the same year, in West Virginia, we sold, for miscellaneous use, 507,529,000 cubic feet. We sold for all purposes in the year 1915, in the State of Pennsylvania, 19,214,991,-000 cubic feet. In the same year, for all purposes, in the State of Ohio, 7,742,201,000 cubic feet. In the same year, all sales in West Virginia amounted to 6,247,594,000 cubic feet. Or a grand total of 33,204,786,000 cubic feet.

In the year 1916, we sold for domestic use, in the State of Pennsylvania, 6,936,848,000 cubic feet. For the same year, in the State of Ohio, for domestic use, we sold 2,383,992,000 cubic feet. For the same year, in the State of West Virginia, for domestic use, 906,-982,000 cubic feet. In the year 1916, in the State of Pennsylvania, for public institutions, 174,391,000. For the same year, in the State
of Ohio, to public institutions, 61,090,000 cubic feet. The
189 same year, State of West Virginia, to public institutions, 19,641,000. In the year 1916, in the State of Pennsylvania, for industrial use, 13,157,537,000 cubic feet. The same year, in the State of Ohio, for industrial use, 5,398,998,000. The same year, for industrial use, in the State of West Virginia, 5,063,647,000 cubic feet. In the year 1916, we sold, in the State of Pennsylvania, for field use, 551,085,000 cubic feet. For the same year, in the State of Ohio, for field use, 1,080,000 cubic feet. For the same year, in the State of West Virginia, for field use, 212,104,000 cubic feet. In the year 1916, in the State of Pennsylvania, for miscellaneous use, 1,-135,804,000 cubic feet. For the same year, State of Ohio, for miscellaneous use, 250,258,000. For the same year, State of West Virginia, for miscellaneous use, 718,558,000 cubic feet. In the year 1916, we sold for all purposes in the State of Pennsylvania 21,935,-865,000 cubic feet. For the same year, in the State of Ohio, we sold, for all purposes, 8,095,418,000 cubic feet. The same year, in the State of West Virginia, we sold for all purposes 6,920,932,000 cubic feet, or a grand total of 36,952,015,000 cubic feet.

In the year 1917, we sold in the State of Pennsylvania,
190 for domestic use, 8,191,605,000 cubic feet. The same year, in the State of Ohio, we sold for domestic use, 2,746,338,000 cubic feet. The same year, in the State of West Virginia, for domestic use, 1,102,133,000 cubic feet. The same year, in the State of Pennsylvania, we sold to public institutions, 286,526,000 cubic feet. The same year, in the State of Ohio, to public institutions, 72,-928,000 cubic feet. In the same year, in West Virginia, to public institutions, 30,247,000 cubic feet. In the year 1917, we sold in the State of Pennsylvania, for industrial use, 10,310,898,000 cubic feet. The same year, in the State of Ohio, for industrial use, 4,332,984,000 cubic feet. The same year, in the State of West Virginia, for industrial use, 4,332,054,000 cubic feet. In the year 1917, in the

State of Pennsylvania, for field use, 624,115,000 cubic feet. The same year, State of Ohio, for field use, 1,842,000 cubic feet. In the same year, State of West Virginia, for field use, 162,003,000 cubic feet. In the year 1917, we sold in the State of Pennsylvania, for miscellaneous purposes, 1,168,650,000 cubic feet. The same year, State of Ohio, for miscellaneous use, 265,333,000 cubic feet. The same year, State of West Virginia, for miscellaneous use, 782,991,000 cubic feet. We sold in the year 1917, in the State of Pennsylvania, for all purposes, 20,581,794,000 cubic feet. The same
191 year, State of Ohio, for all purposes, 7,418,725,000 cubic feet. The same year, in the State of West Virginia, for all purposes, 6,409,428,000 cubic feet. Or a grand total of 34,409,947,000 cubic feet.

In the year 1918, in the State of Pennsylvania, we sold for domestic use, 8,082,208,000 cubic feet. The same year, State of Ohio, for domestic use, 2,707,305,000 cubic feet. The same year, State of West Virginia, for domestic use, 1,152,652,000 cubic feet. In 1918, in the State of Pennsylvania, to public institutions, 190,657,000 cubic feet. Same year, State of Ohio, to public institutions, 55,107,000 cubic feet. The same year, State of West Virginia, to public institutions, 31,806,000 cubic feet. In 1918, in the State of Pennsylvania, for industrial use, 7,763,524,000 cubic feet. The same year, in the State of Ohio, for industrial use, 3,441,048,000 cubic feet. For the same year, in the State of West Virginia, for industrial use, 3,560,305,000 cubic feet. In 1918, State of Pennsylvania, for field use, 396,693,000 cubic feet. In the same year, in Ohio, there was no gas sold for field use. In the same year, in the State of West Virginia, for field purposes, 185,858,000. In the year 1918, State of Pennsylvania, for miscellaneous use, we sold 1,064,418,000 cubic feet. For the same year, in Ohio, for miscellaneous use, 168,117,000 cubic feet. For the same
192 year, in the State of West Virginia, for miscellaneous use, 717,962,000 cubic feet. We sold in the year 1918, in the State of Pennsylvania, a total of 17,497,500,000 cubic feet. For the same year, in the State of Ohio, 6,371,577,000 cubic feet. In the same year, in the State of West Virginia, we sold 5,648,583,000 cubic feet. Or a grand total of 29,517,660,000 cubic feet.

In the year 1919 we sold in Pennsylvania, for domestic use, 7,966,954,000 cubic feet. For the same year, in the State of Ohio, for domestic use, 2,614,181,000 cubic feet. For the same year, in the State of West Virginia, for domestic use, 1,084,023,000 cubic feet. In the year 1919, we sold in Pennsylvania to public institutions 192,354,000 cubic feet. The same year, in Ohio, to public institutions, 54,800,000 cubic feet. In the same year, State of West Virginia, to public institutions, 31,854,000 cubic feet. In the year 1919, we sold in Pennsylvania for industrial use 5,757,124,000 cubic feet. For the same year, in the State of Ohio, for industrial purposes, 3,679,143,000 cubic feet. For the same year, in the State of West Virginia, for industrial use, 3,293,747,000 cubic feet. In the year 1919, we sold in Pennsylvania, for field use, 360,805,000 cubic

feet. For the same year, in the State of Ohio, we sold for
193 field use 606,000 cubic feet. For the same year, in the State of West Virginia, for field use, 222,291,000 cubic feet. In
1919, in Pennsylvania, for miscellaneous use, 1,090,031,000 cubic
feet. For the same year, in Ohio, for miscellaneous use, 112,603,000
cubic feet. For the same year, in the State of West Virginia, for
Miscellaneous use, 762,402,000. We sold in the year 1919, for all
purposes, State of Pennsylvania, 15,367,268,000 cubic feet. We
sold, in the same year, in Ohio, for all purposes, 6,461,333,000 cubic
feet. In the same year, State of West Virginia, we sold, for all
purposes, 5,394,317,000 cubic feet. Or a grand total of 27,222,-
918,000 cubic feet.

Q. At our last session, you were asked to prepare and present at
his hearing the pipe line mileage, year by year, in the various
States, rising above the 2-inch lines. Have you been able to pre-
are that?

A. Well now, I wasn't advised as to "year by year." It was my
understanding, I think, that our total pipe line mileage now, that
s, for the year 1919——

Q. No, the request was for year by year, as far as possible.

A. Well now, I will tell you, we can secure it year by year. It
as my understanding it was as of December 31st, 1919.

Q. Well, give us that.

A. I might say that it took the Engineering Department—
94 I don't know how many days—three or four days, at least,—
to secure this data for the year 1919.

Q. Well, give us for that period now, whatever you have, and we
ill see later about the remainder.

A. We have in the State of Pennsylvania as of December 31st,
919, a total of 4,641,940 feet of pipe 2 inches or larger; equaling
79.16 miles. That is, on city plants. In the State of Pennsylva-
ia, for field use, 6,302,078 feet pipe 2 inches or larger; equaling
193.57 miles. Or a total of 10,944,018 feet; equaling 2,072.73
iles of pipe in the State of Pennsylvania, 2 inches in size or over.
the State of West Virginia, for a period ending December 31st,
919, we had, in city plants, 721,515 feet, equaling 136.65 miles.
ield and main line, same State, 3,379,692 feet; equaling 640.09
iles. A grand total in the State of West Virginia, of 4,101,209
et; equaling 776.74 miles. In the State of Ohio, for a period end-
g December 31st, 1919, in the city plants we had 1,374,134 feet;
ualing 260.25 miles. Field, main lines, 479,859 feet; equaling
.88 miles. Or a total in the State of Ohio of 1,853,993 feet; equal-
g 351.13 miles. A grand total in all States, in city plants, of
737,591 feet; equaling 1,276.06 miles. Field and main lines,
10,161,629 feet; equaling 1,924.54 miles. Or a grand total
5 of 16,899,220 feet; equaling 3,200.6 miles.

Q. As I understand, this is the mileage of pipe lines of 2-
ch and over?

A. Yes, sir.

Q. It includes the 2-inch?

A. It includes the 2-inch.

Q. But does not include any lines under 2-inch?
A. No, sir.
Q. How long would it take to prepare this same information fo
the years previous?
A. I would say it would take many days; well, say two week
perhaps, if we could get the engineering force on it.

Mr. Weil: I would ask counsel for West Virginia if they desir
this same information for previous years, or if this is satisfactory?
Mr. Hoffheimer: We would like to have the information, if pos
sible. We might be able to get along with an approximation, an
if we think we have sufficient without these exact details, we wil
notify you.

The Witness: One of the difficulties is—say for instance
196 in the State of West Virginia, we return our property accord
ing to each district in which the company is operating;
mean each taxing district. There are a great many of them. The
have to go down through and pick those out in those different litt
taxing districts, and total them up. We can get it for you if yo
desire.

Mr. Hoffheimer:

Q. But you do make one single report to the Board of Publi
Works?
A. Yes, sir, each year. That is, in West Virginia.

Mr. Weil:

Q. Are those figures on file in the State of West Virginia, as t
the State of West Virginia?
A. Yes, sir.
Q. You don't make similar reports in other States?
A. No, sir, not in detail like that.
Q. Have you any data in your files by which you can go back, i
other States, as to this pipe line mileage?
A. No, I think the only thing we could do would be to just di
it out, Mr. Weil,—the amount of pipe laid each year, and th
197 amount taken up, and subtract from what you have. W
have an inventory which the Company made as of June 30th
1914, that would show the data at that time. It would be very har
for us to get that information.

Mr. Weil: Well then, we will produce the information as of Jun
30th, 1914, which we have, and we will not agree to put all the me
and engineers, and so forth, upon this, for the prior period. I d
not believe that counsel is justified in asking us to go to that troubl
and expense. If it becomes necessary, we will give them the oppor
tunity to put their own men upon the books and dig it out them
selves.
Mr. Hoffheimer: Suppose we leave it in this way: That if w
desire that information, we will notify you.

Mr. Weil: Very well. We will give you what we have, for the year 1914, at our next session, or perhaps during the present session; because the inventories were taken at that time, and we can furnish it.

198 Mr. Weil:

Q. Were there any further statements, Mr. Quay?

A. Why, I believe we were requested to submit a smaller scale map, to take the place of our large official map known as Pennsylvania Exhibit No. 1.

(Witness produces map.)

Q. Now, is this map which you now produce an exact copy of Exhibit No. 1?

A. I have the engineer here, who states to me it is an exact exhibit.

Q. An exact copy?

A. Yes, sir, an exact copy of No. 1.

Q. Exhibit No. 1 is a large wall map, on heavy cloth, and so forth, in use by the company?

A. Yes, sir.

Mr. Weil: I will ask that this map be marked "Complainants' Exhibit No. 1," and to be substituted for the larger map, of which this is a copy.

The Commissioner: May I suggest that as you have already marked the large map "Pennsylvania Exhibit No. 1," you now mark this "Pennsylvania Exhibit No. 1-*a*," so that it may accompany the large map, and so that the large map may be used if you wish to take it to Washington.

Mr. Weil: At the suggestion of the Commissioner, let this be marked then "Commonwealth of Pennsylvania, Complainants' Exhibit No. 1-*a*."

(Plan now marked "Commonwealth of Pennsylvania, Complainants' Exhibit No. 1-*a*.")

Mr. Weil: There were a number of suggestions with reference to the corrections of the stenographic notes, or the transcript of the stenographic notes of testimony. It seems to me that we ought to agree upon a uniform course of procedure, which should be that only upon the end of the examination of the particular witness, that then with the complete testimony before us, both parties should call attention to such errata as occurs to them, and have it all done at one time and not interspersed throughout the taking of the testimony. Much of it, for example, will be corrected upon the cross examination or re-examination. Is that suggestion satisfactory?

Here the hearing was adjourned to meet Tuesday, June 1st, 1920, 10:00 o'clock A. M.

201 Tuesday, June 1st, 1920.

And now Tuesday, June 1, 1920, the hour of 10:00 o'clock A. M. having arrived, hearing resumed pursuant to adjournment; the Commissioner and counsel present as heretofore noted, Freeman T. Eagleson, Esq., being also present on behalf of the State of Ohio.

The Commissioner: Regarding the correction of notes, which was the last subject mentioned yesterday, counsel for the State of West Virginia have said that they wish to have corrections made, so far as possible, as the matter proceeds from day to day. Counsel for the Commonwealth of Pennsylvania have stated that it seems preferable to them to make corrections by way of errata at the conclusion of the testimony of each witness, so far as feasible. It occurs to me that this will have to be left in this posture: Simply that in case of the delivery of an instalment of testimony, if an obvious error is seen by any counsel, he can call attention to it, and, if agreed upon, then
202 and there the correction will be made. On the other hand, counsel concluding with the witness will be permitted to make any corrections at that time that they propose, submit any errata that may occur to them, and thus take care of errors as they see fit, on each side. It, after all, is simply a practical matter of meeting the wishes of counsel. I do not think counsel for Pennsylvania would object to a correction being made forthwith in the transcript of the notes, if attention is called to it seasonably by the other side. On the other hand, if such corrections are not proposed and promptly agreed to, the transcript of the notes will be taken as the record of the hearing, and such corrections made against that transcript as later may be proposed, either by way of an outright correction or by way of further examination of the witness whose testimony was taken with an alleged error in it.

Is that satisfactory?

Mr. Weil: Entirely.

Mr. Hoffheimer: It is satisfactory to the State of West Virginia.

203 H. A. QUAY recalled.

Cross-examination (resumed).

Mr. Hoffheimer:

Q. When did you go to work for the Mountain State Gas Company?

A. I imagine the first work I did for the Mountain State Gas Company—oh, I would say, was between the years 1904 and 1906.

Q. What was your line of duty?

A. I was chief inspector, having charge of men who inspected the various consumers' homes, and inspecting the plants and lines and property of the company; in some instances examining and making an inspection of wells.

Q. In what territory did you work?

A. Do you mean for the Mountain State Gas Company?

Q. Yes.

A. I worked at Sistersville, West Virginia, and, in fact, every town that they had on their plant, out through the country there, several pump stations, with communities that were around them. I think, starting out near a place called Stringtown, West Virginia.

Q. What county is that?

A. I couldn't tell you exactly.

Q. Tyler County?

204 A. Tyler County, yes.

Q. Well, starting there, how far did you go? Give us some of the names of the principal cities and towns in the vicinity of which you were working?

A. I think that we inspected in Sistersville; Parkersburg was part of the Mountain State Gas Company, a little town right below Sistersville there—St. Marys, I believe it is.

Q. In Ohio?

A. Yes, sir. It has been a good many years, and I have been in a great many towns since. I think those are the main communities of the Mountain State Gas Company.

Q. Where were those wells which you inspected?

A. That would be hard for me to tell you now. My memory would——

Q. I mean, in what counties, or in what extent of territory?

A. It seems to me that we started, as I told you, out near Shirley, Stringtown.

Q. Tyler County?

A. Yes, sir, and we came in on our lines—I think it was Braden station, and on into Sistersville. They were scattered around. As a matter of fact, I didn't testify, nor neither do I say now, that I went over the wells of the Mountain State. I say, on some companies, we inspected the wells as well as the other property.

Q. Where were those compressing stations of the Mountain State Gas Company?

A. I don't think that the Mountain State had any compressing stations belonging to the Mountain State. Braden Station, or this station which I refer to, I believe, was an oil station. They furnished gas to it.

Q. And, I presume that the Mountain State Gas Company had gathering lines connecting its wells in all that territory?

A. I presume so.

Q. Don't you know it?

A. No, I don't. That is, I stated that I don't recollect whether we went over the wells of the Mountain State or not. I said on some companies we took in the wells.

Q. Then you are not able to say whether the Mountain State Gas Company had any pipe lines at all?

A. I know they had pipe lines through which they conveyed and delivered gas to consumers.

Q. Those were located where?

A. Oh, various places.

Q. Those you have mentioned?

A. Yes, sir.

Q. At Parkersburg and the others?

A. Yes, sir.
Q. From the Mountain State, to what company did you go?
A. That, my memory is not clear enough on, but it is my belief that we went to the River Gas Company at Marietta, Ohio.
206 Q. While you were working for the Mountain State, did it own any leases?
A. That I would be unable to say.
Q. Who would know about that?
A. I presume the Hope Natural Gas Company would know now. I believe they own that property.
Q. Who was your immediate superior—to whom did you report?
A. I reported to Robert Hampton.
Q. Where was he located?
A. Oil City, Pennsylvania.
Q. What position did he hold?
A. I believe on one or two companies he was auditor.
Q. Why do you say that the Hope Natural Gas Company would have the information in regard to the Mountain State?
A. As previously stated, I believe they now own that property.
Q. Took over the Mountain State property?
A. That is my belief.
Q. After you left the Mountain State?
A. Oh, yes. In order now, perhaps, to make the situation plain to you: These various companies that I worked on, I had special training in this matter of inspecting, and as these companies desired an inspection, they made arrangements whereby I and my men were sent on to their plants to inspect. When I say "worked for
207 them," I don't mean that I got out and drilled wells for them, or laid lines for them, or work of that kind. I have changed meters, gone into towns and taken every meter out and repaired them for them, and work of that kind, on some plants.
Q. In the same way, you worked for the Keener Oil & Gas Company?
A. I inspected at Weston, I believe, twice, yes, sir.
Q. That was at Weston, in Lewis County?
A. Yes, sir.
Q. Where was the Keener Oil & Gas Company furnishing gas at that time?
A. In the town and, I believe, to a few consumers out about town.
Q. That was Weston?
A. Yes, sir. I believe they had a brick works or a brick yard, was one of their customers.
Q. That was municipal service there, at Weston?
A. I believe so.
Q. Did you make any inspection in the Keener gas field?
A. The Keener Oil Company, or the Keener Gas Company, as I recollect it, I don't think, had any field. I think they purchased their gas.
Q. From whom?
A. The Hope Natural Gas Company, if I recollect, at that time.

Q. Are you able to approximate the dates when you in-
208 spected Keener properties?

A. Only roughly. I would say along in 1903; probably again along in 1907. Those dates, I want you to understand, are to the best of my recollection.

Q. When did you inspect properties of the Clarksburg Light & Heat Company?

A. I would say that was approximately in the same period of time.

Q. What territory were they supplying at the time you did that?

A. They were supplying the town of Clarksburg. I recollect there was one community—I was going to say that I believe there was one little town out some ten or twelve miles from Clarksburg they supplied gas to. I am not sure—Williamsport or some town,—No, not there. The town of Clarksburg, and I believe one other small community out from Clarksburg.

Q. There was some surrounding suburban territory that you include in the supply?

A. I believe so.

Q. Adamstown, and places like that?

A. Glen Elk, isn't it? To the community, or rather, a built-up community.

Q. As a matter of fact, when you speak of the Keener Oil
209 & Gas Company having received its gas supply from the Hope Natural Gas Company, didn't you intend to say that the Keener got its supply from the Clarksburg Light & Heat Company?

A. I don't. I didn't mean to say that; that is, that they got their gas from the Clarksburg Light & Heat. My recollection is that they got it from the Hope. I might be wrong about that, Mr. Hoffheimer.

Q. Where was the gas territory of the Clarksburg Light & Heat Company, so far as it came under your observation?

A. I believe the second time I inspected the Clarksburg Light & Heat Company, they were drilling wells,—oh, within three or four or five miles of the town, in the immediate vicinity of the town of Clarksburg.

Q. Do you remember a field known as the "Big Isaac Field"?

A. Only just by history.

Q. You did know at the time that the Clarksburg Light & Heat Company got a great deal of its gas from that field?

A. No, I couldn't say that, because my recollection is—I have no recollection of that. They probably do. I couldn't say.

Q. When did you inspect for or work for the Hope Natural Gas Company?

A. I think the first time I worked on the Hope was about the year 1902, possibly 1903.

210 Q. How long did you continue?

A. I think we were on the Hope properties perhaps six months.

Q. And did you go back at some subscquent time?

A. I would say that approximately four years afterwards we went over their property again.

Q. That would get you up to about 1906?

A. I would say so; or 1908.

Q. What territory did you inspect for the Hope?

A. I recollect that the first time we started in at Mannington, Mannington County, and inspected consumers throughout the county. From there we went into what they call the Shirley District, the Stringtown district; I and my men, you understand. We went over all the property which the Hope Company owned at that time.

Q. At that time was the Hope furnishing the municipal supply for Mannington?

A. They were.

Q. How about Parkersburg?

A. Parkersburg, it is my recollection, was the Mountain State. Now, I might be wrong about that.

Q. What are some of the other towns or cities that you remember inspecting for the Hope?

A. Well, the towns along the Short Line Railroad there
211 were some of them.

Q. That is, the line running out from Clarksburg toward New Martinsville?

A. Yes, sir, Pine Grove, what they call Piney Fork, Shirley, Stringtown, and those smaller communities; West Union, I believe.

Q. How about Harrison County south of Clarksburg? Did you get down into that direction?

A. If they had property at that time, we no doubt went over that.

Q. Where was the Hope's gas territory which came under your observation at that time?

A. The inspection for the Hope Company was confined entirely to their distribution and sales.

Q. You spoke the other day of the Manufacturers Light & Heat Company, the Pennsylvania corporation, having entered into the State of West Virginia in 1886, or 1887, I believe. Is that your recollection about it?

A. No, the Manufacturers Light & Heat, I believe, secured the Wheeling Natural Gas Company along in the year 1902 or 1903.

Q. And that is the earliest date you have of the entry of the Pennsylvania corporation known as the Manufacturers Light & Heat Company, into West Virginia?

212 A. That is the history I have, to the best of my recollection.

Q. Since we were here before, have you been able to refresh your recollection in any way so as to enable you to state where the territory of the Wheeling Natural Gas Company was at the time it was taken over by the Manufacturers Light & Heat Company in 1902 or 1903?

A. You mean the fields?

Q. Yes.

A. No, I have not. There is only Mr. Layton and I—he is the only present officer of the company that has been with them any great length of time, and who might possibly know that early history. His duties, however, were mostly confined to the Pittsburgh district. I have really no authentic way of making inquiries, unless

I should hunt up some who were associated with the company at that time.

Q. When did the Wheeling Natural Gas Company last hold or operate any territory in West Virginia?

A. As the Wheeling Natural Gas Company, we carried the Wheeling Natural Gas Company, I believe, up to the year 1913 or 1914; in there somewhere.

Q. As a matter of fact, the Wheeling Natural Gas Company's properties were operated by or in the name of the Wheeling Natural Gas Company until May, 1915, were they not?

213 A. I believe that we had an account "Wheeling Natural Gas Company." There were separate portions; at least, a portion of their property that remained as the Wheeling Natural Gas Company. As to the year, I don't recollect—along in 1913 or 1914, it might be 1915.

Q. But up to that time the properties which had previously been acquired by the Wheeling Natural Gas Company were just held and operated as the Wheeling Natural Gas Company?

A. I wouldn't want to say that, because I don't know. The possibilities are that in some districts, acreage, for instance, which the Wheeling Natural Gas Company may have had, might have been sold to some other companies. I would be absolutely unable to answer that, because I don't know.

Q. In other words, you can't say whether the question embodies a correct statement or an incorrect one?

A. No, I can't.

Q. Now, how about the Tri-State Gas Company? Was that not operated, and its property held, by and in the name of the Tri-State Gas Company up until May, 1915, or approximately that time?

A. We had a separate account, "Tri-State Gas Company." My answer to that would be the same as the answer to the Wheeling Natural Gas Company.

214 Q. In other words, you don't know?

A. No.

Q. Now, how about the Cameron Oil & Gas Company? How long was that carried as a separate corporation?

A. I would be unable to answer that. These changes, you understand, Mr. Hoffheimer, came when I held the position, I believe, of District Manager. I was not Assistant General Manager, nor General Manager at the time. It is my recollection that practically all the companies were put in and operated as the Manufacturers Light & Heat Company at one and the same time.

Q. You did, as a matter of fact, deliver the properties themselves? By that, I mean the leases and territory in the field, pipe lines and plants, were taken over; you did carry these companies separately on your books?

A. They were separate accounts in the names of those companies, yes, sir.

Q. The fact is that until the property itself was taken up and taken over by the Manufacturers Light & Heat Company of Pennsylvania, the position of the Pennsylvania Company was that of a

holding company, simply holding those properties by stock ownership?

A. No, I believe they owned the property.

215 Q. When?

A. I think they purchased the majority of this property, as I stated, in the year 1902 or 1903.

Q. Wasn't it by purchasing some of the stock of these companies?

A. I couldn't tell you how it was purchased; I never even asked.

Q. But when you spoke the other day——

A. It might have been merged, Mr. Hoffheimer. I wouldn't want to say it wasn't merged.

Q. But when you spoke the other day, and also today, of the Manufacturers Light & Heat Company of Pennsylvania having acquired these properties in 1902 or 1903, you don't pretend to say whether that acquisition was merely by taking over the physical properties, or whether it was merely a control gained by purchasing stock in these various companies such as the Wheeling Natural Gas Company and the others?

A. The history of the company as given to me is that they purchased those properties entirely. That is, they became the owners of the property.

Q. You are not sitting here and swearing that that is true, are you?

A. I am telling you that that is the history of the company as given me. You understand, I was not connected with the

216 company at the time, nor for quite a few years afterwards.

Q. Mr. Layton is the man who would know about that?

A. No, I doubt very much whether Mr. Layton would. I believe Mr. Layton was connected with the Manufacturers Company at that time, but I think his duties were in Pittsburgh, Pennsylvania. That is, I think he had charge of the selling of gas in this district.

Q. Who is the individual who would know?

A. Oh, I presume whoever were the officers of the company at that time would be the only ones that would know.

Q. Who were they, do you know that?

A. No, I couldn't tell you definitely.

Q. Will your corporate records show those transactions?

A. I presume so.

Q. Who is in charge of those?

A. At the present time, Mr. Radcliffe, Treasurer, and Mr. Seibert, Assistant Treasurer and Secretary. Mr. Layton might know, you understand, Mr. Hoffheimer. I don't know.

Q. Did I correctly understand you to say the other day that there was not a Manufacturers Light & Heat Company of West Virginia?

A. No, there is no Manufacturers Light & Heat Company

217 of West Virginia.

Q. Was there ever any such company?

A. Not to my knowledge. There was a Manufacturers Company, but not a Manufacturers Light & Heat Company.

Q. When you say "Manufacturers Company", you mean the Man-

ufacturers Gas Company, which supplied gas to industries at Wheeling?

A. Correct.

Q. And that gas was supplied to the Manufacturers Gas Company by the Wheeling Natural Gas Company?

A. That is the history as I have it, yes, sir.

Q. When you said the other day that the Manufacturers Light & Heat Company entered into West Virginia in or about 1888 or 1889—I believe I said 1886 or 1887 before—what did you refer to?

A. I have no recollection of stating that the Manufacturers Light & Heat Company entered West Virginia in 1888 or 1889. I believe I said the Manufacturers Light & Heat Company and the Wheeling Company—having in mind the fact that, treating the proposition as a whole—that that was about the time they entered West Virginia.

Q. In other words, there you were treating the Manufacturers Light & Heat Company of Pennsylvania, as it now exists, as having existed at that time, so far as the scope of operations
218 was concerned?

A. I had in mind the property which the company has at the present time through the Wheeling Natural Gas; they started operations about that year. That is the history as I have it.

Q. Now, how far from the line between Pennsylvania and West Virginia was this Blacksville Territory, into which you say the Manufacturers entered?

A. You mean the Blacksville Oil & Gas Company, which the Company owned?

Q. I think I understood you to say the other day that along in the late 80's the Manufacturers Light and Heat Company did enter into West Virginia, and you gave various territories, among them Blacksville?

A. Blacksville is correct. It is my recollection that the Blacksville is close to the line dividing the State of Pennsylvania and West Virginia.

Q. Can you approximate the distance?

A. No.

Q. Well, it is within a few miles, isn't it?

A. I would say, roughly, within six or eight or ten miles.

Q. Where was this Cameron field to which you referred?

A. The Cameron field, our Cameron field, consists of leases, wells and property, in both the States of Pennsylvania and West Virginia, on both sides of the line, in Greene County and in Marshall
219 County; Greene County, Pennsylvania, and Marshall County, West Virginia.

Q. But I am talking now of that Cameron field which you referred to in your previous testimony as one of the places into which the Manufacturers Light & Heat Company entered very early, in West Virginia?

A. Entered through the purchase of the Wheeling Natural Gas Company.

Q. And where was that?

A. That is in Marshall County, West Virginia.

Q. What town or towns would help to identify it on the map?

A Well, you might say the town of Cameron might.

Q. What town on the map would identify the location of what you referred to as the Hundred field?

A. The town of Hundred would.

Q. What county?

A. That is Wetzel County.

Q. How far is Hundred from the Pennsylvania line?

A. I don't know.

Q. The Hundred field was also a Wheeling Natural Gas Company territory?

A. The history as I have it is that at least part of that field was the property of the Wheeling Natural Gas Company. I would not desire at all to say that all of it was. In fact, the company
220 has secured considerable acreage, I believe, since they purchased the Wheeling Natural Gas Company.

Q. After the Light & Heat Company acquired the Wheeling Natural Gas Company, or an interest in it, was any additional acreage, or leaseholds, acquired by the Wheeling Natural Gas Company?

A. That I would be unable to say, because I hadn't charge of that work at that time. I might say that since I have been General Manager, all acreage that has been secured has been in the name of the Manufacturers Light & Heat Company.

Q. And that covers what period?

A. Well, a year ago last February.

Q. Referring to the map which has been offered in evidence in connection with your evidence, as "Pennsylvania Exhibit No. 1-a," at the points farthest south, in the immediate vicinity of the Sedalia compressing station: Do you get any gas from the territory south of the Sedalia compressing station?

A. We do.

Q. From what source?

A. From our own production.

Q. Where is that?

A. Also gas purchased.

Q. Where is that production of your own situated?

221 A. In Doddridge County, West Virginia.

Q. And the gas purchased comes from what source?

A. We purchased some gas produced in Doddridge County, West Virginia, and we also have delivered to us at that point gas produced elsewhere. As to where that gas is produced, I am not in a position to say, I don't know.

Q. Who are the people who deliver it to you?

A. The larger portion of the gas is secured through the Hope Natural Gas Company.

Q. This map does not show the lines of the Hope Natural Gas Company by which its deliveries are made?

A. It does not. It only shows the lines owned by the Manufacturers Light & Heat Company.

Q. Relatively, where do those lines of the Hope Natural Gas Company supply, coming up to the point of delivery?

A. I would be unable to state; it would be an absolute mere guess on my part. I can give you the point of delivery. The point of delivery is at the Sedalia compressing station,—a point near the Sedalia compressing station.

Q. Is there any compressing station on the line of the Hope Natural Company in dealing with the gas which is delivered to the Manufacturers at the Sedalia compressing station?

A. That I would be unable to answer. I don't know of
222 my own knowledge where their gas comes from.

Q. All of the gas which you get from the Hope Natural Gas Company, or from other producers in the territory south of the Sedalia compressing station,—all of the gas which your company itself produces in Doddridge County, flows northward to the Sedalia compressing station and passes through that station? Isn't that correct?

A. All that we purchase or buy south of the Sedalia station goes in a northerly direction to the Sedalia compressing station, yes.

Q. Why is that Sedalia compressing station there?

A. That Sedalia compressing station is there for the purpose of taking the gas at lower pressures and compressing it to a higher pressure and discharging it into their main lines, which supplies the customers in the various States they serve.

Q. When that gas has passed through the Sedalia compressing station, what is the next compressing station through which it passes?

A. That depends, of course, on conditions. Sometimes—there have been times—when that gas from the Sedalia compressing station has proceeded up, and a portion of it at least would go to the Porters Falls Compressing Station. That is not the general manner of operating, however. It goes into our sixteen-inch line,
223 and then into the twenty-inch line, and does not pass through any other compressing station.

Q. Does it not pass through the Majorsville Compressing Station?

A. It does not.

Q. How about the Porters Falls Compressing Station?

A. What about? What information do you want relative to the Porters Falls?

Q. What is the next compressing station through which the gas comes from the Porters Falls?

A. There is none, as a general proposition; no other station which handles the gas which passes through the Porters Falls. Of course you understand that there might be conditions occur at times which will necessitate the changing or the throwing of the gas. Ordinarily on our system the gas all comes in together and goes wherever it pleases, unless the line breaks or a compressing station is flooded out, or some break in the line which necessitates the handling of the gas in a different manner.

Q. Then you say that it is a mere matter of the physical character of the gas or its tendency to go in one direction or other, which

determines whether any particular gas goes into West Virginia or goes into Pennsylvania?

224 A. To a great extent.

Q. In other words, still it rests with the natural character of the gas, or Providence, whether West Virginia or whether Pennsylvania gets the gas?

A. No, I don't say that at all. I say that the flow of gas in your lines is regulated by the demand. If you have a large demand for gas at one point, the gas naturally is going to go in that direction, as the pressure ordinarily is reduced at that point in comparison with other plants on the lines.

Q. Aside from that natural tendency of gas or flow in the direction of the greatest loads on the lines, don't you have some means of determining yourself and directing the destination of the gas?

A. It can be done by the closing of the gates or the partial closing of gates; you could send the gas most in any direction.

Q. And as a matter of fact, that is the way in which it is done?

A. If you mean to imply by your question that the gates are closed and clamped, I would say as a general practice, no sir. At times, yes. As a general proposition the system is combined together, the gas goes and comes. I do not mean to say by that that

225 there are not gates which are closed, or pipe lines, because they are.

Q. And the fact is that your pipe line system as a whole is equipped with those gates for use in case of need?

A. I would say that they are fairly well equipped, so that in case of emergency lines can be shut off, yes, sir.

Q. In other words, if your gas didn't get to the right destination through its own tendencies, the gates would enable you to send it to the right place?

A. No, I wouldn't want to say that, Mr. Hoffheimer, for that wouldn't be so at all times.

Q. What are the gates good for then?

A. You might not have the gas to send.

Q. From the southermost end of the Manufacturers' own lines, south of the Sedalia Compressing Station, and running up to the Sedalia Compressing Station, what local supply is there furnished by the Manufacturers Light and Heat Company?

A. There are no large communities, I am sure of that. To the best of my recollection, no small communities. There might be consumers, and no doubt are consumers along the line.

Q. That is, there are some smaller lines branching off of that pipe line?

226 A. It is possible that there are smaller lines branching off, or it might be that the main line is tapped, and the consumers connected to that line. I don't know in what manner they are connected.

Q. But as your gas proceeds northwardly from the Sedalia Compressing Station, up to and in the direction of Loudenville are there any supply lines branching off of those trunk lines?

A. That I would be unable to answer.

Q. What territory do you supply in there?

A. We supply any consumers which might be along the line. For nstance I believe there is one town called Beebe; I have no doubt hat we supply four or five or six houses there; we might supply hem all—I don't know that.

Q. Where does that gas come from?

A. That gas there, that might come from the Porters Falls Com- ressing Station, and there is times when it might come from the Hundred Compressing Station.

Q. By that you mean gas which has passed through either the edalia or the Porters Falls or the Hundred Compressing Station?

A. Yes, sir.

Q. Now, in regard to your gas leaving Porters Falls Compressing Station and running up in the direction of Rosbys Rock, are
27 there any community or communities there which are supplied by you?

A. Yes, sir. The town of New Martinsville would probably re- eive a supply of gas from the Porters Falls Station. Now at other mes they might receive it from the gas coming from the Sedalia ompressing Station, and nat other times they might receive it com- g from the Hundred Compressing Station.

Q. If it got to New Martinsville from the Sedalia Compressing tation, what route would it follow?

A. It would have to go from Sedalia into the field lines, what we ll the Iuka Field, or the field supplying Porters Falls Station. Or might come from this ten inch connection in Proctor Township, ear the dividing line between Proctor Township and Meade Town- ip.

Q. But if it was Sedalia Compressing Station gas, it would leave e Sedalia Compressing Station through the sixteen inch line?

A. Correct.

Q. Shown on your map. And then enter what line at what point?

A. It enters through a ten inch line at a station designated by us as Red Onion Station. Near what town I would be unable to tell you.

28 Q. And then it would proceed in what way?

A. It would proceed up through the ten inch line into the rters Falls Compressing Station and would go around all the field es, perhaps, the field supplying Porters Falls.

Q. That is the little network between Red Onion Station and rters Falls?

A. Any lines that would be open, yes, sir.

Q. Well, which way would it go to get to New Martinsville?

A. It might go through this four inch connection in the Magnolia strict in Wetzel County.

Q. How else would it get to New Martinsville?

A. It could come back through this ten inch connection which reviously stated.

Q. If it was going to New Martinsville, it would have to go into e four inch line leading up to New Martinsville?

A. Not necessarily. We have two methods of supplying the town New Martinsville.

Q. What is the other one?

A. The two I have already stated; one through the four inch connection in the Magnolia District of Wetzel County, and the outer through the ten inch connection here in Proctor Township near the dividing line between Proctor Township and Meade Township. That is Meade Township, Marshall County.

229 Q. That would be gas coming from the Hundred Compressing Station?

A. There have been times when the Porters Falls plant, or rather the Sedalia Plant, and the Porters Falls plant have been shut down. There have been times when they broke down, there have been times when they have been flooded out, and the gas then from the Hundred Compressing Station would go up near the point of the junction at Loudenville, Marshall County, back down in a southerly direction through our sixteen inch main line, and back into the four and ten inch lines which I have mentioned.

Q. But as an ordinary thing, you wouldn't use the Hundred Compressing Station for the lines leading from it to supply New Martinsville?

A. As an ordinary proposition, not, no, sir.

Q. The Hundred Compressing Station is near Pennsylvania, and in the ordinary course of operations you would send your gas in that direction or towards——

A. When it leaves the Hundred Compressing Station it goes any place that gas will go, any level that it seeks.

Q. What lines does gas from the Porters Falls Compressing Station travel?

A. What lines?

Q. Yes.

230 A. The ordinary procedure is up through the ten inch line right here (ind.), this line passing through Wetzel County, and into Marshall County, and along into Ohio County, and into Brooke County. In Brooke County it leaves the State of West Virginia entirely, and crosses over into the State of Ohio.

Q. You are referring now to the line passing northerly from The Porters Falls Compressing station and a little to the east of the Rosbys Rock Compressing Station, up to the junction of the ten inch line with an eight inch line and another section of the ten inch line, just north of Elm Grove and Triadelphia; and then northerly again to a point very close to the station A producing station?

A. That has the ten inch line which I mentioned. In addition to that the gas leaves the Porters Falls station through an eight inch line.

Q. That very closely parallels the ten inch line?

A. At points, yes, sir, up to near Proctor. Then the gas comes back into the ten inch line again. In other words, the two lines convey gas from Porters Falls up to a place called Proctor, and there, through a connection, the gas from the eight inch passes again into the ten inch line.

Q. What West Virginia towns does the gas from that ten inch line leading from the Porters Falls compressor supply?

A. That I would be unable to state. I can give you the
231 towns which we supply with gas, but as to stating that the gas comes from Porters Falls, I would be absolutely unable to tell you.

Q. Put it this way: what lines branch off from that ten inch pipe line proceeding north from the Porters Falls Compressing Station?

A. There are a good many. The first line that branches off is a four inch line, which is connected to it in Magnolia township; that is Wetzel County, and supplies New Martinsville, and also supplies three little communities in Ohio, Sardis, Duffy and Hannibal.

Q. They are right across the river from New Martinsville?

A. They are on the opposite side of the river from New Martinsville; I would say probably two miles and a half up the river, or two miles down the river.

Q. And the four inch line is a four inch line of the Wetzel Gas Gas Company, isn't it?

A. The history of the company is—I have it—the Wetzel Gas Company's line, yes, sir. Now there is a connection here also to the Tri-State lines in the Proctor District, Wetzel County. I do not believe—there possibly is a connection there, between the ten inch line leading from Porters Falls and the ten inch line coming from the Cameron field at a point east of Rosbys Rock, but I am not positive, I don't want to testify that there is. We go fur-
232 ther north right here (ind.), going back a little bit near our office located near Proctor; there is a connection connecting the eight and ten inch lines. There is also another connection at that point, very close to that point, which connects with the field lines in what is designated and known as the Proctor Field.

Q. Well I think you are getting away a little bit from what I was asking you.

A. You want the various connections out of this line (ind.)?

Q. No, I want to find out what communities you serve off of those lines.

A. You mean, that might get their supply of gas from that line?

Q. No, what pipe lines or pipes branch off of this main trunk line?

A. I am giving them to you now. In Union Township, Marshall County, there is a connection from the ten inch coming from Porters Falls, supplying the town of Sherard. In the Triadelphia District, Ohio County, there is a ten inch connection. There is also a connection at this point with an eight inch line which conveys gas from the Majorsville Compressing Station. In the Butler District there are a five and five-eighths and a three-inch line. Another line branches off from the ten inch line coming from the Porters Falls station, in the Buffalo District, Brooke County, and crosses the Ohio River and enters into the State of Ohio. At Sta-
233 tion A in Brooke County there are two eight inch connections, or rather four eight inch connections. Two of these eight inch connections cross the Ohio River and enter the State of Ohio. The other two connections are lines which connect with

lines in the State of Pennsylvania. Do you want me to follow it on up?

Q. Let us retrace that, and see if I can't get you to answer my question now. You have told us about the branch line running off to New Martinsville. You have told us of a line running off at Sherard. Is there a single place between the line to New Martinsville and the branch line to Sherard off of which any service line or smaller line supplying a community in West Virginia exists?

A. I would consider that this connection (ind.) might supply that.

Q. What are you referring to?

A. I am referring to where the ten inch line crosses the ten inch line coming from the Porters Falls Station in the Proctor District, Wetzel County.

Q. That is somewhat near the village of Peabody, is it?

A. That is shown by the map just north, yes, sir. There are also two connections near our office, near Proctor, that supply these lines.

Q. What towns or communities are furnished from those lines?

A. You mean the last two that I mentioned?

234 Q. Yes.

A. Those connections take and tie both lines,—the gas from both lines leading from the Porters Falls station,—and permitting gas from both those lines to enter into the ten inch line which travels north through West Virginia. I would be unable to state what communities that gas goes to.

Q. That is not the point. I am trying to find what communities are served by the two branches, one of which comes off near Peabody and one of which comes off near your office at Proctor.

A. That one at Peabody might supply the towns of New Martinsville, Duffy, Hannibal, Sardis, and Clarington—the last four named towns in Ohio.

Q. All right, tell us about the line which branches off at Proctor?

A. The two connections at Proctor, as I stated, permit the gas coming from Porters Falls to go to the eight and ten inch discharge lines leaving that station, and connects them both, so that they discharge into the one ten inch line which continues on north.

Q. What I am trying to get at is——

A. If he asked me if there are any communities in there between these points (ind.), that are served, I will tell him that I don't know of any large communities.

235 Q. What is the next branch line or service line?

A. Above the town of Sherard, which you last referred to, I mentioned the ten inch and the eight inch line in the Triadelphia District, Ohio County.

Q. What communities does that line furnish in West Virginia?

A. That I would be unable to state. You say which line——

Q. Take the ten inch line branching off and running southwardly from a point near Triadelphia, and following it over to the Ohio

River; are there any communities in between that are furnished by that line?

A. No large communities. That large ten inch line you refer to connects with another line which conveys gas to the town of Tiltonville, and Yorkville, Martins Ferry, Bridgeport, Bellaire, all in Ohio.

Q. What about West Virginia towns?

A. That line carries gas to the town of Warwood, to industrial consumers in Wheeling, and conveys gas to Moundsville and Glendale. Now I want to explain: I don't mean to testify that the gas leaving this point of connection supplies or reaches those consumers, because that line in which it is connected continues and is the same line which comes from our Rosbys Rock Compressing Station. So that I wouldn't have any way of determining whether the gas sup-
236 plied to a certain district there—for instance, Moundsville, whether it came from the Rosbys Rock Compressing or whether it came out of our twenty inch line, or whether it came from our Majorsville Station.

Q. Well, putting it in another way, when your gas starts from Rosbys Rock or Porters Falls or the Sedalia Compressing Station, you can't tell where it is going?

A. No, you can't. That is, you can't tell what gas is feeding certain communities, or what gas certain consumers are using, from Porters Falls or any one station.

Q. Do you mean to say that you never do know?

A. There might be incidental times, or occasional times, when you have all your stations down, say, but one, and maybe running only two engines, that you might feel fairly well satisfied in your minds as to where that gas was coming from.

Q. But that would be the exception?

A. That would be the exception. In the ordinary procedure of operating the lines, you wouldn't know. I don't mean to say, Mr. Hoffheimer, that there are not certain towns—the chances are you could guess as to what station the gas is coming from, but no definite knowledge.

Q. Then when your gas goes into the discharge line from the Sedalia Compressing Station, you don't know, and nobody else knows whether it is going to get into West Virginia or Ohio or Pennsylvania?

237 A. I couldn't say that, because at Hundred we had delivered to us a manufactured gas which had an odor, peculiar odor—sulphur. Now, we got that at Steubenville, Ohio, we got it down here at Sewickley, Pennsylvania, and we got it a little out at East Liverpool; some communities it seemed to affect and others it didn't. It might affect one community today, and you might have tests made, and that community would be entirely clear, apparently, from it, and it would show up maybe at some other place.

Now, the reason I couldn't answer your question would be to say yes to it.

Q. That is, you know it will show up at one place from another, but you can't tell in advance where it will be?

A. No, I simply state that some two years ago we had delivered to us some manufactured gas that had a peculiar odor, sulphur; and

that it showed at Steubenville, Ohio, and again it showed at Ambridge, and at Sewickley, in Pennsylvania; it showed at New Castle; but it wasn't a continuous showing. For instance a consumer might complain of the odor in his home, and be looking for a gas leak in his house pipe, and wanting to know what was the matter with his gas, and we would send our man down there, maybe the next day, to take a test, or a sample of the gas for analysis, and perhaps it wouldn't be there that time. It would change about. I don't
238 mean to say that that kept up day after day in those communities. It might show today and not show for two or three days, and might come back again. There was a period I think for about a month that we had that trouble.

Q. Well, to go back, I asked you something about the branch lines, and you gave me the branches through New Martinsville and Sherrard and other places. Are those the only places along your main lines in West Virginia that are supplied by your West Virginia lines?

A. Do you mean they receiving their gas——

Q. Whether they are getting gas from the Manufacturers Light and Heat Company, I don't care where you get it.

A. The connections which I named from Porters Falls on up to Station A are practically all the connections along the ten inch line leading from Porters Falls Compressing Station. There is one connection that is not mentioned, and there is no doubt other connections supplying smaller communities that I would not be aware of, perhaps. I mean by smaller communities, communities of eight or ten houses, small clusters.

Q. Going back again to the Sedalia Compressing Station, and following along your sixteen inch line and your ten inch line: are there any wells feeding into those lines that increase the supply of
239 gas after it has passed through the compressing station?

A. There are a few I believe. Do you mean from the Sedalia Compressing Station, to what point?

Q. Well, take its length, until it reaches the Pennsylvania line?

A. I believe that there are some wells feeding in there; not a great number, however.

Q. How about the line from the Porters Falls Compressing Station?

A. You mean——

Q. Take the ten inch line.

A. You mean relative as to whether or not it has any wells feeding into it?

Q. Yes.

A. I think and I believe that on that ten inch line those wells have all been changed, so that the gas from those wells goes through the Rosbys Rock Compressing Station.

Q. All right, take the Rosbys Rock Compressing Station, the length of the line leading from it. Do any other wells lead in from West Virginia?

A. The gas comes from the field known as the Proctor Field and enters Rosbys Rock. There is also another ten inch line connecting at Rosbys Rock which conveys gas from our Cameron Field. The gas

coming through that ten inch line comes from wells located in
240 the Cameron Field and does not pass through any compressing station until it passes through the Rosbys Rock Compressing Station.

Q. Take the gas coming from the Rosbys Rock Compressing Station and running up toward Benwood does any gas feed into that ten inch line between those two points?

A. You mean on the ten inch discharge line from Rosbys Rock Compressing Station?

Q. Yes.

A. Up to what point?

Q. Take the point from Rosbys Rock along the ten inch line up to Benwood; does any gas feed into that ten inch line from the field?

A. None to my knowledge. That is, that feeds in from local wells.

Q. Yes.

A. None to my knowledge.

Q. Pursue that line further, going up from Benwood, up to Station A Reducing Station. Do any local lines feed into that line?

A. That line doesn't continue from Benwood up to Station A. If you refer to the line which leaves the Rosbys Rock Compressing Station,—the ten inch line leaving Rosbys Rock Compressing
241 Station, as previously stated, passes through the towns of Moundsville and Wheeling, with two or three river lines crossing over into the State of Ohio, and supplies the towns of Bellaire, Bridgeport, and Martins Ferry, Rayland, Yorkville, and Bellaire in Ohio, and is connected with a ten inch line which conveys gas at times from the Majorsville Compressing Station located in Pennsylvania and was connected with the ten inch line which comes from the Porters Falls Compressing Station located in Wetzel County, West Virginia.

Q. Then all of your gas gets through a compressing station at some time, doesn't it?

A. All of our gas?

Q. Yes.

A. Oh, no, no, sir.

Q. If not, why not?

A. We have wells which feed into lines with no compressor stations on them at all.

Q. Where are those places, in West Virginia?

A. Well, Well No. 1073.

Q. That is near Loudenville?

A. I would say south of Loudenville; that is one. As stated, I think that there are a few other wells, but not very many, which feed into the discharge lines leading from the compressing station.

242 Q. Which compressor station?

A. That would be the sixteen inch line coming on up from the Sedalia Compressing Station. Ahead of the Hundred Station I believe there were a few wells which did feed into the discharge line, but I think a change has been made whereby they go into the suction line.

Q. Well, you talk about a discharge line; you mean the trunk line carrying gas from the compressing station?

A. Yes, and then again, as previously stated to you, one of the ten inch lines which enters the Rosbys Rock Station is gas from wells in the Cameron Field, and gas not having passed through any station until it reached the Rosbys Rock Station. Now we have up here near the town of Chester, wells which produce gas which does not pass through a compressing station.

Q. Where does that gas go?

A. That would be pretty hard for me to state. That gas enters three lines which convey gas to the town of Chester, and Newell in West Virginia, and crosses over and supplies the towns of East Liverpool and Wellsville in Ohio, and continues on down and connects with the other lines coming from the Porters Falls Station. We have also near Wellsburg, West Virginia, gas coming into
243 our line on which there is no compressing station. And of course quite a few wells in Pennsylvania that enter into the lines, which does not go through a compressing station.

Q. Your map shows some field lines on the Ohio side of the West Virginia Pan Handle?

A. Yes, sir.

Q. What do those lines indicate, what do they carry?

A. They carry natural gas.

Q. From where?

A. From wells located in Ohio to the lines, main lines, which carry gas for the use of customers in various communities.

Q. The lines in the state of Ohio branching out from the Ohio River are sources of supply to the Manufacturers Light and Heat Company, or means or conveying gas, to Ohio consumers in that territory?

A. They convey the gas produced in Ohio, but as to where it does that I would be unable to answer.

Q. How much gas did the Manufacturers Light and Heat Company supply to Bellaire in 1919, do you know?

A. No, because there are so many communities that I don't attempt to carry any figures of that kind in my mind. I would simply state that I could secure the figures for you and give them to you later if you desire.

244 Q. Take the branch line leading from Richmond, Ohio, and running northeasterly through Knoxville and up to the Ohio River. Do you have any gas in that territory produced by the Manufacturers Light and Heat Company itself?

A. I am rather of the opinion that there are one or two wells that produce gas there yet. I think, or believe, there have been five or six of those wells abandoned, or orders out to abandon them.

Q. What is the production of the wells that are not abandoned?

A. I couldn't tell you that. I can secure it if you desire it. I want to say that it ain't so awful large.

Q. What towns are there along that branch that are supplied by you?

A. The town of Richmond is about the only one—Knoxville. There are consumers along the line—a few.

Q. What town is there at the junction of that branch with the main line running along the Ohio River,—anything.

A. No town at the junction there. There is a small community called Costonia.

Q. In what state?

A. In Ohio.

Q. Take the small line on the Ohio River side, the Chester Reducing Station. Does that line connect with anything?

A. It does.

Q. With what?

245 A. With gas which we purchase in Ohio.

Q. What consumption do you have along that line?

A. Those wells are located practically in the city of East Liverpool, Ohio, and there are some of them in their big park. That line is connected to a line which comes really from the Chester Reducing Station, the gas mixing together.

Q. You don't show the connection here on your map?

A. No, for the simple reason that the city of East Liverpool is there and we have made no attempts to show any lines supplying the city of East Liverpool or any other town on the map. This line here (ind.) you understand, that the gas crosses over the river through these three lines and this fourth river line, and connects into the eight and ten inch line on the Ohio side of the Ohio River. Then there are at various points there high pressure lines which branch off to the streets in the town and conveys that gas to certain plants and localities, at which regulators are set, reducing the pressure to whatever pressure we are delivering gas to the domestic consumer at. Now that line continues right up to the top of the hill and connects in with this (ind.).

Q. Then if I get you correctly, the small four inch line on the Ohio side running up through the town of East Liverpool,—the gas from that line passes through the distribution system

246 in the town of East Liverpool?

A. I wouldn't care to say that it passes through the distribution system. It is connected with the high pressure line which is connected to the Chester Reducing Station which you refer to on the West Virginia side of the river. That gas is then by means of regulator—the pressure is reduced at various points throughout the city to what we style low pressure, and then goes into the distributing line which goes to the consumer.

Q. Do you mean to say that the gas from that four inch line circles around the city of East Liverpool to get across the river to the Chester Reducing Station before it can possibly get back to the City of East Liverpool?

A. No, I have no recollection of saying anything of the kind. I simply stated that the line which conveys gas from those wells is connected to the same high pressure lines, which come from the Chester Reducing Station; and at various points throughout the city of East Liverpool regulators are set which reduce the pressure in that line to low pressure, the pressure at which we deliver the gas to the consumer. In other words, if you want me to put it plain to you, I can by making a direct manipulation, send that gas from those wells over and feed consumers in the town of Chester, West

Virginia. The lines are connected in that manner. As to
247 whether or not the gas does go from those wells to Chester in West Virginia I wouldn't want to say.

Q. You wouldn't want to say that of any of the gas, would you?

A. I have told you I think four or five times that I am absolutely unable to state where any of that gas goes to, or where each gas or any particular gas—which point it comes from.

Q. Take the two inch line on the Ohio side running up to Steubenville. How many wells do you have along that line?

A. I think there are two wells in that Brilliant field. Now it is very possible that one of those wells has been pulled by this time, but I think both of them are still producing gas, although there is an order out for the abandonment of one.

Q. What would be the maximum gas production of those wells?

A. That is very small. As a matter of fact we pulled it because of its small production.

Q. Would those wells together make a million feet a day?

A. Oh, no. If they did, I don't think I would be at all justified in abandoning them. I would say that they make a matter of a few thousand feet a day.

Q. What line does that two inch line feed into?

A. You mean the two inch line coming from those wells?

248 Q. Yes.

A. Now if you are under the impression that this two inch line there shown on the map near the dividing line of Wells Township and Cross Creek Township—those two wells I don't believe feed into that line. That two inch line which you refer to supplies gas to a little community called West Alexander.

Q. What becomes of the gas from those two wells—what does it feed into?

A. It feeds into the main line right below Brilliant here, right here (ind.) It feeds into our six and eight inch line from Wells Township, Jefferson County.

Q. What is the nearest community supplied there on the Ohio side?

A. Brilliant, Ohio.

Q. How big a place is that?

A. Oh, I imagine that in Brilliant we have perhaps—Oh, I would say a thousand customers.

Mr. Weil:

Q. You mean a thousand consumers?

A. A thousand consumers. Now, that might be two or three hundred consumers off. Now, wait a minute—Brilliant I will give you exactly, practicaly exactly what we have got. We have got about three hundred and twenty-five in Brilliant. I had in mind
249 Mingo Junction, another town close by, or three or four miles away.

Mr. Hoffheimer:

Q. How many consumers do you have in Steubenville?
A. That I would be unable to answer definitely. I think approximately about six thousand right in the town of Steubenville. In the whole district known as the Steubenville District, there is somewhere, in all, twelve thousand. That includes West Virginia consumers, and includes several towns up and down the river from Steubenville.
Q. You gave us a distance here the other day of 167.8 miles from the Sedalia Compressing Station up to Mercer County, Pennsylvania?
A. I have no recollection of saying that. I said from the most southern point on our pipe line system south of Sedalia Station to the most northern point of the pipe line system in Venango County, Pennsylvania, was one hundred and sixty-seven, or 168.7 miles.
Q. All right, with that qualification; were you intending to say that the gas from your most southerly portion of your pipe line system got up to the most northerly portion?
A. No.
Q. Whatever the distance may be?
A. No, I had no thought of that at the time the question was answered. It was simply the length of our pipe line.
Q. So far as the northerly part of your system is concerned, you can't tell whether it is West Virginia gas or whether it is Pennsylvania gas, can you?
A. I can tell you at the present time.
Q. What is the fact at the present time?
A. The absolute farthest north point at this time is Pennsylvania gas.

Mr. Weil:

Q. Tell us why, so as to save time.
A. We have a field located near the most northern point from which we secure gas. The gathering lines and main line from that field enters the city of New Castle. In times such as today, why there is perhaps very little gas coming from that field into New Castle. Consequently any customers which would be at that extreme northern point would be using gas produced from wells in that district at this particular time.

Mr. Hoffheimer:

Q. Let us travel back towards the Sedalia Compressing Station again, and that sixteen inch line. When was that sixteen inch line leading out of the Sedalia Compressing Station built?
A. From the history of the company, as I have it, in the year 1903 or 1904, or perhaps both of those years. That is, you refer to the sixteen inch line from Sedalia on through into the Twenty inch?
Q. Yes.

A. Yes, sir.

Q. By what company was that sixteen inch line carried on the books?

A. I believe that that line was built and constructed by the Manufacturers Light and Heat Company.

Q. You say you believe that?

A. That is the history of the company as I have it.

Q. Now as a matter of fact, wasn't that sixteen inch line built by the Wheeling Natural Gas Company, and the title to it carried in the name of the Wheeling Natural Gas Company in 1902 or 1903?

A. The history of the company as I have it is that that sixteen inch line coming from the Sedalia station and connecting with our twenty inch main line was built and constructed and paid for by the Manufacturers Company.

Mr. Weil:

Q. That is, the Manufacturers Light and Heat Company?

A. By the Manufacturers Light and Heat Company.

252 Mr. Hoffheimer:

Q. In the same way that the Wheeling Natural Gas Company's property was taken over by the Manufacturers Light and Heat Company in 1902 or 1903?

Mr. Weil: I object to that question as not being one to which the witness can give an intelligent answer.

The Commissioner: Note the objection.

The Witness: Do you refer, by your question, as to what manner it was paid for.

Mr. Hoffheimer:

Q. I don't care how it was paid for. I am trying to find out who built it and who owned that pipe line.

A. As stated twice previously, the history of the company as I have it, is that the pipe line was built and constructed by the Manufacturers Light and Heat Company.

Q. Where do you get that history?

A. Well, I have picked it up in the ten years, nine or ten years, that I have been with the company; principally some three or four years ago, or five years ago, the time that our company was in litigation with the state of West Virginia relative to rates. At that
253 time a great portion of the history of the company was talked at different times, and I was fortunate enough, or unfortunate enough, to be present quite a few times when these talks were being had, and I sat quiet and absorbed as much of it as my memory would permit me to retain.

Q. Well, the records of your company will show?

A. As previously stated, I can't tell you what the records of the company show, because I never had anything to do with the making of them up. In fact I never looked at them.

Q. Take the line leading from the Porters Falls Compressing Station: who built that?
A. You refer to both lines I presume.
Q. Yes.
A. I believe the Tri State Gas Company built those lines. My reasons for saying so are that that was kind of designated as the Tri State line.
Q. When were those lines built?
A. I would be unable to answer the time.
Q. Take the line leading north from the Rosbys Rock Compressing Station; by whom was that built?
A. I have every reason——

Mr. Weil: Give the size of it.
Mr. Hoffheimer: Ten inch.

54 A. I believe that was built by the Wheeling Natural Gas Company.

Mr. Hoffheimer:

Q. Where did the line of the Wheeling Natural Gas Company start?
A. That I would be unable to answer.
Q. Do you know whether the Wheeling Natural Gas Company had any line owned by it south of the Rosbys Rock Station?
A. Any more than the history of the company as I have it is that they were operating in the Proctor Field. The Proctor Field, you will notice, is south of the Rosbys Rock Compressing Station. I take it that they conveyed that gas from their field to their ten inch line and on up to the market there at Moundsville, McMechen, and Wheeling, and to the towns which they supplied in Ohio.
Q. Isn't it a fact that the Wheeling Natural Gas Company did build lines into the Sedalia Field, or that territory around the Sedalia Compressing Station?
A. Not to my knowledge. Now they might have, Mr. Hoffheimer. Not to my knowledge.
Q. Did the Wheeling Natural Gas Company build any trunk line or main pipe line south or southeast of the Sedalia Compressing Station at any time?

55 A. There was a line which the Company owned which ran south from the Sedalia Station. As to who built that line, I would be unable to say. It is a line that the Company has owned for some time. I don't know the history of it.
Q. Why is that line not laid down on your map?
A. The map as made there only shows the lines which the Manufacturers Light and Heat Company own.
Q. What became of the line southeast of Sedalia which was built?
A. The history of the company as I have it is that that line was sold
Q. To whom?
A. I believe to the Hope Natural Gas Company.

Q. How long a line was that?
A. That I am not in position to answer, I don't know.
Q. When was it sold?
A. It would be guess work on my part to state the year. I would say 1909 or 1910, or somewhere in that neighborhood.
Q. How long a line was it?
A. That I am unable to answer.
Q. Where did it start and where did it end?
A. I couldn't tell you where it started. I- ended at a point near our Sedalia Compressing Station in Doddridge County, West Virginia.
Q. By whom is that line used at the present time?
A. I have no direct knowledge as to who is using that line.
256 I presume, however, that if the Hope purchased it they are using it, although I would be unable to state whether they are or not.
Q. What other companies are operating in the Pan Handle of West Virginia besides the Manufacturers Light and Heat Company?
A. The Natural Gas Company of West Virginia supply gas to domestic consumers, and I believe to some industrial consumers, in the city of Wheeling, West Virginia, and also at Benwood, West Virginia. As to whether or not the gas which they sell there comes from any operation which they have in West Virginia, I would be unable to state. I believe not.
Q. Well, aside from the Manufacturers Light and Heat Company, is there any gas company operating in Northern West Virginia whose lines cross and recross the three states in the same way that the Manufacturers Light and Heat Company's do?
A. No, sir.
Q. What company?
A. I said no, sir.
Q. The fact is that the lay-out and structure of the lines of the Manufacturers Light and Heat Company are exceptional so far as that feature is concerned?
A. No, I believe that there are other companies, perhaps,
257 that cross and recross the state lines.
Q. Do you know of any other company whose lines cross or recross forty-three different times, as you expressed it here the other day?
A. As to the number of times which their lines cross and recross, I would be unable to answer. I simply stated in my answer that I know of companies which cross the state line.
Q. What other companies do you know of that cross the state line in the Pan Handle?
A. None in the Pan Handle District. I thought you had in mind any companies operating in the state of West Virginia.
Q. No, I refer to the Pan Handle District particularly.
A. None in the Pan Handle District.
Q. And the reason for that is that the Manufacturers has more lines than any other company in the Pan Handle, and the Pan Handle happens to be a pretty narrow strip of territory?

A. No.

Q. Is that the situation?

A. No, I wouldn't want to say that. The condition is perhaps due to the fact that nature provided the Ohio River, and when a dividing line was chosen dividing the territory and forming the states of West Virginia and Ohio, they used the Ohio River as a portion of
258 their boundary line; and the communities along that river are the communities which are served from the lines of the Manufacturers Company. At various points, perhaps at one time on the Ohio side would be the larger community. Further along, perhaps, the larger community would be on the West Virginia side; and that would account for the recrossing and crossing of the lines between the states of West Virginia and Ohio. As to the lines crossing and recrossing the state line between the state of West Virginia and Pennsylvania, we have our field from which a portion of our gas is produced which lies in the territory and the state line passes through that field. Naturally we have lines on each side of the state line, and that would account for the lines recrossing and crossing.

Q. But at any rate, without holding you responsible for the boundary lines between the states, or the existence of the Ohio River, your condition in the Pan Handle there is different from that of any other company in the respects you have indicated?

A. Operating in the Pan Handle?

Q. Yes.

A. In the Pan Handle District our condition would be different from any other company which might be operating there.

Q. You had something to say the other day about the amount of money invested by the Manufacturers Light and Heat Com-
259 pany in West Virginia, and gave what figure?

A. Invested?

Q. Yes.

A. I believe that I stated that we had invested in the state of West Virginia approximately six million of dollars. That we had returned our property in the state—or that value on our property in the state. That the value placed upon it by the state was that of ten million of dollars.

Q. You also stated that the company had expended something like thirty million dollars in the state?

A. That was my estimate as to the total amount of money which the company had spent in West Virginia.

Q. Now you included in that thirty million dollars your expenditures for leases, rentals, drilling wells, and all such items?

A. I included, or intended to include, in that estimate, every cent of money expended by the company in the state of West Virginia. That was an estimate.

Q. Whether it came under the head of capital investment or whether as operating expense?

A. The question asked me was as to how much money my company had expended in the state of West Virginia.

Q. When you undertook to give the figures of the millions and

tens of millions of dollars as spent by other companies in West Virginia, you also were including the money spent for leases,
260 rentals and royalties, and the drilling of wells and that sort of thing?

A. The question asked me I believe was as to how much money had been spent by all the companies in the state of West Virginia.

Q. Were you counting the capital investment or total expenditures?

A. I simply answered the question as I took the question to mean, the total amount of money which the company had expended in the state for any purpose, Mr. Hoffheimer.

Q. And that statement was a mere estimate on your part?

A. As stated to you it was an estimate, yes, sir.

Q. You don't pretend to have any accurate information on the subject?

A. No, that would necessitate a great deal of detail work in getting it up. We could arrive at that. I think I could easily arrive at and verify the thirty million which I have stated; that is by taking certain expenditures during the past ten years. I am very near inclined to the belief that I would have no trouble in showing that quite a bit of that thirty million dollars has been expended in the last nine years, and from the amount of money which we have expended, I believe that I could materially increase my estimate at this time.

Q. All right, without going into any question of accounts,
261 or accounting, or anything of that kind, it is true that the Manufacturers Light and Heat Company has charged up to operating expenses, throughout its career as you have known it, the rentals paid on its leases, bonuses paid for leases, the cost of drilling wells, and items of that character?

A. No, I wouldn't want to say that, Mr. Hoffheimer.

Q. Why would you not say it?

A. I would say that rentals and royalties paid has been charged to expense, I believe. There has been certain expense in connection with drilling charged to expense account. But there is also a part of the money paid out in drilling, which went into investment. Any extensions of lines, new lines laid, gathering lines laid from the wells to the other gathering lines leading to the stations or to the consumers. That is not charged as expense.

Q. I wasn't asking you about pipe lines or gathering lines. I am asking you about——

A. You mentioned drilling wells, Mr. Hoffheimer. That I would say, as stated, a portion of the money expended in drilling wells was charged to expense and the balance to capital, capital account.

Q. Now about your bonuses for leases and rentals paid to the farmers?

A. I believe that is charged to expense.

Here a recess was taken until 1:30 o'clock P. M.

262 Tuesday Afternoon.

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed pursuant to adjournment.

H. A. QUAY resumes stand.

Cross-examination (continued).

Mr. Hoffheimer:

Q. You gave us yesterday, Mr. Quay, some figures of gas production, purchase and consumption on your system. Among those items was gas sold for field purposes. What did you mean to include in that item?

A. I believe that under the head of field gas is included any gas used in the field for the purposes of drilling, cleaning out or pumping,—gas engine use, for instance.

Q. Gas used by the Manufacturers Light & Heat Company or its contractors?

A. No, I rather think,—well, field purposes would be in that perhaps, yes, sir. I would not want to say that all the gas used by the Manufacturers Light & Heat Company is included in that classification. Any gas used for their own drilling purposes or field purposes is probably included in those figures.

Q. You gave us a heading of "Miscellaneous Uses." What did you include, in a general way, in that?

263 A. In a general way, gas sold to churches and schools, to our own compressing stations, gas for street lighting purposes, are entered under the head of Miscellaneous Gas.

Q. Is there anything besides churches and schools in the way of public institutions entering into that heading?

A. I am not absolutely certain about that. I don't believe any public institutions would be included in that "Miscellaneous." By "public institutions" I mean Government buildings, or buildings of that kind,—or for their use.

Q. Such as a courthouse or city hall or a hospital or asylum, or something of that kind?

A. There are possibly some hospitals where they would be getting some special rate, a rate different than the domestic rate; and there is in "Miscellaneous," I believe, some gas furnished, for instance, as part payment for a right-of-way; that is, where the consideration for the right-of-way, or part of the consideration at least, was the furnishing of gas at a lesser rate than the rate sold to the domestic consumer. Those contracts are agreements made years ago. I believe that gas was under the heading "Miscellaneous Gas."

Q. Well, in the same way, would that item include the free gas to the farmer, under your leases?

264 A. No, the figures I gave yesterday do not take into consideration any gas given away free to the land owner.

Q. You spoke of public institutions and, I believe, in some instances, the supply of gas to the United States Government, under

contracts, being included; I assume they are in the "Miscellaneous" or the "Public Institutions" headings?

A. Yes, I would say that under "Public Institutions" there would be—that would include perhaps institutions like the Moundsville Penitentiary, in West Virginia, and the Morganza, a reform school operated by the State of Pennsylvania, and probably some postoffice buildings. It might include Government dams; I think we have seventeen contracts with the United States Government for supplying gas to their dams. I am not certain whether that gas is listed under "Public Institutions" or not; I am rather doubtful about that.

Q. What is the general nature of those contracts?

A. In what respect?

Q. Are they special written contracts, or are they merely classifications under your schedules of rates filed with the Public Service Commissions or Public Utility Commissions of the States?

A. We have contracts for all gas furnished on agreements. The only agreements that we have for the sale of gas is a few which I have already stated were agreements covering rights-of-

265 way.

Q. Covering what?

A. Rights-of-way, in which a certain price per thousand cubic feet was given as a consideration for the rights-of-way. We have a contract direct——

Mr. Weil:

Q. You don't mean rights-of-way, do you? You mean franchises in towns?

A. No, rights-of-way across the farmers' land.

Q. Oh, yes, I understand.

A. With the United States Government we have separate contracts covering every individual point which we deliver gas to, including their postoffices. They submit their contracts once each year. The gas supplied to the United States Government in their dams the contract is not submitted each year; they are on another form of contract, the Company's regular form.

Mr. Hoffheimer:

Q. Renewed how often?

A. Whenever there is an increase in rate, new contracts are submitted to the United States Government for the gas furnished to them at the dams.

266 Q. What are your rates?

A. At the Bureau of Mines we also furnish the United States Government a supply of gas, in the Department of Interior Bureau of Mines.

Mr. Weil:

Q. Where?

A. That is out here——

Q. You mean in Pittsburgh?

A. No, out from Pittsburgh here, at a place called Cliff Mine, I think, ten or twelve miles from Pittsburgh. That gas—or those contracts formerly were submitted each year; at the present time, a new contract is entered into with the United States Government for that gas only in the event that the rate is changed.

Mr. Hoffheimer:

Q. In other words, whenever your general rates are changed, you conform the rates to the Federal Government to your changes, and the object of making a new contract is to provide some written evidence of your agreement in accordance with the requirements of the Federal Government?

A. No, I would not want to say that.

Q. What do you want to say?

267 A. I would say—or I wouldn't want to say that we change the rates, or make the same rates to the Government as we do to some other people. That is, for instance, in the Government Postoffice, the gas furnished them is a net price, without any discount provisions in the contract. I would not want to say that each time we increase the price of gas to other consumers we increase the price to the United States Government, because it wouldn't be so. But whenever the price is increased to the Government, then a new contract is negotiated.

Q. Well, aside from those Postoffice contracts, which I understand to be renewed from year to year, what is the term of the other Federal Government contracts?

A. The term is for a term of thirty days, and as much longer thereafter as mutually agreed to, subject to termination on thirty days' written notice by either party. I might say that we attempted to restrict the supply of gas furnished to the United States Government, and have taken the matter up through their engineers, and they objected very strenuously to us not furnishing the gas to them at all times, inasmuch as the gas is used for gas engines, and their locks are operated through compressed air; and when the boats go up and down the river, it is necessary to have this gas to operate these

268 dams and permit the boats to go up and down the river. Those we furnish are constructed for the use of gas and gas engines; and at that time we were operating under a license issued by the United States Fuel Administrator, and we complied with their request and did not curtail or restrict the supply furnished the United States Government.

Q. In other words, you were trying to put the Government, for purposes of restriction, on a basis somewhat similar to that of industrial consumers?

A. We try to treat all of our customers alike, show no preference.

Q. That was the basis on which you tried to put the Government?

A. Yes.

Q. And during the period of the war——

A. No, at times when the supply was needed by the domestic consumer, we attempted to restrict the gas furnished them the same as any other consumer other than domestic consumer.

Q. Well, leaving the United States Government, or anythi which pertains to it, and turning to State and Municipal institutio you supply to such institutions both in West Virginia and Penns vania and Ohio, do you?

A. We supply State institutions in the States of West Virgin and Pennsylvania. I can't offhand remember any State i
269 stitution which we supply in Ohio. And we supply the v ious municipalities in the three States, and in some instanc County institutions.

Q. Well, without getting down to details, what I meant to inqui about was this: The character of the State institutions and the i stitutions of Government sub-divisions in West Virginia and Pen sylvania—eliminating Ohio—are of very much the same characte and—leaving out any question of rates—very much on the sa basis?

A. As to supply, yes; as to contracts, yes. They all have contrac

Q. Without pinning you down to any exact figures, what was t number of your consumers in Pennsylvania in 1919?

Mr. Weil: Do you mean all kinds, or municipal?

Mr. Hoffheimer: I will ask him separately.

A. If I recollect correctly, I testified on the first or second day the hearing that we have approximately 75,000 customers in t State of Pennsylvania.

Q. That included domestic and industrial?

A. Oh, yes; approximately 75,000.

Q. How many did you have in West Virginia?
270 A. Approximately 11,000.

Q. And Ohio?

A. Approximately 26,000.

Q. And what was the number of your consumers in Pennsylvan in 1918?

A. That I would be unable to answer. We had a total increa during the year 1919 of 3,900 customers.

Q. In Pennsylvania?

A. No, in all three States.

Q. And are you able to give us any figures of the same nature to 1918, 1917, and previous years?

A. As to gain in consumers?

Q. Yes.

A. The gain in 1918, I believe, ran approximately 4,200; I mig be off a hundred or so, a little, along there. I believe the year befo that, somewhere around 4,500. Now, those are not intended to exact figures. I can secure the exact figures for you, if you desi

Q. Where were those consumers or customers principally located

A. There would be no way that I have right offhand of tellin where the majority of them were located.

Q. How?

A. There would be no way that I have to determine that, witho going and securing the data for you.

271 Q. Your books would show?

A. Yes. I can give you certain localities that I have reasons for them being fresh in my memory. For instance, Weirton, West Virginia, and below Weirton, West Virginia, close to Wellsburg there, at the new electric plant; and various communities. We made quite a large increase in the last three or four years in the number of consumers. As I said, during the war we had an application to supply gas to some five thousand homes in a plan which the Government was going to erect, a housing program, which the Company refused to supply with gas. They were to be located in the State of Pennsylvania.

Q. I believe I will ask you if you will supply, in connection with your examination, your figures for the years 1910 to 1919 inclusive, as to the number of consumers in the three States of Pennsylvania, Ohio and West Virginia; can you furnish that?

A. Do you mean the number of new consumers added each year?

Q. Well, if you give us the total number of consumers, it will show that of itself.

A. I believe we can furnish that information.

Q. We want that divided into domestic and industrial,—and I suppose your other classifications will hold, too?

A. To work out and furnish you an itemized statement as
272 to the number of accounts in each of those various classifications, that would be some work.

Q. You mean, as to your miscellaneous items?

A. Yes, and various items.—If we would class them as Industrial, Domestic and Miscellaneous.

Q. Well, suppose you do that. I don't care about sub-divisions.

A. Now, in connection with that, you asked for the number of domestic and industrial consumers?

Q. And a third class of Miscellaneous.

A. The way, I believe, that they are accounted for, industrial consumers particularly, is the styling of each meter as an industrial account, whereas under one contract we might have ten or fifteen meters. Do you mean the number of meters or the contracts that we have?

Q. When you gave Mr. Weil some figures as of December 31st, 1919, I believe you styled it as the number entering into your income account as of December 31st, 1919.

A. Yes, accounts which showed an earning.

Q. Use the same basis on which you gave Mr. Weil those figures.

A. Very well.

Q. When did you withdraw your industrial schedules in Pennsylvania and Ohio?

A. I believe that was in the year,—I don't know—it was
273 along about 1915 or '16, I believe.

Mr. Weil:

Q. It was more than that.

A. It might have been '17.

Q. I think it was '18.

A. I really don't know, Mr. Hoffheimer. At the same time they were withdrawn in the State of West Virginia.

Mr. Hoffheimer:

Q. You mean by "withdrawn," that you no longer embraced the supply of industrial gas in your schedules filed with the Public Service or Public Utility Commissions of the two States?

A. I mean by that that the gas which we have for sale to the industrial consumer is simply the surplus gas remaining after the requirements of the domestic consumer have been taken care of. The only gas that we have for sale to the industrial consumer is the surplus gas remaining after the full requirements of the domestic consumer have been taken care of.

Q. That doesn't quite answer my question. I am trying to find out what you mean by "withdrawing industrial service?"

A. We no longer hold ourselves out as being able to furnish that service.

274 Q. The fact is that from 1915 up to the present time you have supplied gas to industrial consumers in very considerable quantities?

A. The year 1915, I presume you mention that date as the date which we withdrew our industrial schedules?

Q. Yes, if that is the right year.

A. Now, if that is the right year, I said I didn't know the exact year. I can secure the exact date, if you wish; but I would say that we have at all times sold some gas for industrial use.

Q. The fact about it is that there are certain periods of the year when you have a very large surplus of gas, which you must sell to industrial consumers or not sell at all?

A. No, I wouldn't want to say that, Mr. Hoffheimer. We purchase large amounts of gas from one company, an amount equal to our domestic sales. The delivery of that gas is based on the time of year, and the amount varies according to the period of the year and the amount consumed by our domestic consumers for that particular time the year before. So that we are practically as short of gas in the summer time as we are in winter time, though we can purchase more gas, or there is more gas available for purchase in the summer time than there is in the winter time, and the temperature running more even permits us to use our own gas surplus more for industrial use than for domestic use.

275 Q. So that the amount of gas you sell for industrial purposes at any time is merely the unanticipated surplus which you have after supplying your domestic consumption?

A. The gas sold to the industrial consumer is the surplus gas remaining after the requirements of the domestic consumer have been taken care of, yes, sir.

Q. That is where you got the 5,757,134,000 cubic feet of gas you sold to industrial consumers in Pennsylvania in 1919?

A. If those figures are stated correctly—and I presume they are—

that would be sales, gas we had available which would not be required at that particular time by the domestic consumer.

Q. And the amount of that gas you cannot foresee?

A. The amount of which gas do you refer to?

Q. The industrial gas.

A. As to their requirements? No, we would be unable to foresee that. That is, we know approximately their demand, but as to the amount available for their use, that would depend entirely on the amount of gas required by the domestic consumer.

Q. And the same would apply to the supply of industrial gas into Ohio and West Virginia?

276 A. The same condition would apply to any gas sold by this company for industrial use; the gas furnished them has been the gas we have had in excess of the requirements of the domestic consumer.

Q. How do you sell that industrial gas in Pennsylvania,—under contract or under a Public Service schedule?

A. We sell industrial gas in Pennsylvania under contract.

Q. I know, but by particular written contracts in each instance?

A. By individual particular contracts in each instance.

Q. I wish that, when you bring us the information as to the number of consumers, you would refresh your recollection so as to tell us when you did actually withdraw your industrial schedule of rates in Pennsylvania and Ohio?

A. Very well.

Q. What did you mean when you referred to industrial requirements in West Virginia? What is your definition of the word "requirements"?

A. The requirements of the industrial consumer, I consider, is the amount of gas which an industrial consumer might desire to use.

Q. Under what conditions?

A. Under any conditions which he desired to use the gas.

Q. That would take into consideration what elements?

A. That would take into consideration simply what the consumer desired to use,—if he desired to use gas throughout

277 his entire plant, he would state to me that that was his requirements. Now, if he preferred to use some other fuel in a portion of his plant, and did not desire to use the gas there, he would state that so much, so many millions or so many thousands of feet was his requirements.

Q. By "requirements" you had in mind the use of all the gas which his factory or plant would consume provided he had a full supply?

A. In most instances, that would be correct. It would be the amount of gas which the customer might desire to use, and would use if he could secure it.

Q. That would be requirements, without any question of price or availability?

A. He might, and there ofttimes have been periods or times when he has wanted and desired more gas than was available for his use. The question of rates he never gave very much thought,—

that is, only in a general way, because as an ordinary thing, the rates have been very cheap, I think, and we find no difficulty in making contracts at the present rates for the sale of all surplus gas we have.

Q. What I am getting at is this: When you spoke of requirements, you had in mind that he would use in his plant gas exclusively as a fuel?

A. As a general proposition, yes, sir,—any gas that he
278 might desire to use.

Q. Well, what do you know about his desires?

A. Well, sir, ever since the time when we withdrew our classification, it has been necessary for each consumer desiring to use gas to fill out and file with us a written application, upon which he states the various subjects in his plant in which he desires to use gas for fuel, and further furnishes us with his requirements—the maximum amount of gas that he might desire, and he also furnishes us with a minimum amount, by the day and for the month, also as to the hours of the day, or the hours through the day which his plant operates. On this application he gives us that information. In addition, he furnishes us with information as to the various subjects in his plants in which he has substitute fuel, those that he has any substitute fuel. We have those on file. I think, approximately, there have been three applications from time to time, from each customer.

Q. When you refer to "requirements," then, you take those maximum amounts and call those requirements?

A. You mean for the purposes of estimating as to the amount of gas which might be sold in West Virginia or any other State?

Q. I am talking about your reference to requirements of industrial consumers.

279 A. I took into consideration those applications, yes, sir, practically entirely, plus previous consumptions. There were a few who could not give, hadn't the data available as to their full requirements; we took a combination of both.

Q. It is, nevertheless, true that a very considerable number of industries or manufacturers in West Virginia have installed apparatus for the production of producer gas?

A. There are customers in West Virginia who have producer plants, yes, sir.

Q. There are a number of them who use coal for the purposes to which coal is applicable?

A. There are customers,—consumers in West Virginia who are using coal some places.

Q. Are they the same people, or some of the same people, to whose requirements you have referred?

A. They would be, yes, sir.

Q. Where did you get those figures of 25— to 33,000,000 feet a day as the requirements?

A. As previously stated to you, that estimate was arrived at by taking the individual applications of the customers in West Vir-

ginia plus, in some instances, the previous consumption of those customers, or a certain portion of them.

Q. Well, which did you employ,—their statement of the
280 amount they desired or your conception of what they had used?

A. As previously stated to you, we took the amount stated in the application plus, in some instances, the amount of gas which they had consumed. If you recollect, I stated that some of them were unable to state their full requirements.

Q. What is the line pressure in your main or trunk lines ahead (?) of your various compressing stations in West Virginia?

A. That varies. If you desire the maximum pressure, I would state that we do not leave our pressure exceed 300 pounds, if we can reach that point. That is, we consider that it is not safe to operate the station at a greater pressure than 300 pounds. That is, if you refer to some of the stations in West Virginia.

Q. Let us take those first. You give us 300 pounds maximum?

A. A maximum pressure of 300 pounds.

Q. And what is the minimum?

A. That, of course, varies and depends entirely on conditions.

Q. Well, during how much of the year do you keep running at 300 pounds?

A. I would say that would be merely a matter of guess; I would say rarely at 300 pounds.

Q. I suppose that the greatest pressure comes in the winter time when you carry the peak load?

281 A. What pressure do you refer to, the discharge pressure?

Q. Yes, sir, the pressure which enters your compressing stations.

A. No, I wouldn't want to say that. We attempt to carry full pressures in winter time, but we are not always in position to do that. Now, in summer time, there might be a sudden falling off in the demand for gas,—take, for instance, on a Saturday afternoon—and our pressures sometimes gets up, before we shut down stations, gets up to the danger line, 300 pounds.

Q. All right, suppose you try it this way: Can you give us an average?

A. No, it varies so, depending entirely on the demand for gas and the amount of gas available.

Q. How about your Pennsylvania compressor stations, do the same statements apply?

A. No. Take the Majorsville compressing station, the same statements would apply; if you take the Waynesburg compressing station, Greene County, the point of safety is about 135 pounds, the maximum.

Q. Are there any other Pennsylvania compressor stations?

A. Yes, the station known as the Slippery Rock compressor station; really, 50 to 55 pounds is the maximum there; that is as high as we go.

Q. How about the State of Ohio, have you any compressor stations there?

282 A. We have no compressing stations in the State of Ohio.

Q. All these pressures you have been talking about in answer to my questions relate to your discharge line pressures,—that is, the pressures in the lines after the gas has come through the compressing station?

A. Immediately after leaving the compressors.

Q. With regard to this peak load, is your problem any different in Pennsylvania than it is in West Virginia?

A. Yes. You mean, or do you refer to the problem of furnishing them a full and ample supply?

Q. I mean this: You do have to provide, or attempt to provide, for a peak load in West Virginia as well as in Pennsylvania?

A. All consumers connected to our system burning gas create the peak load. The customers don't necessarily have to be located in any one particular State, or any one community, to cause a peak load. It is the use of gas by all of your customers which creates the peak load.

Q. But if your consumption and production were entirely confined to Pennsylvania, you would still have a peak load to take care of, wouldn't you?

A. We would.

Q. And if your consumption and production were located in West Virginia, you would still have a peak load to take care of?

A. We would.

283 Q. That always has been the condition of the natural gas industry, and always will be?

A. Unless the consumption is restricted in some manner.

Q. Suppose you didn't have a compressor station, how far would the gas travel in a 16-inch line?

A. There would be so many conditions entering into that that I would be unable to answer; it would be absolutely a mere guess on my part. It would depend entirely on the amount of gas you had available and the demand for that gas.

Q. Well, take present conditions. If you did not have today any compressor stations,—or on January 1st, or any arbitrary date?

A. I would be unable to answer that question; absolutely it would be the wildest mere guess on my part.

Q. Your original transportation was without compressors, was it not?

A. Well, I believe so. Inasmuch as I was not connected with the company in its early operations, I would not want to say definitely, but I believe it was.

Q. But it is a fact that, in order to get your gas anywhere now, transported any practicable distance, you regars the compressor stations as necessary?

A. They are necessary to the successful operation of your plant.

Q. You couldn't get your gas far enough away to do any

284 good without them?

A. I wouldn't want to say that. That, as I stated, would depend entirely on conditions.

Q. What conditions do you take into consideration?

A. The amount of gas available that you have, and the demand for that gas.

Q. Well, take your average demand at the present season of the year, how far would your gas get without the compressors?

A. It would be the wildest guess on my part to attempt to state how far that gas would go.

Q. That would apply to any other season of the year as well?

A. Now, understand me: I don't mean to say that if the compressor stations were shut down, that our lines would not have gas in them. I mean to say that the amount of gas transported through these lines, and available for use to consumers, would not be as great as if compressing stations were used. Now, in winter time, when there is a heavy demand for gas, without compressing stations there would be many localities that would be short, would not have sufficient gas, more particularly if there was a large demand for it some place else that would take the gas.

Q. How constantly do you have to operate your compressing stations?

A. That varies. There have been times when it has only been necessary for us to run three engines of all the company has, and there have been other times when they ran every engine, yet did not have sufficient gas.

Q. When were the times when it was not necessary to run all of them?

A. Oh, to give you the exact dates, I don't know. I think last Sunday, if my recollection is correct, we only operated three engines last Sunday.

Q. Where were they?

A. One at Sedalia, one at Hundred and one at Porters Falls.

Q. Those were all that were operated under your whole system?

A. I believe so, yes, sir.

Q. Do you remember any other time?

A. Oh, yes, I could furnish you,—if you desire, I could furnish you various dates, by looking up the record. That is something that I do not attempt to retain in my memory; in fact, I only look at the pressure sheet perhaps once or twice ordinarily through the day, unless there is an emergency, then I pay close attention to it. In other words, the details of that pressure record is in the care of another party, that is part of his duties.

Q. Well, how many days out of a year, do you suppose any of your compressors would be out of operation?

A. I would be unable to state that with any degree of accuracy, because it would be the merest guess on my part, without studying the situation more.

Q. How long has it been since your Porters Falls station has been out of operation?

A. You mean by that all of them—have it entirely shut down, do you mean?

Q. No, the Porters Falls compressor station.

A. I suppose there is one engine shut down at Porters Falls this morning; that is my recollection, on quickly looking at the com-

pressing sheet this morning,—only one engine running at Porters Falls today.

Q. Before this morning, how long has it been out of operation?

A. Of course, I am giving you my recollection, inasmuch as I only casually look at the sheet; I would say that for the last four or five days there has been one engine shut down, only one running in the course of the twenty-four hours. Now, I don't know if it was shut down the whole twenty-four hours; maybe it would be shut down at night and started up some time through the next day.

Q. What about the Sedalia?

A. The Sedalia, the same conditions perhaps prevailed there at Sedalia.

Q. How about the Hundred station?

A. Same conditions. I would say this: That those at Hundred and Sedalia would be shut down prior to all the engines be-
287 ing shut down at Porters Falls, as a general practice. If the information is at all valuable to you—as I stated, that is the merest guess on my part—if you consider it of any value, I will look into it further and give you a more intelligent answer, if you desire.

Q. Well, you can and do shut those stations down partly?

A. Partly. By "partly," you mean shut down certain units in the station?

Q. Yes, sir.

A. Yes, sir.

Q. You spoke of the Porters Falls station being shut down this morning; do you mean that that plant was entirely out of operation?

A. Oh, no; one engine running.

Q. And in the same way, you refer to the Hundred and the Sedalia stations?

A. There would be one engine running.

Q. One or more units being out of operation, and others operating?

A. One unit operating.

Q. How many units do you have?

A. Two.

Q. At each of those places?

A. At each of those places.

288 Q. You have gotten into the habit in this examination of talking about gas fields, about the Cameron field, and the Blacksville field, and the Hundred field, and Sedalia field, and others; is there any hard and fast boundary line around any of those fields?

A. No, I would not say that there was. They are names used for the purpose of defining certain territory. Now, Blacksville,—you mention Blacksville in your question,—I don't recollect of stating anything about Blacksville field. You seem to be under a misapprehension perhaps about the Blacksville field. That plant, I believe, consisted or two wells and some pipe line, I think we supplied four customers there.

Q. All right, remove that.

A. If it is your impression that that is a large thing, that amounts to anything, I just want to correct that.

Q. All right, we will remove that, and pick a bigger field. What I was getting at is this: As you start in Pennsylvania and go down through West Virginia to the parts of West Virginia farthest away from the Pennsylvania line where gas development exists, there is practically a continuous field, isn't there?

A. I would not say that at all, no, sir.

Q. What do you say?

289 A. I say that the fields are more or less isolated.

Q. Is there any county in West Virginia from the Pennsylvania State line to the territory roughly defined at Kanawha County, Boone County, Clay County and Braxton County, where there is not or has not been natural gas development and production?

A. I would say that in practically every county there has been more or less gas production. That is, not in every county in your State, but in every territory defined by your question. I don't mean to state by my answer that all that territory is gas-producing territory, or that it supplies gas in large enough amounts to be commercially valuable.

Q. Of course it is true that you won't get gas wherever you happen to drill a well in that territory?

A. We have found it so, yes, sir; very often so. That is one of the peculiar natures of the industry, you are never certain of securing gas until your pit has hit a gas-producing sand.

Q. In the territory I have indicated, bounded on the north by the Pennsylvania line and the Ohio River, adjoining the Panhandle, and running down to those counties I have indicated, beginning

290 with Kanawha and running over to Boone and Braxton, are there any counties in which gas has not been found to be produced?

A. I realized that in your first question. I would say that there has not been; as to the counties south of the territory which we operate, it is only—I am only acquainted with it in a general way, and I would say that there is not.

Q. What were some of those small or local gas companies that you had in mind which had paid large dividends?

A. One of them was the Manufacturers Gas & Electric Company, at Cameron, West Virginia.

Q. What territory did it supply?

A. In and about Cameron, West Virginia. Another one was the Cameron Heat & Light Company.

Q. In the same territory?

A. In the same territory.

Q. Any others?

A. Not where the information was secured from authentic,—what I consider an absolutely authentic source. The information as to these two companies I mentioned was secured direct from the officials of the companies.

Q. What was the period during which they paid those large dividends?

A. (Referring to memorandum.) The Manufacturers Gas & Electric Company commenced to supply gas in the fall of 1911;
291 they have 249 acres under lease; they have drilled six wells, drilled three wells in the past two years, two productive and one dry; in the winters of 1918-1920 gas was shut off from factories to take care of domestic; they paid no dividends in the last four years; they paid 60 per cent on $15,000 capital stock; the average amount of gas used by each consumer, 125,000 cubic feet per year. The information was secured by our Mr. Gifford from H. M. Fisher, Secretary and Treasurer of their company.

Q. Where does he have his office?

A. I think at Cameron, West Virginia.

Q. I want to know when that dividend was paid?

A. I don't know; I presume we can secure that information, I don't know whether we can or not.

Q. All right, go on to the next one.

A. Cameron Light & Heat Company commenced to supply gas in 1913; they have 250 acres under lease; have drilled seven wells, two wells in the last three years; have paid 240 per cent dividends on $25,000 capital stock; last dividend paid 1919; average consumption for each consumer was 130,000 cubic feet per year. Information was secured by Mr. Gifford from Harvey Hicks, Secretary of the Company.

Q. Address, Cameron?

A. I believe so.

292 Q. What period did that dividend payment cover?

A. Well, I have it here, they say commenced to supply gas in 1913; I would say it commenced at that period.

Q. Until 1919, or '20?

A. They say the last dividend was paid in 1919.

Q. Is that the crop?

A. That is the crop that I say I believe I have authentic information, I told you the source from which the information came, and so forth; otherwise I wouldn't use it, I don't feel like using the others, because it is absolutely hearsay. I believe I explained the manner in which I secured that information.

Q. You gave us an elaborate statement the other day as to the effect of a gas shortage in Pennsylvania, and its effect upon the lives, health, comfort and convenience of the good people of Pennsylvania; do you apply that statement equally to a shortage of gas in West Virginia?

A. I apply that statement to any place where a shortage exists—any state or any community.

Q. Well, you endeavored to demonstrate the other day that the restriction of the quantity of gas going out of West Virginia would make itself felt in a shortage in Pennsylvania; that was the substance of it, was it not?

A. I recollect, I believe, of making a statement to the effect
293 that if any additional amounts of gas were taken from our lines in Pennsylvania, that it would have the effect of creating shortages in Ohio and Pennsylvania, and incidentally West Vir-

ginia as well. The upper end of West Virginia, principally the towns of Chester and Newell, are supplied with gas from lines leaving the State of Pennsylvania and entering—re-entering the State of West Virginia; and also from lines coming from Ohio and entering the State of West Virginia. If you recollect my testimony, I stated at least one town in West Virginia that we were short last winter. So that in those communities, no matter where they are, if they were located so that I couldn't get the gas to them, they would be short.

Q. Your point of view is that the more gas you take or consume in West Virginia, the less there is to be consumed in Pennsylvania and Ohio; is that it, in substance?

A. That is true. And the more gas used by customers in Pennsylvania at certain points means less gas for other consumers in other localities right in the same state of Pennsylvania.

Q. Now, the same thing has been true, and always will be true, regardless of legislation?—if you don't have enough gas to go around, and supply everybody?

A. I would say yes, with an explanation. If we were required to furnish amounts of gas which, for instance, our indus-
294 trial consumers would like to have and would take, in West Virginia, the amount of gas which they would use and would take would be taken to the detriment of consumers further along in the states of Pennsylvania and Ohio and also West Virginia—that is, the domestic consumers. Take, in extreme cold weather, when the domestic consumer is using all the gas that he desires, if I were to permit the use of gas for industrial purposes, there would be a great shortage in the supply of gas to domestic consumers. It is by the discontinuing or curtailing of the amount of gas furnished industrial consumers that we can tide ourselves over during these cold periods, these peak load periods. In other words, we divert and give to the domestic consumer the gas that we have available, in preference to giving it to the industrial consumer. You can readily see, if I was called upon at times even for only a million feet of additional gas to factories, that would mean one million feet less for domestic consumers. There have been times that I have been short, that a million feet, if I had it available, would have prevented that particular shortage. Now, when that gets up to eight or ten mil-
295 lion feet, and they take it out, and it is not permitted to be utilized for domestic use, the prospect of shortage becomes very much more acute.

Q. Now, to come back to my question: As to the requirements of the industrial consumption, it always has been true, and always will be true, the more gas you use in West Virginia, the less gas you have had or will have for use in Pennsylvania and Ohio?

A. I would answer that yes, just as I did your other question.

Q. And that fact is not changed by the existence of any law to the contrary? That fact is the same, isn't it?

A. One reason for that would be, Mr. Hoffheimer, the large amounts of gas which we purchase in the State of West Virginia.

Q. Now, the fact is that your total gas supply is on the decline?

A. I would say yes, sir.

Q. Do you know of any other place to go and get gas for service in West Virginia, Pennsylvania, and Ohio?

A. I know of no certain locality that I could go to and secure additional gas, other than fields in which we are operating at the present time.

Q. Which is in those three states, principally West Virginia?

A. No, all our own production—We secure the larger part of our own production in the State of Pennsylvania. As pre-
296 viously stated, we purchase large quantities of gas in the State of West Virginia, our own production, however, the largest portion of it, is in the State of Pennsylvania.

Q. Has your Pennsylvania production increased any in the last three years?

A. I would say not.

Q. Is there any prospect of increase in Pennsylvania in the future?

A. I would like to believe so, but I am afraid not. That is one of the uncertainties of our business. We are endeavoring to discover every place in which the company operates—discover new fields, new localities. You are somewhat familiar, for instance, with the McKeesport field. It might be our good fortune to stumble, for instance, and develop a field of that sort; but there is no known field, or no known fields, that I know of at present, that we could go and develop new territory.

Q. Does that apply also to Ohio and West Virginia?

A. I would say so, yes, sir.

Q. What is the effect whenever your consumers have only a partial supply of gas, even for domestic consumption?

A. By the word "partial," do you mean there is a little gas in their lines?

297 Mr. Weil: You mean, an insufficient supply?

Mr. Hoffheimer:

Q. If they don't have sufficient to use for cooking or use for illuminating purposes?

A. They would be unable to cook, unable to heat their homes, unable to light their homes; depending, of course—the degree would depend entirely, of course, on the amount of gas available for their use.

Q. The tendency is to drive them to other fuels?

A. I would say yes, in answer to that question—that my belief is that every shortage that you have, some consumers put in substitute fuels, yes, sir. As those shortages become more pronounced, and the belief is formed by them that they can no longer depend on natural gas for those uses, they will put in substitute fuels.

Q. So far your attempt to meet that condition has been by cutting off or restricting industrial consumption; is that right?

A. So far we have attempted to overcome those conditions by securing additional gas, either through our own developments or by

purchase, and in times of emergency, utilizing every foot of gas available for the use of domestic consumers.

298 Q. Taking into consideration the constant tendency to decline in your supply, you are going to reach a time when you won't have enough to even supply your domestic consumers with full service, aren't you?

A. There might come a time when we will not have sufficient gas to meet all the requirements of the domestic consumer.

Q. That was the history in Indiana, wasn't it?

A. Correct, sir.

Q. And the history of part of Ohio?

A. That is correct.

Q. And when that time comes, what are you going to do?

A. There are certain industries to which natural gas is peculiarly adapted. The use of gas for cooking, lighting, and hot water heating are the purposes I mention. To use substitute fuel for the purposes of cooking, he would use coal or wood—he might use those. If he did, it would mean that some member of the household would be required to rise earlier each morning than perhaps his custom had been when using natural gas. During the warm periods of the year, perhaps he would have to build his fire two or three times to cook. The woman of the household perhaps would have to bake and iron and cook over a hot stove. They could use gasoline or oil for the purpose of cooking; it is more expensive than natural

299 gas, and personally I consider it much more dangerous than natural gas. Electricity could be used as a substitute, but at a much higher cost, perhaps prohibitive, so far as the majority of our customers is concerned. It is true that he could use manufactured gas, but he would be receiving a gas of perhaps only half the heating value of natural gas, and at an increased cost. It would take some time too to construct an artificial plant. The same substitutes apply to lighting. Under those conditions, I personally am of the opinion that natural gas for those uses is an absolute necessity. When it comes to the question of using natural gas for heating the home, I claim that it is not a necessity, and that other fuels can be used very readily; and in a great many homes they are so equipped that they could use other fuels. I would say that the time will come in the industry, probably, when the amount of gas for heating purposes will perhaps be restricted. I believe that it is policy perhaps, both for the company and the consumer, to accept some restriction. I mean, it would prolong the life of the industry if it were done. They would have the advantage of natural gas for those special uses at a less cost, and receive a gas of twice the value of artificial gas, for some years. If they do not accept that, the life of the industry is

300 perhaps shortened. Then he will be forced to go back, perhaps, to some inferior substitute.

Q. When you get to the conditions you have described, you would confine your gas consumption to illumination and cooking—is that all?

Mr. Weil:

Q. And hot water heating?

A. Water heating and perhaps, incidentally, heating stoves in the bathrooms and bedrooms; that is, if that step was necessary, Mr. Hoffheimer.

Mr. Hoffheimer:

Q. Let's carry the step farther: You have a plant distributed throughout three states, over a territory covering a distance of something like 167 miles between its extremes; leave it under the arrangements which you describe, you figure that you are going to have a perpetual supply of natural gas?

A. I have no recollection of so testifying.

Q. I don't want to accuse you of that, but is that your idea, or the contrary?

A. No, I would say, basing my answer on previous history of the industry, I would say that there will come a time when there will be no natural gas. As to when that time comes, however, I
301 would be unable to state.

Q. Then between the present day and that dismal future when there is no natural gas, we are going to have a period of decline?

A. I would say yes.

Q. And you are going to have a period in which, while there is some gas, there is not enough gas to go around?

A. I would say yes.

Q. Even with a minimum of use, for the limited purposes you have described?

A. I would not want to say that, unless I would go a little farther. If the amount of gas was restricted, that is, the sale of gas were restricted, and used for the purposes of cooking, lighting and hot water heating, why it would add, I believe, many years to the life of the industry.

Q. Suppose I assume that in my question: still between the present and the time when you will have no gas you are going to have a decline?

A. As the time would approach when you had no gas, you would perhaps suffer shortage even for that use.

Q. You would have to cut off consumers, wouldn't you?

A. Eventually, I would say yes. As the period drew near when you had no gas, you would.

Q. And as a practical operating proposition, you then will have to curtail your consumption?

A. I think by the time that period is reached, the trouble
302 would cure itself. I mean by that, Mr. Hoffheimer, that every interruption which you have to service causes so much trouble, so much inconvenience, so much actual suffering at times, that the consumer would put in some substitute appliances, would not depend on natural gas for that use entirely, would use it when he had it, and when he didn't have it would use a substitute.

Q. All right, suppose it happened that way instead of by a notice from you. What are you going to do with your plant?

A. We are in hopes we might be able to use them in some methods of manufacturing gas, that might be developed. We are always living in hopes that we might some day be able to continue our business and realize on our investment—something of that nature. We also have a dream that perhaps by drilling deeper, much deeper, we might find some new source of supply. As I stated, we are living in hopes all the time, Mr. Hoffheimer.

Q. And the other alternative is to discard your plant?

A. If we had no natural gas, or had no substitute gas, that we could market, our plant would necessarily have to be abandoned.

Q. Can you give us any idea, Mr. Quay, as to the original rock pressures of the wells in West Virginia?

303 A. Well, I would say that the rock pressures differ in different fields, and would differ as to what year you wanted to take them in. I would not be prepared to answer offhand what any particular rock pressure would be. I don't attempt to retain them in my memory. We have certain data; I can give you the pressures at which these new wells came in. I want to say, however, that our records as to rock pressures are not very complete—that is, only the recent years.

Q. I was trying to obtain your idea as to the general situation rather than as to any particular wells.

A. If you would mean whether or not the rock pressure is declining, I would say that it is gradually declining.

Q. Take the Sedalia Field, or any one of the fields—when you knew the field first?

A. I couldn't give it to you offhand.

Q. Well, what would you say was the average rock pressure of your wells?

A. It would depend on what sands the gas came from—different sands, different gas-producing sands. As I stated, I would be unable to give them to you with any certainty as to the accuracy of it, from memory.

Q. Well, you may qualify it however you please.

304 A. Supposing I would secure it for you and give it to you, suppose I would ascertain from actual records what the actual rock pressure was, wouldn't that be better than attempting to guess and perhaps give it to you inaccurately?

Q. Yes.

A. I hesitate to say, because it might be wrong. It all depends on what sands, and so forth.

Q. Suppose you look it over, without going into any exact details?

A. I will pick out five or six wells in different sands, and give you the rock pressure,—say, for instance, the Hundred and the Cameron.

Q. You made some general statement the other day as to the reserves of the smaller gas companies,—that is, something like the snakes in Ireland, isn't it?

A. I presume you refer to my making the statement, as a general rule, at least, the smaller companies had very little acreage?

Q. Yes.

A. Yes.
Q. What gas companies did you have in mind?
A. I had in mind the two particularly that I read out to you.
Q. Those were the two dividend payers?
A. Also the Dunkard Valley Oil & Gas Company, at
305 Blacksville, West Virginia, they had 320 acres, one farm under lease. At the present time, they have 55 acres under lease; had four gas wells. They have drilled no wells during the past two years. Have plenty of gas in the summer time. Had no supply of gas up to the year 1917; since that time have been buying gas for winter months. Average domestic consumption to average domestic consumer, 144,000 cubic feet per year. And it is stated the Manufacturers' Gas & Electric Compay, at Cameron, have 249 acres under lease; Cameron Heat & Light Company, 250 acres under lease. I have here information as to the acreage of the Hundred Gas Company, located at Hundred, West Virginia, which has 80 acres under lease. Part of that information was secured from Mr. Toothman, who was secretary and treasurer of the Hundred Gas Company, by Mr. Burson, our local foreman in that district.

Q. Now, as a matter of fact, the statement that the smaller gas companies are without adequate reserve, or without sufficient territory to adequately supply their consumers or to bear their peak load, is true as a general statement with regard to the local gas companies in West Virginia; is that correct?

A. I would say that that is correct, as far as I am acquainted with those with whom I am acquainted. Now, I believe the original question asked me was as to whether or not they had made ample
306 provision to secure—What I had in mind was, if I was in any territory, gas producing territory, and there was any acreage which I could secure, why, I would be only too anxious to secure it. I mean by that, that instead of taking up two or three hundred acres, even if I had a small company, I would undertake to secure additional acreage, even though I didn't need it at that immediate time, believing, of course, that the time would come when I would drill additional wells, and in that manner keep my supply of gas up.

Q. Anyway, it comes to this: that they don't get enough territory to take care of their peak load?

A. I wouldn't want to say that.

Q. How?

A. I wouldn't want to answer that question as broadly as that.

Q. Then put it this way: they haven't enough?

A. I would say the companies I am acquainted with, as a general rule, have not enough.

Q. All right. Who does control the acreage?

A. I know of no one who controls the acreage. I believe that we control some—whatever the figures were, 350- or 360- or 370,000 acres, and the companies which hold leases on the other property, I presume control the acreage that they have under lease. I know of no one that controls any of the acreage, other than the owners of it.

Q. Well, leaving out the word "control," who has the bulk
307 of it in West Virginia?

A. That is something too, not knowing the amount of acre-

age that the other companies own, I would be unable to answer that question.

Q. Who are the companies that have the most of it?

A. I would not be able to say. There are two or three larger companies in West Virginia other than ours,—There is the Hope Natural Gas Company, there is the United Natural Gas Company, and I believe the Columbia operates down there in the lower part of West Virginia, also the Philadelphia Gas Company. As to the acreage held by each company, it would be impossible for me to even guess at it.

Mr. Weil:

Q. How about the Carnegie Natural Gas Company?

A. Yes, the Carnegie Natural Gas Company is in West Virginia.

Mr. Hoffheimer:

Q. When you speak about the United Natural Gas, you mean the United Fuel Gas Company.

A. Yes, the United Fuel Gas Company.

Mr. Hoffheimer: Upon direct examination reference was made to the gas sale agreement between the Hope Natural Gas Com-
308 pany and the Manufacturers Light & Heat Company. I then reserved the right to move to strike out that evidence, unless the contract itself was produced. We now ask the production of that agreement.

Mr. Hoffheimer:

Q. That agreement, I understand, to be in writing?

A. The agreement that you refer to is in writing.

An adjournment was here taken until Wednesday, June 2, 1920, at 10 o'clock, A. M.

309 Wednesday, June 2, 1920.

And now, Wednesday, June 2, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed pursuant to adjournment; the Commissioner and counsel present as heretofore noted, Fred O. Blue, Esq., being also present, on behalf of the State of West Virginia.

Mr. Weil: In reply to the notice given at the close of the examination on yesterday, to produce the contract between the Hope Natural Gas Company and the Manufacturers Light and Heat Company; As a precedent, and to preserve the rights of the Manufacturers Light and Heat Company, which is not a party to this suit, the right of the defendant to demand the production of this contract, which is a contract between the two companies, and a part of their private business, is denied, and the right to compel the production thereof is denied, and its competency, relevancy or materiality to any issue now pending is denied; and therefore the right to demand the pro-

duction of the paper and to offer the same in evidence is ob-
310 jected to. But since this paper is a part of the records before the Public Service Commission of the Commonwealth of Pennsylvania, and counsel also believes, before the Public Service Commission of the State of West Virginia, in cases there pending, the agreement is produced for the examination of counsel for the defendant; but with the reservation of all of the objections heretofore made and placed upon the record with reference thereto; and when and if the same should be offered in evidence, this production of the paper is not a waiver of whatever rights the Manufacturers Light and Heat Company will then have, with reference to objections to its being offered in evidence. Accordingly, I produce the agreement and submit it to counsel.

Mr. Hoffheimer: The agreement having been produced, the State of West Virginia enters into no discussion as to the validity of the reservations, denials or objections of the State of Pennsylvania and the State of Ohio.

311 H. A. QUAY, recalled.

Cross-examination (resumed).

Mr. Hoffheimer:

Q. Mr. Quay, there has been produced by counsel for the complainant states, in pursuance of a notice of yesterday, an agreement dated May 1, 1910, between the Hope Natural Gas Company and the Manufacturers Light and Heat Company, already identified by a mark, in the case of the Public Service Commission of the Commonwealth of Pennsylvania, "C Docket, No. 1815-1917." Is this the agreement to which you have previously referred in your testimony, and the agreement under which the Manufacturers Light and Heat Company has purchased and does purchase gas from the Hope Natural Gas Company?

A. Yes, sir.

Q. This is the original, or a duplicate original?

A. I take it that it is the original, because I am familiar with the four signatures that are written in ink, so I take it that it is.

Mr. Hoffheimer: The agreement produced is offered in evidence by the State of West Virginia, to be marked for identification "West Virginia, Exhibit No. 1."

312 Mr. Weil: This is objected to, as incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted, and the exhibit taken.

The Commissioner: Do I understand that your objection, which you originally stated, at the time you produced the paper, applies to this formal offer?

Mr. Weil: Yes.

NOTE.—It is agreed that the stenographer shall make a copy of the original paper, "West Virginia Exhibit No. 1," to be identified in

the same manner as the original, for all purposes of these cases, and to have the like force and effect as the original. The objections to the competency, relevancy and materiality of the exhibit of course not being waived on account of this stipulation.

Mr. Hoffheimer:

Q. In your testimony you have referred particularly to deliveries of gas by the Hope Natural Gas Company to the Manufacturers Light and Heat Company, at Sedalia, West Virginia. Have
313 not deliveries been made and are not deliveries being made by the Hope Natural Gas Company to the Manufacturers Light and Heat Company, at Morgan, in Marion County, West Virginia, and also at or near Iuka, Tyler County, West Virginia?

A. That is correct. I believe in the previous testimony, however, you will find that I stated that we received gas from the Hope Company at the Hundred compressing station, which would represent Morgan that you referred to; and at the Porters Falls station, which would represent Iuka, which you mentioned.

Q. Perhaps it would help us if you would identify on the map in evidence these two places, Morgan and Iuka.

A. The Morgan station is a station owned and so named by the Hope Company. It is at that point that they deliver gas to us which enters our Porters Falls station—Porters Falls compressing station, located in Wetzel County, West Virginia.

Q. While you are talking about that compressing station, will you tell us where the point of delivery by the Hope Company is?

A. The point of delivery is in Tyler County.

Q. How is it marked on your map, Complainant's Exhibit No. 1?

A. It is marked "Hope Natural Gas Company, Pitot Measuring Station."

314 Q. That is the designation almost directly south of the Porters Falls station?

A. West and south. The gas delivered to us by the Hope Natural Gas Company and which enters our Hundred compressing station, which is located in Wetzel County, is delivered into our lines at a point in Marion County, West Virginia.

Q. We are talking now about the delivery at Morgan, what is designated as Morgan.

A. Yes, sir. I want to make a correction. As stated, Morgan is the name designated by the Hope Company to their Pitot station, and I am not absolutely familiar with the names they use. When I stated that the gas entering Porters Falls compressing station was at a station named Morgan, that was in error. That should have been Smith station.

Q. Well, to identify that with the agreement itself, that point of delivery in Tyler County is what is referred to in the gas purchase agreement as Iuka,—whether that is the name now used or not?

A. Yes, sir, that is correct. The Hope gas which is delivered to us, and which enters our Hundred compressing station located in Wetzel County, is delivered into our lines at a point located in Marion County, West Virginia.

Q. Designated how on the map?

315 A. Designated on the map as the Hope Natural Gas Company, Pitot Measuring Station.

Q. And without regard to the correctness of the name, that is the same point which is referred to in the Gas Purchase Agreement as Morgan?

A. Correct.

Q. At the Sedalia compressing station, how is the point of delivery indicated on your map?

A. The point of delivery is indicated by the words "Hope Natural Gas Company, Pitot Measuring Station."

Q. That is practically at the Sedalia compressing station?

A. The point of connection is close to our company's compressing station.

Q. Have you had time in which to prepare the statistics of the numbers of consumers for which I asked yesterday?

A. I have.

(Paper shown witness.)

Q. In the Gas Purchase Agreement, paragraph 7, which I show to you, there is a reference to the payment of certain floating debt by the Manufacturers Light and Heat Company, which appears to furnish contingencies upon which gas is furnished, in alternative ways, or in alternative amounts. Without going into any details about it, I merely ask you whether that floating debt has been paid?

316 A. I am of the belief that it has. To state definitely though, I would be unable to do so. It is my belief that it has been paid off.

Q. To put it in another way: In that same paragraph there is a proviso that until the present floating indebtedness of the Manufacturers Company is paid off, if it is paid off within seven years from May 1, 1910, and so forth, the Hope Company will supply to the Manufacturers Company, under this agreement, a proportion of its production of gas not exceeding the domestic consumption of the Manufacturers Company and of the companies controlled by the Manufacturers Company, at least equal to the proportion which the number of domestic consumers supplied by the Manufacturers Company and its subsidiary companies bears to the total number of domestic consumers on all the systems then obtaining their supply of gas from the Hope Company, including the system of the Manufacturers Company and its subsidiary companies? The section then proceeds: "And that after said floating indebtedness has been paid off or said seven years have expired, the Hope Company is to have the right to supply its own domestic consumers in West Virginia, and to supply the East Ohio Gas Company and the Peoples Natural Gas Company to the extent of their requirements," and so forth. I would like to ask you under which plan now, or under which

317 provision, the Manufacturers Light and Heat Company is receiving gas from the Hope Natural Gas Company?

A. That I think would be in a manner hard for me to answer. Not knowing the available amount of gas which the Hope Com-

pany has for the use of its customers, I would be unable absolutely,—not knowing anything about the operations of their company—to state whether or not at the present time they do give any preference, or a preference, to the East Ohio Gas Company or the Peoples Natural Gas Company.

Q. That is not——

A. You refer, I presume, in your question, as to the amount of gas which the Hope Company delivers to the Manufacturers Company?

Q. What I am getting at is this: That section provides for two alternatives, under one of which the Hope Company shall furnish the Manufacturers gas in a particular way; and then, under the other of which, the gas is to be furnished in a different way?

A. In the first manner,—I presume you refer to the fact that the Manufacturers Company was to receive gas in proportion to the total number of consumers on all companies being supplied by the Hope Company. Not knowing their customers, the number of customers that they have, I would be absolutely unable to state whether deliveries were made in that manner or not. The second is, that the East Ohio Gas Company and the Peoples Natural Gas Company are to receive a certain preference in deliveries over the Manufacturers' Company. Not being the party who makes this distribution of their gas, I would be absolutely unable to state.

318

Q. Well, do you not know whether the Hope Company is performing its contract with the Manufacturers?

A. That is a different question. I so take it, at least.

Q. Who is the particular officer, or are there any particular officers or agents, of the Manufacturers Company, who do have the knowledge as to the one of the two alternative plans under which the gas would be delivered by the Hope Company?

A. There would be nobody connected with the Manufacturers Company that could answer that question, as I said.

Q. Well, that information is all locked up in the breast of the Hope Natural Gas Company?

A. I wouldn't care to say that, either. They could tell you, I presume. I am unable to answer for them.

Q. Well, to leave that then, if you don't know, we will go on——

A. If I did know, I would be only too pleased to answer you.

Q. Will you go on with your figures, as to the number of consumers asked for yesterday?

A. Prior to the year 1915, we had no reports, no combined reports, showing the number of consumers in each state. If agreeable, I can give the total number of consumers on the company's lines for the years 1910, 1911, 1912, 1913 and 1914, under domestic classification, industrial classification, and miscellaneous. And from that period I can furnish you the numbers of the various classes of consumers in the various states.

Q. Give us what you have.

A. In the year 1910, we had a total of 64,912 domestic consumers. We had a total of 704 industrial consumers.

In the year 1910 there were no subdivisions as to miscellaneous customers.

In 1911, we had 74,605 domestic consumers; 675 industrial consumers, and 1,100 miscellaneous consumers.

In the year 1912, we had 78,890 domestic consumers.

Q. What was that last?

A. 78,890. We had 661 industrial consumers; 1,164 miscellaneous consumers.

In the year 1913, we had 82,840 domestic consumers, 564 industrial consumers, 1,417 miscellaneous.

In 1914, we had 86,854 domestic consumers, 540 industrial
320 consumers, 1,593 miscellaneous consumers. Shall I finish one state at a time?

Q. Whichever you wish. How have you got it there?

A. By states.

Q. All right.

A. In 1915, we had in the state of Pennsylvania, 60,218 domestic consumers, 248 industrial consumers, 1,070 miscellaneous consumers.

In the year 1916, we had in the state of Pennsylvania 65,530 domestic consumers, 268 industrial consumers and 1,133 miscellaneous consumers.

In the year 1917 we had 68,808 domestic consumers, 267 industrial consumers, and 1,106 miscellaneous.

In the year 1918 we had, in the State of Pennsylvania 69,895 domestic consumers, 354 industrial consumers, 1,032 miscellaneous.

In the year 1919, we had, in the State of Pennsylvania, 72,781 domestic consumers, 364 industrial consumers, and 1,075 miscellaneous.

We had in the year 1915, in the State of Ohio, 22,396 domestic consumers, 200 industrial consumers, and 277 miscellaneous consumers.

In the year 1916, in the same state, we had 23,679 domestic
321 consumers, 199 industrial consumers, and 276 miscellaneous.

In the year 1917, in the same state, we had 24,912 domestic consumers, 198 industrial consumers, and 280 miscellaneous.

In the year 1918, in the same state, we had 25,531 domestic consumers, 195 industrial, and 205 miscellaneous.

In the year 1919, in the same state, we had 25,620 domestic consumers, 198 industrial consumers, and 212 miscellaneous.

In the State of West Virginia, in the year 1915, we had 8,549 domestic consumers, 133 industrial consumers, and 360 miscellaneous.

In 1916, in the same state, we had 9,107 domestic consumers, 122 industrial consumers, and 572 miscellaneous.

In the year 1917, in the same state, we had 9,708 domestic consumers, 126 industrial consumers, and 580 miscellaneous.

In the year 1918, in the same state, we had 10,095 domestic consumers, 152 industrial consumers, and 548 miscellaneous.

In the year 1919, in the same state, we had 10,435 domestic consumers, 162 industrial consumers, and 580 miscellaneous.

Now, the totals, for the year 1915, domestic consumers in
322 all states, 91,703. The same year, industrial, 581. Same year, miscellaneous, 1,707. Or a grand total of 93,551.

In the year 1916, we had 98,316 domestic consumers, 589 industrial consumers, and 1,981 miscellaneous consumers, or a grand total for that year of 1,886.

In the year 1917, we had 103,428 domestic consumers, 591 industrial consumers, 1,966 miscellaneous consumers, or a total for that year of 105,985.

In the year 1918, we had 105,521 domestic consumers, 701 industrial consumers and 1,785 miscellaneous consumers, or a grand total of 108,007.

In the year 1919, we had 108,836 domestic consumers, 724 industrial consumers, and 1,867 miscellaneous consumers, or a total of 111,427 consumers, which participated in the earnings as of December 31, 1919.

Q. Has the gas provided by this agreement of May 1, 1910, between the Hope and the Manufacturers Company, offered in evidence this morning, been actually furnished?

A. If you will name the period of time which you refer to, I can perhaps answer that more definitely. Do you mean through the period of any year?

Q. Since the contract has gone into effect.

A. Do you mean by your question as to whether or not the Hope has given us an amount of gas equal to what the contract
323 called for?

Q. Yes.

A. I would say they have sold us more than what the contract called for, taking the life of the contract. I do not mean to say by that—There have been times when they have not furnished all the gas that we required or needed, or perhaps we felt we were entitled to. That is, there were days that they were short.

Q. What you mean to say is that in the aggregate they have given you as much or more——

A. I would say, during the life of the contract, the aggregate; we have purchased from the Hope an amount that would be equal to their contract.

Q. How about the year 1919, with which you are familiar?

A. The year 1919,—they might have been a little under or a little above, taking the year as a whole, for the year 1919. Now, that is my recollection; I don't want to be correct on that.

Q. Will the records of your company show the quantities of gas delivered by the Hope Company to the Manufacturers from year to year since May 1, 1910?

A. I would say I believe so.

Q. Will you have such a statement prepared and furnished, in the same way in which you have given us the other state-
324 ments?

Mr. Weil: Counsel for the complainants object to this examination, taking the direction of an inquiry into the personal, private

business of these gas companies, by inquiring into the deliveries in specific instances, as between the contracting parties, as furnishing no evidence relating to the controversy here; the inquiry being as to the general quantities, the aggregate quantities, of gas obtained and obtainable, and not whether A or B or C, as between themselves, are able to comply with their contracts. The witness has answered the question propounded, to the best of his ability, and is under no obligation to have statistical data prepared for matters that are wholly incompetent, irrelevant and immaterial to any issue here. Counsel is willing, if the Commissioner does not feel that he should rule upon these questions, to have the same submitted to the Court for an opinion. This testimony is objected to as incompetent, irrelevant and immaterial, and can have no possible bearing upon any
325 question at issue involved in this controversy. Considering the scope of the examination and the demands made upon the witness heretofore, and the present demands, counsel for the complainants instructs the witness to decline to answer at the present time; and whether or not such a statement will be furnished will be determined before tomorrow, at the first sitting of the Commissioner, to take testimony, depending to a considerable extent upon what further and other data is going to be asked for from the witness.

The Commissioner: Do you understand that, Mr. Hoffheimer?

Mr. Hoffheimer: I understand it, and I propose to make another statement on the record. The defendant state of West Virginia maintains that this line of cross examination is proper, both as relating to the examination in chief and as relating to the issues of the case. In order not to encumber the record, unless the Commissioner desires a statement of the particular reasons why we regard this examination as proper, I will omit that; that is, unless it is desired by the Commissioner to have that.

326 The Commissioner: The Commissioner will state that the ordinary rule is that counsel on making an objection or a proffer, will simply state the reasons,—not argumentatively—and counsel of course have to determine the adequacy of their statements of grounds for objections or for offers.

Mr. Hoffheimer: The State of West Virginia insists that this examination is a proper cross examination in relation to the evidence of the witness in chief, as to the fact of the purchase and delivery of gas by the Hope Company to the Manufacturers Company, and that it is material in that regard as well as in respect to the enquiries already made, as to the transportation, destination and distribution of the particular gas in question. The State of West Virginia further insists that the denomination of the relations between these companies as "private" cannot limit, and does not limit, the regulatory powers of the State of West Virginia, or the scope of the operation of this Act. The State of West Virginia insists further that the witness himself having made no objection to the furnishing of
327 the information asked, either in regard to himself or the Manufacturers Light & Heat Company, that neither the State of Pennsylvania nor the State of Ohio has any concern with the convenience or inconvenience to the Manufacturers Light and Heat

Company; but that when the Manufacturers Light and Heat Company, in its own person or by counsel, makes that objection, it will be time enough to pass upon it. The State of West Virginia also insists that the scope of its cross examination is not to be limited either by the questions, the doubts or the insistence of the complainant states; and the State of West Virginia asks the Commissioner to require the witness to answer or comply with the question.

Counsel for the Commonwealth of Pennsylvania renew their direction to the witness to defer his answer to the question and his furishing of the information until the next day's hearing.

Mr. Hoffheimer: I will state this: that if either the convenience of Mr. Quay or of the Manufacturers Light and Heat Company
328 would be served by a postponement until tomorrow, I am willing to assent very cheerfully to that postponement, and if Mr. Quay needs more time, we are willing to give it to him; but we also state that these postponements are not to take place upon the insistence or objection of complainants' counsel.

Mr. Weil: This last suggestion of counsel is answered by the fact that the witness, the general manager of the company, is now under examination; he has been asked to prepare certain data, the preparation of which would require a very considerable time, and instructions from him to his employees to make that preparation. If counsel insists upon a ruling upon this question now, let him so insist. We are ready, on behalf of the Commonwealth of Pennsylvania and the State of Ohio.

Here a recess was taken until 1:30 o'clock, P. M.

329 Wednesday Afternoon.

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed pursuant to adjournment.

H. A. QUAY resumes stand.

Cross-examination (continued).

Mr. Hoffheimer:

Q. Going back to what you had to say in your previous testimony with regard to the effect in Pennsylvania and Ohio in case the full industrial requirements of consumers on your lines in West Virginia were supplied, I want to ask you this: If the reasonably adequate requirements for domestic consumption on your lines in West Virginia were supplied, what would be the effect on your gas supply and service in Pennsylvania?

A. If I understood the question correctly, I am asked, if simply an adequate supply to the domestic consumers in West Virginia is furnished, what would be the results on my customers in Pennsylvania and Ohio. I would say that we would be in position to render fairly adequate service.

Q. In Pennsylvania and Ohio?
A. Yes, sir.
Q. Supplying a reasonably adequate service to domestic
330 consumption along your lines?
A. Yes.

Redirect examination.

Mr. Weil:

Q. Mr. Quay, I understand you desire to make some correction in the testimony given by you at one of the preceding hearings in relation to the charge to Expense of the bonus paid upon leaseholds; you may make whatever correction you desire.
A. I believe I stated yesterday that I was under the belief that any moneys paid in the way of bonuses and securing leaseholds was charged to Expense. I find, on inquiry, that the money paid as bonuses for leases is charged to Capital Account.

(At the request of counsel for The Commonwealth of Pennsylvania, the last three questions propounded to the witness on cross-examination and the answers thereto were here read).

Q. As I understand the questions and your answers, this refers only to the domestic consumers upon your own lines?
A. The domestic consumers on the lines of the Manufacturers Company.
Q. When you were interrogated this morning with reference to the deliveries by the Hope Company under their contract, and
331 you answered with reference to the whole period, I want to call your attention to December of 1919 and January, February and March of 1920, how much, if any, was the Hope Company short in their deliveries to you during those months for your domestic consumption?
A. If I understand that question, I am asked to state the amount of gas the Hope Company was short in their deliveries to my company in the months of December 1919, and January, February and March of 1920?
Q. Yes, sir.
A. Somewhere approximating one billion, say one hundred million cubic feet.
Q. That is, for those four months?
A. Four months. It might run somewhat over that.
Q. You were asked in your cross-examination whether or not other companies were situated as was the Manufacturers Light & Heat Company, with reference to its lines crossing and recrossing the state lines between Ohio and West Virginia, and Pennsylvania and West Virginia, at so many points, and you answered that no other company had a like situation; now, I want to inquire if you intended to say that other companies than the Manufacturers Heat & Light Company did not cross and recross the respective state lines with their lines of transportation at various points?

332 A. If that question pertained to the whole state of West Virginia, there are other companies which cross and recross the state lines. In answering that, I was under the belief that the question was asked me as to the northern part, the Panhandle district, of the State of West Virginia.

Q. Now, these other companies that cross and recross the state lines at different points, can you name some of them of which you know this to be true?

A. The only knowledge I have is from direct information and general knowledge. The Equitable Gas Company, the Carnegie Natural Gas Company, the United Fuel Company——

Q. What is that name? Isn't it United Fuel Gas Company?

A. United Fuel Gas Company I believe is the correct name. Those are the larger companies.

Q. And you know that those companies do cross and recross the state lines at several points?

A. As stated, I do, from general information.

Q. The Equitable Company, do they supply gas in both Ohio and Pennsylvania?

A. As far as my own knowledge extends, they sell gas only in the State of Pennsylvania.

Q. And what about the United Fuel Gas Company?

A. My information on that subject is that they sell gas in
333 West Virginia and also in Ohio.

Q. What about the Carnegie Natural Gas Company?

A. They sell gas, I believe, in both the States of West Virginia and Pennsylvania.

Q. Have you ascertained the date when your industrial classification was withdrawn?

A. The date upon which our industrial classification was withdrawn was January 1, 1918.

Mr. Hoffheimer:

Q. What state are you referring to?

A. All states.

Mr. Weil:

Q. You mean that it was to go into effect as of that date?

A. That is the date it went into effect.

Q. The papers, I suppose, were filed, of course, prior to that time?

A. The applications and papers were filed with the various Public Service Commissions at least thirty days prior to that date.

Q. Prior to that time, the Manufacturers Heat & Light Company held itself out to the public as being willing to supply industrial consumers as well as domestic consumers?

A. Yes, sir.

334 Q. Now, after that date, I wish you would explain fully just what change was made in your relations to industrial consumers.

Mr. Hoffheimer: That is objected to, so far as it relates to i
dustrial consumption in the State of West Virginia, where the
lation of the Manufacturers Company and the other companies
industrial consumption has been definitely fixed by law.

The Commissioner: Let the objection be noted and the answ
taken.

A. Prior to the withdrawal of our industrial classification a
rates, we felt obligated to furnish a supply of gas to industrial co
sumers. At the time the classification and rate was withdraw
we stated to each consumer, through a notice mailed them, ea
one separately,—in the letter stated that we were not in positi
to furnish them with a full and adequate supply of gas at all tim
that we considered it necessary to receive certain information pe
taining to each individual consumer's situation, there was certa
information that we felt it was necessary for us to have, and to ea
one was mailed an application. On this application the
335 were certain questions asked for the purpose of furnishi
us with the information that we desired and consider
necessary. They were mailed back to us, or brought back to
in person, and we treated each one separately. In the applicati
each customer was asked to state the various subjects in his pla
in which he desired to use gas as a fuel. He was also asked as
the length of time each day that his plant operated, whether eig
hours, nine hours or twenty-four hours. He was also asked
state what arrangements, if any, he had made relative to substitu
appliances, and also asked to state the various subjects in his pla
in which substitute appliances could be used; also asked to furni
the minimum amount of gas with which he could successful
operate his plant. He was also asked to state any particular situ
tion in reference to gas deliveries, or anything pertaining to h
business which might make his condition different from other cu
tomers on our lines. He was also asked to state the nature of h
business, and what the gas was used for. In many instances, di
ferent contracts—Individual contracts were made with each one a
inspection was made of his premises, of the appliances in which he d
sired to use gas. We ascertained our ability to furnish hi
336 taking into consideration these facts, and also other facts, su
as his proximity to our pipe lines. Having gone careful
into those conditions, we determined whether or not we continu
to supply him with gas, and for what subjects we would contract,
attempt to supply. In this application, it was recited that the g
sold to the industrial consumer was the surplus gas remaining aft
the requirements of the domestic consumer had been taken care
We found in making this analysis, places where we considered a
decided that we were unable to supply gas; for instance, boile
We found in other places where consumers had appliances, especial
designed for the use of gas; those were contracted for in so far
we could furnish them. In some instances, consumers with wh
we had made contracts, we refused to enter into new contracts, a
ceased to supply them with gas for certain purposes.

Q. Have you copies of those letters which you sent out, with you?

A. I believe I have.

(Seven letters were here produced and marked as Pennsylvania Exhibits Nos. 2 to 8, inclusive, respectively.)

337 Q. I show you Pennsylvania Exhibits Nos. 2 to 8, inclusive, being letters under dates of June 30, 1917, October 9, 1917, November 30, 1917, December 22, 1917, July 8, 1918, October 29, 1918, and January 28, 1920, and ask you if these letters were sent to all of your industrial consumers by the Manufacturers Heat & Light Company?

A. They were.

Mr. Weil: I now offer in evidence Pennsylvania Exhibits Nos. 2 to 8, inclusive, and ask counsel for defendant to agree (as these are a part of the records of the company, which the witness states he may be unable to replace) that copies thereof be made and substituted for the originals, with like force and effect as the originals.

Mr. Hoffheimer: We object to the offer of each and every of these letters, for the reason that they are mere self-serving declarations on the part of the Manufacturers Light and Heat Company; for the further reason, that these letters and statements of alleged facts therein can neither enlarge the rights nor diminish the obligations of the Manufacturers Heat and Light Company in the
338 State of West Virginia, or to the consumers therein; and for the further reason that the evidence is incompetent, irrelevant and immaterial. Subject to the objections we consent that copies may be substituted in the record, with like force and effect as the originals would have.

The Commissioner: Let the objection be noted and the exhibits taken.

Mr. Weil:

Q. Now, Mr. Quay, I call your attention to Pennsylvania Exhibit No. 2. I note the statement "if there is no change for the better in the cost and difficulty of obtaining a gas supply, due not only to the increased cost of production, but also to the depletion and exhaustion of developed territory, and the inability so far to find new territory, then in all probability, on or before December 1, 1917, this company will be forced to withdraw its industrial rates and not undertake to supply industrial consumers." Were those statements with reference to the cost and difficulty of obtaining gas, the increased cost of production, depletion and exhaustion of territory, and the inability to find new territory, true?

339 A. They were.

Mr. Hoffheimer: We object to that method of examination. We have no objection to the statement of specific facts and circumstances by the witness, but we object to the conclusions and arguments con-

tained in the letter, and the effort to obtain a statement from t witness, embodying opinions and conclusions of that character.

The Commissioner: Let the objection be noted.

Mr. Weil:

Q. I call your attention to Exhibit No. 5, under date of Decemb 2, 1917; you refer to blank applications. Have you any of tho blank applications with you?

A. I don't think I have, Mr. Weil. I can secure one readily f you. I have none with me.

Q. Will you bring copies of those applications with you tomorro morning, so that we may offer them?

A. Yes, sir.

Q. I call your attention to Exhibit No. 8. You state "The suppl of gas is fast diminishing, the cost thereof is becoming greater, th demands of domestic consumers upon our lines is increasing, and ou ability to provide them with a reasonably adequate suppl
340 has become more and more difficult, if not quite impossibl These conditions compel us to curtail the amount of gas to b supplied for industrial purposes, especially such industries whic naturally desire, and as far as possible are entitled, to keep thei plants in operation and not be subjected to losses incident to inte mittent operation, especially during winter weather. It is our pur pose, on March 5, 1920, to cancel your agreement with us for in dustrial consumption, and if any exception is made, it will be onl for those units of your plant where other fuel cannot be readily sub stituted." Were those contracts cancelled on March 5, as the con sumers were notified you would do in this communication Exhibi No. 8?

Mr. Hoffheimer: That question is objected to, in so far as it em bodies alleged statements of fact, upon the grounds stated in the ob jection to the extract from a previous letter; also, on the ground tha the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted and the answe taken.

A. All contracts for the sale of industrial gas, with the exceptions I believe, of those with the United States Government, were
341 cancelled as of March 5, 1920.

Mr. Weil:

Q. State if they were cancelled for the reasons given in that letter, and if not, for what reasons they were cancelled, if there are other reasons?

Same objection.

The Commissioner: Let the objection be noted.

A. They were cancelled for the reasons given in that letter.

Q. What were the facts as to the reasons here given, were those the facts?

Same objection.

The Commissioner: Let the objection be noted.

A. As stated, those were the facts, and that was the reason the contracts were cancelled as of that date.

Q. Have those conditions continued from that time to this?

Same objection.

The Commissioner: Let the objection be noted.

342 A. When you refer to conditions, I presume you refer to the supply and availability for their use?

Q. Yes.

A. It has.

Q. State whether or not those conditions have become more acute during the last winter?

Same objection.

The Commissioner: Let the objection be noted.

A. Very much so.

Q. You stated in your cross-examination your purpose to continue to supply certain industrial consumers and explained the circumstances under which they would be supplied. I wish you would explain why this gas supply to industrial consumers is not reserved for use of the domestic consumers, in view of the shortage to domestic consumers which you have already detailed?

A. We consider it would be of no material benefit, rather, in rendering them more adequate service for various reasons: first, in the various fields in which my company operates there are other gas companies operating. They own wells and secure gas from the same gas-bearing sands as we do. If we were to discontinue entirely
343 the sale of industrial gas, there would be periods through the year in which we would shut in some of our wells. We would save nor gain nothing, for the simple reason that these other companies who would be selling industrial gas would be taking the gas out from the sands from which we secure our gas. The result would be that our sales would be materially lessened, consequently the earnings of the company greatly reduced, and the rate which it would be necessary for us to charge our domestic consumers would be very high, practically prohibitive. Again, we have in some of the various fields in which we produce gas various industrial consumers who receive at least a portion of their supply of gas from other sources than ours, and get gas coming from the same territory and in the same territory in which we produce gas. Again, there are various companies who operate principally for oil, and in drilling their wells with the expectation of securing oil, secure gas; as that occurs, at present times, they generally call the various gas companies, and the various gas companies purchase their production from that well. Were the sale of industrial gas to be discontinued

by my company, other companies, there would really be no marke on the part of the gas companies for that gas—that is, during th major portion of each year. The company or person drilling tha well, having made an expenditure of money, naturally would
344 seek, and does seek, a market for his gas. Basing my opinion entirely on previous history, no doubt industrial concerns and other people would purchase that gas, and it would be coming from the same gas-producing sand as that from which our gas is produced. For those reasons, I would say that it would be impossible for us to discontinue entirely the sale of industrial gas.

Q. In the art or industry of producing and supplying natural gas to consumers, has any way ever been discovered for storing gas after produced or found?

A. Our company has no means of storing the gas, other than the storage permitted by their pipe lines and the sands in which we find the gas.

Q. Have any of the other companies any known methods?

A. There are a few companies, I believe, who operated formerly as artificial plants, who have holders which have a small percentage of storage capacity. And, as stated, I believe, the first, second or third day, there are only the two localities, I believe, where they have been putting the gas back into this locality, and later on taking it out again. At least, I am so told it is possible for them to do it. There is no storage otherwise.

Q. Now, then, in describing the drainage upon the sand, you confined yourself to other companies. What about individuals owning gas wells that sell their product to industries?

345 A. I stated, of my own knowledge, we have quite a few industrial consumers who are securing at least a portion of their supply from sources other than our own, that gas coming from the same fields in which we operate. There are also various oil companies——

Q. Wait a moment. I want to get that first. These other sources that you refer to are companies and individuals engaged in the business of drilling for oil and gas, but who have not engaged in the business of supplying gas to consumers generally, are they not?

A. The major portion of that gas comes from people, as I stated, who drill primarily for oil, and who secure the gas, and desire to dispose of it. In other instances, the industrial consumer himself has gone out and drilled wells for his own supply, to help furnish his own supply.

Q. Now, what are the facts in relation to the Carnegie Natural Gas Company, as to the main purposes for which they procure their gas?

A. Carnegie Natural Gas Company sells or retails some gas which it produces. The major portion of their gas produced is piped to various steel plants, the Carnegie Steel Company.

Q. Is the Carnegie Natural Gas Company one of the constituents of the United States Steel Corporation?

346 A. I am told so, yes, sir.

Q. And it produces gas for use in some of its plants?

A. Yes, sir.

Q. Does the Carnegie Natural Gas Company operate in any of the fields in which your company operates?

A. It does.

Q. And has gas production in those fields?

A. It has.

Q. In your examination yesterday, you were asked about the pressures at the various compressor stations, and you stated the maximum pressure at some of the stations in West Virginia was 300 pounds, and the maximum pressure at some of the stations in Pennsylvania,—one station particularly, as I remember,—135, and another 65. Will you explain why that variation?

A. The compressor station at which I designated the discharge pressure at 135 pounds, referred to the Waynesburg compressing station. In designing units for a compressing station, various conditions and facts are taken into consideration and weighed carefully. The discharge pressure, the *side* of the engines, the weight of the engines, their intake and discharge pressures, are considered. At the Waynesburg compressing station, it being believed that that gas—the point of delivery of that gas having been taken into consideration, it was believed that a discharge pressure of 130 or 135 pounds was ample to carry that gas to market. The discharge pressure at which it is safe to discharge gas, depends on the thickness of the iron or metal, and its construction, so as to resist that internal pressure. The station which you say 65 pounds—my recollection was 50 or 55 pounds—referred to our Slippery Rock compressing station. As that gas is closer to market, the facts all being considered, depending upon those conditions, I presume that the station was constructed with the idea of having in mind a discharge pressure of 55.

Q. The compressor stations in West Virginia to which you referred were built later in point of time, were they not, than those at Waynesburg and at Slippery Rock?

A. I think the Slippery Rock station, the history as I have it, is perhaps older; and I believe the Waynesburg station was constructed perhaps a year, maybe longer, before the other stations. My recollection of that is a little indefinite.

Q. What are the other purposes for which compressor stations are designed besides that of compressing gas so as to enable the same to go through the lines to greater distances?

A. Before compressing stations were constructed, the rock pressure, or the pressure on the gas at the mouth of the well or in the gas producing sands, was the pressure which conveyed the gas to the point of consumption. The lower this rock pressure, or this pressure at the mouth of the well, was reduced, the greater quantities of gas the well was capable of producing. I mean by that, that a well whose rock pressure is over 200 pounds would be capable of producing some gas above 200 pounds' pressure. If that pressure was reduced, say to 30 or 40 or 50 pounds, the well is capable of producing more gas at that time. Again——

Q. Now, just a moment. I don't believe you said there what you intended to say. You referred to the pressure at the mouth of the

well; don't you mean the pressure in the line against which it is pu
ting in gas?

A. I referred to the pressure which would be on the gas containe
in the line at the mouth of the well.

Q. That is it, yes. Go ahead.

A. Again, there are some wells where the rock pressure is not hig
enough or sufficient and capable of forcing gas out of the well an
into the line, due to the fact that the pressure of the gas in the lin
is higher than the rock pressure in the well. By the installation
compressing stations, the pressure in the line on the gathering lin
leading to these wells is reduced, and it permits wells to fee
349 in more gas than they would otherwise.

Q. Then, as I understand you, one of the effects of the op
eration of compressor stations upon the lines is to reduce the pre
sure upon the intake back of the compressor station and on th
gathering lines; that is the fact, is it?

A. That is correct.

Q. And that enables the wells to put more gas into that intak
or into those intake lines or gathering lines?

A. Yes, sir, it does.

Q. The lower that pressure, I suppose the more the wells will pu
into the lines, depending upon the pressure in the wells and th
rock pressure in the wells?

A. Yes, sir. There is a still further use for compressing station
as it obviates the necessity of expenditure of large sums of money i
the way of providing additional lines, additional carrying capacity

Q. Prior to the introduction of the compressor stations, th
method pursued in the art or industry of natural gas transportatio
was to instal lines of larger diameter, was it not, in order to carr
the gas to market?

A. I presume that that question was given consideration in ar
riving at what was the proper size line to construct.

Q. What is the largest diameter of any of the lines on your sys
tem?

A. I believe 20 inch.

350 Q. Twenty inch?

A. Is the largest we have.

Q. That was constructed, was it not, prior to the introduction o
the compressor stations?

A. It was.

Q. In your cross examination you pointed out on the map certain
compressor stations located at different points upon the lines, and
you were asked as to what points of consumption upon your lines
those compressor stations supplied; I would like you to refer to the
map and give us the names and general location of each compressor
station, beginning at the most southerly compressing station upon
your lines in West Virginia.

A. The most southern location of any compressing station owned
by our company is the Sedalia compressing station, located in the
northeastern part of Doddridge County, West Virginia. The next
compressing station owned by the company is that called Porters

Falls compressing station, and is located in the southwestern part of Wetzel County, West Virginia. The next compressing station is that known as the Hundred compressing station, and is located in the northeastern part of Wetzel County, West Virginia. The next is named the Rosby Rock compressing station, and is located rather in the southwesterly part of Marshall County, West Virginia.

351 The next compressing station is that known as the Waynesburg compressing station, located a little north and east of the center part of Greene County, Pennsylvania. The next compressing station is that known as the Majorsville compressing station, located practically on the dividing line between Washington and Greene Counties, Pennsylvania. The next compressing station is the Gayman compressing station, which is located in the southeastern part of Washington County. In the northern district, we have the station known as the Slippery Rock compressing station, located in the eastern part of Lawrence County, Pennsylvania.

Q. Are there any other compressing stations upon your lines which are not now in use?

A. There are.

Q. What are they?

A. There is one known as the Connor's compressing station, located in Washington County, Pennsylvania, and one known as the Groveton compressor station, located in Allegheny County, Pennsylvania.

Q. Are the lines connecting your system of gas transportation to these respective compressing stations all connected into one system?

A. They are all connected together.

352 Q. And when these compressing stations are in operation, what is the effect thereof on the entire system, with reference to the influence of each of these stations?

A. The gas is permitted to discharge from the various compressing stations, enters the main lines at that point, and goes to whatever source it moves to.

Q. Do these compressor stations when in operation, therefore, all of them, affect the gas in the entire system?

A. Any station operating, or not operating, would have its influence on the general system.

Q. The gas throughout the system, if I understand you correctly, passes back and forth according to the point of lowest pressure upon the line?

A. Yes, sir.

Q. And is influenced by the operation of any one or all of these stations?

A. As stated, any station operating or not operating would affect the flow of the gas.

An adjournment was here taken until Thursday, June 3, 1920, at 10 o'clock, A. M.

353 Thursday, June 3, 1920.

And now Thursday, June 3, 1920, the hour of 10:00 o'cloc A. M. having arrived, hearing resumed pursuant to adjournmen the Commissioner and counsel present as noted at last session.

H. A. QUAY recalled.

Mr. Weil:

Q. Now, Mr. Quay, while we are upon this distributing syste about which you testified yesterday: You covered it to some exten but I would like again to have you show to us the lines that suppl the Panhandle of West Virginia,—where they come from and whe they cross the state lines.

Mr. Hoffheimer: We object to that, because it is repetition.

Q. Make it brief.

A. Our company has various eight- and ten-inch and other siz gathering lines, connected to producing wells and to lines conveying purchased gas in Tyler and Wetzel Counties, West Virginia

354 The gas conveyed through those lines enters our Porters Falls compressing station, located in the southwestern part of Wet zel County. After passing through the Porters Falls compressing station, it enters either an eight or two other ten-inch lines. There is one eight and one ten inch line which runs in a northerly direction, crossing Wetzel County, West Virginia, and entering Marshall County, West Virginia. The second ten inch line mentioned as being one of the two ten-inch lines into which the gas is discharged from the Porters Falls station connects with a 16-inch line conveying gas which comes from the Sedalia Compressing station, located in the northeastern part of Doddridge County, West Virginia. The eight and the one ten-inch line first described as running northerly——

Q. Now, just a moment. You have gone into that heretofore. I don't want to go into all of those details, because you have already covered most of that in your previous testimony. What I want is just to call your attention briefly—Just point out and name the lines, your lines, that supply the Panhandle of West Virginia, and where they come from. Take, for example, that down here, without describing so many ten-inch or 16-inch line, or whatever they are, and then come over onto Wetzel County, and come over into Pennsylvania, Ohio, and so forth, and give us the lines that go

355 in there, just at the points where they cross.

A. The 10-inch line coming from the Porters Falls station, running in a northerly direction——

Q. Don't go into those details. Just tell what they are. We don't care where they come from. How many 10-inch and how many 16-inch, and so forth, cross over there, and so many over here, and so many over there (indicating)?

A. The 10-inch line from the Porters Falls station, running in a northerly direction through the Panhandle. There is a 16-inch line coming from the Sedalia compressing station, leaves Marshall County, West Virginia, and enters into Washington County, Pennsylvania. At a point in Ohio County, West Virginia, there is a line connected with a line coming from Porters Falls to this line connecting, coming from the Majorsville compressing station, located in Washington County, Pennsylvania. Then in Brooke County, West Virginia, there are two 8-inch lines coming from the State of Pennsylvania, and connected to a 10-inch line running up through the Panhandle district in West Virginia. At a point opposite Costonia, Jefferson County, Ohio, there is a line coming from the Porters Falls station, which leaves the State of West Virginia, crosses the Ohio River, and enters Jefferson County, Ohio. At a place near a point called Turkey Foot, Hancock County, West Virginia, there is
356 an 8, 10 and 12-inch line coming from Pennsylvania, that enters the northeastern part of Hancock County, West Virginia. These three lines mentioned leave Hancock County, West Virginia, at a point known as Chester, West Virginia, crosses the Ohio River, and connects there with another line, previously mentioned, in Columbiana County, Ohio.

Q. Now, in your examination yesterday you said you would produce the form of applications to which you referred in your testimony.

A. Yes, sir.

(Several papers shown witness.)

Q. I show you papers now marked for identification "Pennsylvania Exhibits Nos. 9, 10 and 11," respectively. Are those the applications to which you refer?

A. Yes, sir.

Mr. Weil: We now offer in evidence these exhibits, "Pennsylvania Nos. 9, 10 and 11."

Mr. Hoffheimer: We object to the offer of these exhibits, and each of them separately; first, on the ground that they are self-serving declarations on the part of the Manufacturers Light & Heat Company. Secondly, because they are in contravention of
357 law, and especially the law of the State of West Virginia. Thirdly, because these papers can have no bearing upon the question of the validity or invalidity, enforcibility or lack of enforcibility of the statute herein involved. Fourthly, because the evidence is incompetent, irrelevant and immaterial, and has no bearing on the issues of the case.

The Commissioner: Let the objection be noted and the exhibits taken.

Mr. Weil:

Q. Mr. Quay, in making your requisitions, for the supply of gas under your contract with the Hope Company, have you designated

the amount required for each state, for your domestic consumers in each state of West Virginia, Pennsylvania and Ohio?

A. Yes, sir.

(Paper shown witness.)

Q. I show you a paper marked for identification "Pennsylvania Exhibit No. 12," and ask you if that is a copy of the requisition made upon the Hope Natural Gas Company for the year 1919-1920?

A. Yes, sir.

358 Q. And was this delivered to the offices of the Hope Natural Gas Company?

A. Now, it was mailed them, and having received an answer from them relative to it, I of course have every reason to believe they received the same.

Q. Well, you know that they received it? You discussed it with them?

A. Yes, sir.

Q. Afterwards?

A. Yes, sir.

Mr. Weil: I offer this Pennsylvania Exhibit No. 12 in evidence, and ask to have a copy thereof made by the stenographer and substituted for the original, to be used with like force and effect for all purposes as the original; this being a part of the records of the witness.

Mr. Weil:

Q. You were asked on yesterday or the day before to produce the statement from your records of the City of Bellaire, as to the number of domestic, industrial and miscellaneous consumers, and deliveries, from 1911 to 1919, inclusive. I show you a paper marked for

359 identification "Pennsylvania Exhibit No. 13, and ask you if that is the statement which you promised to secure?

A. Yes, sir.

Mr. Weil: We now offer in evidence Pennsylvania Exhibit No. 13, as showing the number of consumers, domestic, industrial and miscellaneous, and the deliveries to each, during the years 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918 and 1919, at Bellaire, Ohio; being the information requested by counsel representing the defendant.

Mr. Hoffheimer: We have no objection to the introduction of the paper in evidence. I think I am not mistaken in recollecting that this statement was not called for by the defendant.

Mr. Weil:

Q. Mr. Quay, I asked you on yesterday about the effect upon the supply by you of your domestic consumers in Pennsylvania and Ohio, of being compelled to supply, under the proposed West Virginia Act, the domestic consumers only in West Virginia, and not the industrial consumers, and you replied the effect of that would be

to give you a reasonably adequate supply for your domestic
360 consumers in Pennsylvania and Ohio. I ask you now to what date and period did that testimony refer?

A. That would refer to the present time, present conditions.

Q. As to the future or hereafter, it would depend, I assume, on various conditions. What would those conditions be?

A. As to the service we could render our domestic consumers in the states of Pennsylvania and Ohio, provided we were only called upon to furnish gas to domestic consumers in West Virginia, it would depend on various conditions and circumstances. The amount of gas that we might be called on to furnish would be one condition. The time of day would be another. The points on our pipe line in West Virginia, from which this gas would be taken, would be another condition, and it would have an effect as to what service we could render in the States of Pennsylvania and Ohio. The number of consumers, or the number of various companies to whom we would have to furnish gas, who did not have a sufficient supply, would have a bearing on it. The gas available would have a bearing on it. All those conditions would affect what you would be able to do in the way of providing a fairly adequate supply to your domestic consumers in Pennsylvania and Ohio.

Q. You are speaking now, as I understand you, of the conditions that would arise in the event that you were called upon to supply domestic consumers, under the provisions of that act, which
361 were not upon your own lines.

A. Yes, sir.

Q. But consumers upon the lines of other companies or in other towns?

A. Yes, sir.

Q. The testimony you gave the other day, as I understand you, referred simply to the then existing conditions and your own consumers alone?

A. I had in mind that that is what the question referred to; conditions as they are at present, and simply my own domestic consumers now connected to my lines.

Q. In order to correct your geography, I call your attention to your testimony, in which you speak of St. Mary's. You were asked the question, "In Ohio?" and you answered, "Yes, sir."

A. It should have been West Virginia.

Q. Mr. Quay, have you knowledge of the stockholders of the Manufacturers Light & Heat Company, in a general way?

A. I know roughly the number of stockholders.

Q. How many stockholders have you?

A. I think approximately 4,200 stockholders.

Q. What is the largest amount of stock held by any particular individual, company or interest?

A. As far as I know, there is no company that owns any
362 stock; they are all individuals.

Q. And what is the largest amount owned by anybody?

A. That I would be unable to say, I don't know. I know, just in a general way, that there is at least one owns a thousand shares, and perhaps more. I couldn't tell you, Mr. Weil.

Q. Do you know whether any one individual owns as much as five per cent of the stock of the company, of the Manufacturers Light & Heat Company?

A. Five per cent would be how many shares? I don't know. I rather think Mr. Meyran, the vice president of our company, is perhaps the largest stockholder in the same. And I don't know—He owns some—quite a large number of shares. I hestitate to say.

Q. Can you get that information for us after the noon adjournment?

A. The number of shares Mr. Meyran owns?

Q. No, I don't care to have any names of stockholders put in the record.

A. The number who own better than five per cent?

Q. I want the largest stockholders, the number of shares of the largest stockholders, up to, we will say, twenty-five or fifty, without the names of the parties.

A. All right, sir. Twenty-five you say?

Q. Twenty-five or fifty, I don't care. Make it fifty, if you
363 can get it reasonably.

A. All right.

Q. Do you know whether the Hope Natural Gas Company has any interest in the Manufacturers Heat & Light Company?

A. The only interest that I know at all that the Hope Gas Company could have in the Manufacturers Company is simply that they sell gas to us.

Q. I am speaking now of stock in the corporation.

A. No, sir.

Q. We have a contract in evidence which shows their contractual relations. Has the Hope Company, or have any of its officers, any stock in the Manufacturers Company?

A. No, the Hope Natural Gas Company has not. To state whether any officer of the Hope Company owns stock in the Manufacturers, I would be unable to answer.

Q. Have you had prepared, Mr. Quay, a statement of the average amount of gas used by the domestic consumers on the lines of your company in each of the three states, Pennsylvania, Ohio and West Virginia?

A. I have not.

Q. Will you have such a tabulation made?

A. We can make the tabulation if you want it, of course. We take our sales and divide it; and we have the average for the three states. We can secure that information if you resire it.

364 Q. Mr. Quay, we stated at one of our sessions, after making objections to producing the same, that we would consider whether or not we would give the amount of gas, or the quantity purchased, from the Hope Natural Gas Company, by the Manufacturers Light & Heat Company, from 1910 to the present time; and then placed upon the record our objections, and the reasons therefor, to producing those figures. Without waiving those objections, and still insisting upon the same, but in compliance with the ruling of the Commissioner, I would ask you to give us the amount

f gas purchased from the Hope Company under the contract, for ach year, beginning with 1910, the time of beginning of the con-ract.

A. In the year 1910, the Manufacturers Light & Heat Company urchased from the Hope Company 9,405,015,000 cubic feet. In he year 1911, 10,006,907,000 cubic feet. In the year 1912, 9,026,-31,000 cubic feet. In the year 1913, 9,747,797,000 cubic feet. n the year 1914, 9,282,355,000 cubic feet. In the year 1915, 9,-145,951,000 cubic feet. In the year 1916, 14,215,484,000 cubic feet. n the year 1917 14,687,008,000 cubic feet. In the year 1918, 12,-986,331,000 cubic feet. In the year 1919, 12,268,302,000 cubic eet.

Q. This included all of the gas purchased by you under the Hope contract?

65 A. Yes sir.

Q. Did this include not only that gas furnished to you for lomestic consumption, but other gas purchased by you from the Hope Company during some of these years, for the purpose of sup-lying other consumers?

A. Yes, sir.

Mr. Hoffheimer:

Q. When you undertook to state that you had sufficient gas to sup-ly your domestic consumption in the States of West Virginia, Ohio nd Pennsylvania, you were referring under the conditions stated by ou to Mr. Weil, in the examination this morning, to the present ime?

A. Yes, sir.

Q. That is correct?

A. And as conditions exist today.

Q. What period do you mean to indicate by the present time? his month of June, 1920, or some longer period?

A. I would say any time within the last two or three months.

Q. What is that?

A. Any time within the last two or three months.

Q. Then, by your designation of a present time, you don't mean o include the future?

A. I do not.

Q. When you qualify your statement by referring to pres-

66 ent conditions, you assume that your supply of gas to do-mestic consumers in the three states is not to be interfered ith by the enforcement of the West Virginia statute with which we re dealing in this case? Or, putting it in another way, you are reating a supply free from any influence of the statute itself.

Mr. Weil: This is objected to, as being unfair to the witness, in hat the witness covered both contingencies: first, without the opera-ion of the statute, and secondly, with it; and the question is not di-ected to either one or the other, but possibly includes both, and nakes an answer impossible.

Mr. Hoffheimer: Suppose we let the witness determine whether he can answer that.

The Witness: You will have to repeat the question.

(Question read.)

A. Under present conditions, there is no interference with the manner in which we desire to operate.

Mr. Hoffheimer:

Q. Leaving out the West Virginia statute and any influ-
367 ence of that statute, and assuming that you operate your company entirely free from that statute; having regard to your knowledge of the present gas supply and of the conditions which affect it, how long will you have sufficient gas to supply all of the domestic consumers in the three states in the territory now supplied by you, and limiting my question to the consumers within that territory now served by you?

A. In asking that question, you use the word "consumers." Do you mean both industrial and domestic, or simply domestic?

Q. My question was limited to domestic consumers.

A. I would be unable to hazard a guess as to that length of time—depending entirely on many conditions which might enter into the situation, and which of course would affect the time that I might set.

Q. What are those conditions?

A. Those conditions—that condition rather—or the length of time, would depend, to a great extent, on the amount of gas which the company can produce, which it can secure by searching for it. Again, it would depend on the amount of gas that our company was able to purchase. Again, it would depend on the natural growth, or new domestic business, which would come onto our lines. An-
other feature which might and would affect the length of
368 time, would depend on whether or not the use of gas for domestic use would be curtailed. Again, it might depend on whether or not gas would be continued to be sold to customers, perhaps, that are not absolutely domestic consumers, such as apartment houses and bakeries, and special consumers that really are not classed as domestic consumers. Those conditions would affect the length of time greatly that we could render fairly adequate service, or any service.

Q. Then it is true that you are not able to foretell at the present time how long you will have sufficient gas to supply all of your present domestic consumption in the three states with reasonable adequacy?

A. I would be unable to tell what length of time.

Q. You have in mind the contingency that the conditions which you have named may in the future render it impracticable for you to furnish an adequate supply even to your domestic consumers in the three states as a whole?

A. It might, yes, sir.

Q. You regard that as a disagreeable prospect?

A. When the time arrives when we are not in position to render fairly adequate service, I don't believe that any gas man would be pleased.

Q. But I mean that you have in mind that prospect as
369 among the probabilities?

A. As among the possibilities, yes, sir.

Q. Among the probabilities?

A. Yes, sir.

Q. Whether it is a possibility or whether it is a probability will depend upon the length of time——

A. The length of time and conditions.

Q. If and when that time arrives, when you do not have sufficient gas with which to furnish a reasonably adequate supply to your domestic consumers alone in the three states of West Virginia, Pennsylvania and Ohio, what will or can be the method of operation then, from the gas man's standpoint?

A. There have been certain ideas advanced by various gas men.

Q. I want your own.

A. My own—well, sir, I would state then, Mr. Hoffheimer, that it would depend a great deal on the conditions as they existed at that time.

Q. What conditions?

A. As to, for instance, whether or not the domestic consumer, for instance, in Pennsylvania and Ohio, having constant shortages—as to whether or not he was equipped to use substitute fuels. I would say frankly to you that if I was operating a plant and we were receiving our supply, say, from West Virginia or from Ohio, or from Pennsylvania at that time, the natural tendency would
370 be to supply those nearest the source of supply, would be easier from an operating standpoint. That would be the same conditions, no matter whether it was West Virginia or Ohio or Pennsylvania at that time—whichever place you were receiving a supply of gas. Again, it might be that there would be a field in one state producing gas which customers in that locality could use, which might be available for their use, and not other. It might be necessary to develop some process of manufacturing gas or mixing it. It might be necessary to erect artificial plants. You cannot tell what the conditions will be or what might be devised to take care of and furnish gas,—if not a natural, some other gas.

Q. Well, your gas supply from Ohio has declined, has it not?

A. It has.

Q. Your gas supply from Pennsylvania has declined?

A. It has.

Q. Your supply in West Virginia is declining?

A. It is.

Q. Of the three states, the decline in West Virginia has been the least, has it not?

A. Taking it by states, that is barely possible. I wouldn't want to say that it is so.

371 Q. Putting it in another way, you get your largest amount of gas from West Virginia?

A. If you include gas purchased in connection with the gas which this company produces, itself, the larger portion comes from the State of West Virginia.

Q. And I believe it is your contention that you can't——

A. I will interrupt you. The largest portion of our own production comes from the State of Pennsylvania.

Q. But in the aggregate, taking the purchased and the gas from your own production, the largest amount comes from West Virginia?

A. That is correct?

Q. Take this state of facts: that the largest amount of your gas purchased and produced comes from West Virginia; that the amount of gas produced by you or purchased by you in Pennsylvania declines, as it has declined in the past; that the amount of gas produced by you or purchased by you in Ohio declines, as it has in the past; and that as a result, you do not have sufficient gas in the State of Pennsylvania available for use in the State of Pennsylvania, to give the whole of your domestic consumers in that state a reasonably adequate supply for what you term domestic purposes; what are you going to do then? What can you do, as a practical gas man?

372 A. If I understood the question, it wouldn't—— Was anything said relative to the decline in available gas in the State of West Virginia? Do you mean taking into consideration that we might have a sufficient supply in the State of West Virginia, or be in position to purchase sufficient gas in West Virginia?

Q. Well, take into consideration the fact that you do not have sufficient gas to supply with reasonable adequacy all of your domestic consumers in the State of Pennsylvania—because you do not have sufficient gas. Now, what will you do, or what can you do?

Mr. Weil: This line of cross-examination is objected to, as not being, in the first place cross-examination. Secondly, as lifting the veil of prophecy and looking into the future, upon which the testimony of the witness would be the merest conjecture, and furnishing no information to the court in relation to any controversy here, and without which the witness could not possibly do more than make a wild guess or conjecture, without having data or facts upon which to predicate an answer; and therefore, as lumbering up the record with evidence along involved, tedious questions and

373 answers; argumentative, and of no value in the determination of any question involved here.

The Commissioner: Note the objection and take the answer.

A. As previously stated, when that time arrives, if it does arrive, it would depend entirely on conditions as they existed at that time, and, as stated, exactly what conditions existed at that time would determine the steps that I would take.

Mr. Hoffheimer:

Q. Well, you will have to adopt some method of apportionment, won't you?

A. I would probably begin this operation on the curtailment, perhaps, of gas farthest away from the sources of supply. If there was a method, an approved method and a practical method, of manufacturing gas, I might attempt, if the conditions justified it, manufacturing gas and mixing it with natural gas. If conditions warranted, we might sell a portion of our plants. There are so many things that could enter into what a man would do, Mr. Hoffheimer, and we all live in hopes of developments in the business, which will affect it, so that I am frank to say that it would all entirely depend upon conditions, as to what I would do.

Q. One way of handling it would be to reduce the territory supplied by you, or to reduce the number of consumers supplied by you, in order to bring your consumption within the bounds of your available gas? That would be one way, wouldn't it?

A. That would be one way, perhaps.

Q. Why do you add the "perhaps?"

A. The number of consumers, Mr. Hoffheimer, doesn't determine the amount of gas that would be used. I mean by that, that five consumers might use more gas in their five homes than 100 or 200 consumers would use in their homes. The number of consumers doesn't determine entirely, or anyways near entirely, the amount of gas which they would use.

Q. Well, using the term "number of consumers" to convey the idea of a body of consumers taking a given quantity of gas, whether they are one or a hundred, your experience enables you to tell with reasonable accuracy what amount of gas will be required and taken by a certain number of consumers in a particular territory?

A. We take the average, or rather we take the amount consumed, and divide that by the number of customers, which gives us the average amount consumed by each consumer for whatever period we are taking.

Q. Now, with that explanation, I wish you would answer my question.

A. If each of your customers consumes a like amount of gas, and some of those customers were discontinued from your lines, the amount of gas the balance would consume would be less, and would be one way by which the situation could be handled.

Q. Another way would be to cut down the amount of territory covered by your concerns?

A. That would lessen the sales of the company and would lessen the amount of gas required to serve those still remaining on your lines.

Q. You can answer this question: One way of handling the situation if your available gas is not sufficient to cover all domestic re-

quirements, would be to cut down the range of territory served by you? That can be answered yes or no, can't it?

A. No.

Mr. Weil: This instruction of counsel as to the manner of answering the question is objected to. The witness has a right to answer the question in his own way.

376 The Commissioner: Let the witness answer the question and note the objection.

(Question read.)

A. The answer is no. That is, I say no, that I can't answer the question yes or no.

The Commissioner:

Q. Is that what you mean to convey, Mr. Witness?

A. That is what I mean to convey.

Mr. Hoffheimer:

Q. In other words, you can't say that one way of handling the situation would be to cut down the range of territory supplied by you?

A. I could not say that that would not have the effect, by curtailing or cutting down the territory, of rendering fairly adequate service to those remaining, for the simple reason that as your gas continued to decline, you would again have the same conditions, and would again have to restrict your territory, and again restrict your territory, and again restrict it, until there was only one house—

377 or the supply of gas declined perhaps so that only one home could burn natural gas. I mean to say, that would not cure, or render fairly adequate service to those that did remain on the line.

Q. In other words, you are attempting to say that cutting down the territory served by you would not necessarily give fairly adequate service to the consumers who remained?

A. It might for a time, and again it might not.

Q. But cutting down the territory served would, for the time being, give you more gas to supply those who remained, and therefore enable you to give those who remained fairly adequate service, or something approaching it?

A. As previously stated, perhaps for the time, and perhaps not. The chances are it would, at least for the time, provided you cut off a sufficient number of customers.

Q. But as a practical proposition, cutting off a sufficient number of customers would not help you very much, provided those who remained were sprinkled here and there over the whole territory served by you?

A. Read the question and see if I have got you right.

(Question read.)

A. Oh, you mean in the three States?
Q. Yes.

A. Yes, any customer—or any communities which you
378 would cut off, it would leave gas for the use of those that still remained on your lines. As to whether you would render fairly adequate service to those remaining on the lines, would depend on whether or not those who still remained would use the same amount of gas or not, or whether you cut off a sufficient number of customers.

Q. Suppose we leave that, and let me ask you this: Which is the heavier operating expense, a very large and long system of pipe lines with attendant compressors, or a smaller system, assuming that you have the same amount of gas to be supplied?

A. Well, I would answer that question by saying that the earnings doesn't depend on the amount of gas that you have available for consumers. Neither does your expense entirely depend on the amount of gas which you have available for consumers. If all things were equal, you would have more money invested in your larger plant; consequently the expense would be greater on a large plant, provided all things were equal.

Q. In other words, if you had a billion feet of gas to be conveyed through 100 miles of pipe line and supplied to customers scattered all along the way, it would cost you more money per thousand cubic feet,—and it would cost the consumer — per thousand cubic feet, than if that same billion feet were to be conveyed along and distributed to consumers along a pipe line twenty-five miles in length?

379 A. It might; that might be so.
Q. Wouldn't it necessarily be so?
A. No, not necessarily.
Q. Why?
A. It would depend on conditions?
Q. What?
A. Local conditions. For instance, your twenty-five miles of ipe line, the smaller compan? you refer to, might be entirely under avement. It might be in a community, for instance, which charges ou from five to ten or fifteen dollars for a permit every time you ig in the streets. Your twenty-five miles of pipe line might mean aralleling a river or crossing a river; and if those conditions would xist, your cost of operating might be greater than on your hundred ile pipe line. Then you might have that twenty-five mile pipe line territory where there are frequently slips, landslides, taking out our lines, and increasing your expense. Those things are possible. o that I wouldn't answer it any other way than I have; that the ances are that it would be less, but it might not be.
Q. All right; suppose your twenty-five miles of pipe line are the st twenty-five miles of your 100 mile pipe line nearest your point
380 of supply. Then what do you say, as to the difference in expense in making that distribution?

A. As I stated before, it would probably be cheaper.
Q. Well, it would be, wouldn't it?
A. It probably would.

Q. All right; then from the standpoint of the operating company, it would be better to limit that supply of gas to the twenty-five miles rather than to the 100, wouldn't it?

A. If you are now referring to my company as it now exists, I would answer no.

Q. Why do you say your company?

A. I suppose that I am here principally for giving evidence as to my own company.

Q. Well, why do you say that in the instance of your company it would not be cheaper?

A. Because I am very familiar with the circumstances and conditions of my own company.

Q. What are the conditions about your company which would enable it to furnish gas to its consumers along a range of 100 miles of pipe line, rather than to furnish that same quantity of gas along the first 25 miles of that pipe line nearest the source of production?

A. We have those lines already laid and in operation. We have contracts with individuals for a supply of gas, and we have
381 spent millions of dollars in constructing that pipe line. If that were to be restricted to 25 miles of pipe line, our investment, I consider, would be of no or little value.

Q. In other words, you think you would be put in the position of charging off all of your investments beyond the 25 miles?

A. As I see it now, if we were to cut those lines off, and not be in position to utilize them and render service to patrons who at the present time are on our lines—as stated to you, our investment I consider would be of no value. That is, that would be an actual loss to the stockholders of the company. The value of their property would be materially reduced.

Q. Well, then, you think this: that as long as you have any gas whatever, it will always be more advantageous to your company to supply it over the whole system of pipe lines now owned and operated by you, than it will be to limit the area in which that same quantity of gas is consumed?

A. There might come a time, and probably will come a time, when it will be impossible to render fairly adequate service to all the consumers who are connected to our pipe lines. I consider that there are things that can be done and no doubt will be done, when
382 conditions arise, which necessitate doing so—steps taken that will work out the problem as it arises.

Q. What steps are practicable?

A. Well, as previously stated, on some of these days that I have been on the witness stand, the only gas sold to industrial consumers is the surplus gas remaining after the requirements of the domestic consumer have been taken care of. Again, I think I have testified to the fact that natural gas for the purpose of cooking, lighting, hot water heating, I consider to be an absolute necessity in the home, under present conditions. But for the heating of the home, I do not consider it an absolute necessity. The curtailing of heating, or if each customer would instal, if he has not already done so, a substitute fuel for heat in times of emergency—that would, in my opinion, put off for a considerable period of time any other further action.

Now, as the time comes, there will no doubt be steps taken, if necessary, to remedy and correct conditions as they occur.

Q. I know, but assuming now that you have cut down your supply, so that it is limited to strictly domestic consumption, and those consumers themselves limited to the use of gas for lighting and for cooking, and still your gas supply is not sufficient to take care of everybody; then I want to know what is the practicable thing?

383 A. As previously stated, it would depend on conditions as they exist at that time, and what steps a person could take to benefit them. The fact is, I believe the situation would practically cure itself. For it is a well-known fact, as previously stated in one of these previous days on the stand here, that every time you have a shortage, the consumer suffers a shortage, he takes steps of his own to provide other means of heating and things of that kind, and doesn't depend on a supply of natural gas as he has in the past. Those shortages, you know, naturally occur at points furthest from the point of production. I might say, on my company, in the state of Pennsylvania, for instance, now the towns furthest away are those who do not have at all times an adequate supply, and they know that, and they put in substitute appliances; while those nearest the source of supply of course are not inconvenienced, they continue to use gas.

Here a recess was taken until 1:30 P. M.

84

Thursday Afternoon.

And now, the hour of 1:30 o'clock, P. M., having arrived, hearing resumed pursuant to adjournment.

Mr. Weil: Inasmuch as the witnesses we had proposed to examine after the completion of the testimony of the witness now on the stand will not be available tomorrow, in accordance with our previous understanding—as we have not heretofore had sessions on Saturday—I would suggest that upon the adjournment this afternoon we resume the taking of testimony on Wednesday, June 9, 1920, and continue Saturday, June 12, 1920, inclusive, and then resume the taking testimony on Monday, June 28, 1920, continuing consecutively two weeks, if that time suits the convenience of counsel for the defendant.

Mr. Hoffheimer: If the dates indicated by counsel for the complainants are those upon which he desires to proceed with the taking further evidence, counsel for the State of West Virginia will adjust their engagements in accordance therewith.

It is stipulated and agreed between counsel representing the complainants and defendant that no other or further notice of the taking of testimony upon the dates above mentioned need be made, but acceptance of notice for said dates is hereby made.

H. A. QUAY resumed the stand.

Recross-examination.

Mr. Hoffheimer:

Q. Where do the gas main lines of the Equitable Gas Company cross the boundary line of the State of West Virginia?

A. I would be unable to give the location, only in a general way.

Q. How many crossings do you personally know of?

A. That I personally know of, of the companies I named in my prior testimony, I would say none, if you mean direct personal knowledge and having been on the ground; as stated at the time I gave the evidence, my knowledge was by information, and so forth.

Q. When you gave your statement upon information, what particular place or places did you have in mind as to the
386 place of crossing the boundary line of the State of West Virginia by the Equitable Gas Company?

A. In our conversation with this particular officer of the Equitable or Philadelphia Company, he referred to the points where his pipe lines cross between the States of Pennsylvania and West Virginia.

Q. Who was that officer?

A. Mr. McCloy.

Q. Officer of what company?

A. At that time he was general manager for the Philadelphia and Equitable companies—gas companies.

Q. What was the information as to the place or places of crossing?

A. Oh, I don't recollect in a very definite way. We were talking about my own pipe lines, I believe, showing him all our lines that cross and recross the various state lines, and he made the statement that his system was not connected in that manner, but that—And he stated to me the places—I forget the places at which his lines cross into the state of Pennsylvania—but in the conversation he stated the location of them, about them crossing the lines, state lines.

Q. How many places did he indicate?

A. That I don't particularly retain; it would be guesswork as to the number.

387 Q. Do you remember the places at all?

A. I do not, as previously stated. I am frank to say, though, that I know this much about the number of lines, that it did not equal the number of places at which our company crosses and recrosses. If it had, I believe I would have retained it in my recollection.

Q. Did he tell you how far the lines of the Equitable Gas Company penetrated the State of West Virginia?

A. No. He gets gas delivered close to the state line between the two states.

Q. Then all your testimony about lines of the Equitable Gas Company was based on that conversation?

A. As stated at the time I gave the evidence.

Q. When did that conversation take place?
A. Oh, I would say that that is a year or year and a half ago, somewhere in that neighborhood.
Q. What was that gentleman's name?
A. McCloy—Walter McCloy.
Q. Where does he live?
A. He lived in Pittsburgh at that time.
Q. What does he do now?
A. That I am unable to answer; as I am informed, at least, he left the Philadelphia and Equitable Companies, and has associated himself with another firm, I believe, which operates in the west.
388 Q. What company were you informed?
A. I don't know whether I am quite correct or not; I was given to understand it was with Guffey.
Q. Mr. Joseph Guffey, formerly president of the Philadelphia Company?
A. Philadelphia and Equitable Companies, yes, sir.
Q. Where do those lines cross of the Carnegie Natural Gas Company?
A. I don't know, from personal knowledge, the points where they cross.
Q. Your testimony with regard to the Carnegie was based on a conversation with somebody?
A. It was.
Q. With whom?
A. With Mr. Samuel Meals.
Q. What office does Mr. Meals hold in the Carnegie Natural Gas Company?
A. I believe he is general manager. He might be vice president and general manager, or he might be vice president.
Q. How long ago did that conversation with Mr. Meals take place?
A. I would say within the past year.
Q. At how many places does the Carnegie cross?
A. To answer that with any degree of certainty, I would be unable to do so. I would answer that in the same manner,
389 that I know it did not come near the number of crossings which my company has.
Q. And in the same way, I suppose, you are not able to give us any place of crossing?
A. No; I don't recollect the names at the point where it crosses.
Q. You will not undertake to state there is more than one place, will you?
A. It is my recollection, yes, sir, that there is more than one place.
Q. Well, how many?
A. I have previously stated I would be unable to answer that, as I don't know definitely, other than it was not as many times as our company crosses and recrosses.
Q. Well, where did you get your information in regard to the crossings of the United Fuel Gas Company?

A. Through information and conversation, and from being shown their maps.

Q. From Mr. Harry Wallace?

A. Harry Wallace was one, yes, sir.

Q. How many places do the lines of the United Fuel cross?

A. That I would be unable to answer, as I have not a direct recollection as to the number of places.

Q. Nor the particular places?

390 A. Nor the particular places.

Q. How long ago did you have that talk?

A. Oh, I would say that was within the last nine months.

Q. Now, with regard to the Equitable, the Carnegie and the United Fuel Gas Companies, what did you mean to state, that these main lines cross the boundary between West Virginia and adjoining states?

A. With the Equitable Company, as stated, I associated the name of the Philadelphia Company with it. I don't know whether their company in West Virginia is called the Equitable Gas Company or not—I mean, property owned by them. I mean to say that, as previously stated, on information, to the best of my belief, they cross the state lines, yes, sir.

Q. Well, that is what you meant, that the lines of those companies leave the State of West Virginia and cross into Pennsylvania or Ohio—adjoining states?

A. Or Kentucky—some states, yes.

Q. That is all you meant to imply?

A. That is all I believe my testimony referred to.

Q. What was it you told us about the use of gas by the Carnegie Natural Gas Company?

A. I stated, I believe, yesterday, that the Carnegie Company supplies some domestic,—or serves gas—delivers gas to some

391 consumers on their lines, and also furnishes gas to the Carnegie Steel Company. When I refer to the Carnegie Steel Company, of course I mean the United States Steel Company—or whatever its parent name is.

Q. Carnegie Steel Company is a subsidiary of the United States Steel Corporation.

A. That is my belief.

Q. Where did you get this information as to the service to consumers along the line?

A. Through information, conversations—talks that I have had. I also saw a report, I believe, of the amount of gas they sold in West Virginia. So I take it from that too that they have customers that they sell gas to.

Q. Well, you saw and heard that the Carnegie Natural Gas Company was furnishing about 250 domestic consumers in the State of West Virginia?

A. As to the number,—I have no recollection of testifying as to the number. I would be in no position at all to state whether they had 250 or 10,000.

Q. Then, in the same way, you don't know how many there are in Pennsylvania—domestic consumers?

A. Of the Carnegie Company?
Q. Yes.
A. No, I would be unable to answer that.
Q. How does the Carnegie Steel Company use that gas
392 furnished by the Carnegie Natural Gas Company?
A. That I would be unable to answer, as I am not the party that makes the deliveries to them, and of course as a result of that, would have no connections with their customers. Never had any occasion to visit the premises upon which they deliver gas.
Q. And your search for information did not extend so far?
A. I have no recollection of stating that I searched for information.
Q. Well, your acquisition of it.
A. I stated that I had received what information I had through conversation and talks.
Q. What is the business of the Carnegie Steel Company?
A. The manufacturing of iron and steel products.
Q. It is one of the largest constituent plants of the United States Steel Corporation?
A. It is so considered.
Q. When you withdrew your industrial classifications then in West Virginia, Ohio and Pennsylvania, on January 21, 1918——
Mr. Weil: No, January 1st.
The Witness: It became effective as of January 1, 1918.

393 Mr. Hoffheimer:

Q. Have you furnished any industrial gas since?
A. Yes, sir.
Q. Well, how did you happen to do that if you took the trouble o withdraw your industrial classifications?
A. We stated in the letter which was mailed to each of those consumers—in the letter stated certain facts, and plainly stated that ve would be willing to sell and would undertake to furnish such mounts of gas as we had for certain uses for which they might desire to use gas. That that supply which they were to receive would e from surplus gas which we had remaining after the requirements f the domestic consumer had been taken care of.
Q. That does not answer the question; I don't care what you wrote industrial consumers. I am asking you how it happened that fter you had taken the trouble to withdraw your industrial classifiation, you then circularized the community and continued to sell dustrial gas?

Mr. Weil: This is objected to as being a mere repetition of the me examination, on the same subject as the cross examination, nd it has been covered and explained in detail several times; and further objected to as being an unfair question, there being
394 no basis of fact in the record to justify the assumption in the question of taking the trouble to circularize after the classifiation had been withdrawn,—as a matter of fact, the record shows

the circularization, so-called, was done prior to the time of the withdrawal of the classification, in the notice that the classification would be withdrawn, and stated the terms and conditions upon which gas would be supplied out of the surplus, if possible, to the industrial consumers.

The Commissioner: Note the objection.

Mr. Hoffheimer:

Q. Have you adopted Mr. Weil's answer as your own, Mr. Quay?

A. What am I to do about it? Answer your question now?—What is the question?

Q. (Repeated.) That does not answer the question; I don't care what you wrote to industrial consumers. I am asking you how it happened that after you had taken the trouble to withdraw your industrial classification, you then circularized the community and continued to sell industrial gas?

A. I see no reason why we should not continue the sale of industrial gas at times when we have a surplus remaining above
395 the requirements of the domestic consumer.

Q. Then you have continued to furnish as industrial gas what has been a surplus, since that time—up to the present?

A. We have continued to sell whenever we had available gas for that service, out of the surplus gas.

Q. And in each instance, no doubt, you have made a special contract with each consumer?

A. We have an individual contract with each consumer.

Q. That contract, without going into the particular terms of it, embraced the conditions of service and the charges to be paid by the consumer?

A. It contained the prices and certain rules and regulations covering the delivery of gas to them.

Q. Well, what have you been charging these individual industrial consumers since January 21, 1918?

A. Different prices. If you state what location you desire the price, I will endeavor to report it.

Q. Who are these industrial consumers to whom you sent the circular letters to which you testified?

Mr. Weil: Do you mean——

Mr. Hoffheimer:

Q. In West Virginia.

A. We mailed each industrial consumer one of those notices.

396 Q. Who were they?

A. Do you wish the names of some of those consumers specified?

Q. Yes, sir.

A. I will start with Taylor—Smith & Taylor——

Q. Just tell us where they are, as you go along?

A. Yes. At Newell,—or Chester, West Virginia. You want just the larger ones, or those I can remember or recollect offhand?

Q. Yes, go ahead.

A. The Homer Laughlin China Company, at Newell—I will endeavor to name at least one in each town; Follansbee Bros., Follansbee, West Virginia; the Wheeling Steel & Iron Company, at Wheeling; Fostoria Glass Company, at Moundsville; United States Stamping Company, at Moundsville; New Martinsville Glass Company, at New Martinsville, West Virginia; Weirton Steel & Iron Company, at Weirton, West Virginia. Is that sufficient?

Q. Perhaps you might give a few more.

A. All right. I will have to just kind of think a little bit—the La Belle Iron Works, at Wheeling; the Whitaker & Gloeschner, at Wheeling; Crescent Glass Company, at Wellsburg, West Virginia; Eagle Glass Company, Wellsburg, West Virginia; Knowles-
397 Taylor & Knowles Pottery Company, at Newell, West Virginia. Is that sufficient?

Q. Yes. Did all of your industrial consumers in West Virginia, to whom you addressed these circular letters, respond?

A. I don't have any recollection otherwise.

Q. Well, did all of them continue to take industrial gas after January 21, 1918?

Mr. Weil: January 1, 1920, he said.

Mr. Hoffheimer:

Q. January 21, 1918.

A. Which is it, 1918 or 1920?

Q. Well, the date when you withdrew your industrial classification.

A. I know of none who have discontinued on our lines. There might have been a few. I have no recollection of any which left or were discontinued from our lines.

Q. You cannot give us any names?

A. No, I don't recollect of a one, no, sir.

Q. I wish you would turn to the circular letter of June 30, 1917, Pennsylvania Exhibit No. 2—I notice in the schedule of rates a
398 blank left as to the price per thousand cubic feet. What was inserted in the letters you actually sent out to these industrial consumers in West Virginia and Pennsylvania?

A. If you refer to different localities you might have that apply to, I might be able to tell you.

Q. Well, all right. Take first the circular letters of that date sent to industrial consumers in Pennsylvania, if that subdivision will enable you to answer it.

A. I don't know the rate, other than the first 250,000 was the regular domestic rate of the company being charged at that time, less—or no, it would be one cent more—The rate for the first 250,000 cubic feet was the same rate at which gas was sold to the domestic consumer. From that point down, the rates were less. As to the actual price we charged on June 30, 1918, I wouldn't care to

quote those prices, unless I ascertained through looking at it and being correct in the matter.

Q. Can you give us any typical instance, as, for instance, in Pittsburgh or some other locality served by you in Pennsylvania, with respect to the price inserted for the first 250,000?

A. That was, I think—and I think I am correct—36 cents, with a discount of one cent per thousand cubic feet—No, I will take that back,—30 cents, 31 cents, with a discount of one per cent
399 per thousand cubic feet, if paid on or before the expiration of the discount period. We might shorten this, Mr. Hoffheimer,—The reason that the space was left blank is because we have three different zones,—southern zone, middle zone and northern zone. The price varies in the three different zones. This letter which you refer to was a circular letter printed, and a space left blank, so that the form could be utilized in the three zones, by the simple inserting of the price which applied to that particular zone.

Q. What were those zones you are talking about? Where were they?

A. The southern zone is entirely, I believe, within the state of West Virginia, more particularly as to communities, say at New Martinsville, in that section of the state. The middle zone represents communities located in and about Wheeling, West Virginia. The northern zone refers to communities such as Wellsburg, Newell and Chester, in West Virginia, and the whole state of Pennsylvania. And in Ohio,—the territory in Ohio opposite New Martinsville is in the southern zone, the territory in Ohio opposite Wheeling is in the middle zone, and the territory opposite Wellsburg and Newell and Chester, Ohio, is in the northern zone.

Q. So that the initial rate of 30 cents net for the first
400 250,000 feet which you have given me was the rate for the——

A. For the northern zone.

Q. Northern zone?

A. Yes.

Q. Can you give us a typical instance in respect to the middle zone?

A. I believe it was 28 cents net.

Q. How about the southern zone?

A. It was my recollection it was 24 cents net.

Q. And has that zone system been pursued similarly since?

A. Yes.

Q. When did you say all of your industrial contracts were cancelled?

A. I presume you refer to the last cancellation or change?

Q. Yes.

A. It went into effect on the 5th of March, 1920,—as of the 5th of March.

Q. How many times did you cancel it?

A. I think one time prior to that, at least. You mean, in the period of time between January 1, 1918, and the present date?

Q. Well, if you cancelled them——

A. Every time there is a new contract entered into, the old contract is cancelled.

Q. Then by "cancellation," in fact, before March 5, 1920,
401 you merely intended to state that the contracts which existed before that date became ineffective when a new set of contracts went into effect?

A. I did not so testify.

Q. That is what I am trying to get at, what you did not testify?

A. Just what I did testify to, if you refer to my testimony at previous periods in the hearing——

Q. Well, have you had any industrial contracts effective since March 5, 1920?

A. We have.

Q. When did they become effective?

A. They became effective the 5th or 6th of March, 1920.

Q. How long did they run?

A. Then run for a period of thirty days and as long thereafter as mutually agreeable, subject to cancellation on the part of either party on thirty days' written notice.

Q. Where was that that sulphur gas got into your lines?

A. On our discharge line leading from the Hundred compressing station.

Q. How did it get in there?

A. As to how it got in there, from my own actual personal knowledge, I am unable to state. It is my belief that it was gas which was delivered to us under a gas purchase contract.

402 Q. With whom?

A. I definitely would be unable to tell that perhaps. It is my belief that it came with gas which was delivered from the Hope Gas Company.

Q. When did that occur?

A. Oh, I would say within a period of perhaps two years ago.

Q. Over what period did it extend?

A. It extended over a comparatively very short period of time.

Q. Can you give us some idea?

A. Oh, I would say that my attention was called to the matter first from an odor in the compressing station, which I paid very little or no attention to, for perhaps a few days, maybe a week. Then various agents and foremen would call me and complain, or state that certain consumers had complained, as to a peculiar odor of gas—and sometimes, for instance, like today perhaps, the agent at Sewickley would call me relative to complaints that he had received, or it might be a call might come in from Steubenville, Ohio. I had one call or two, at least, from New Castle, Pennsylvania. I personally investigated, and it did have at Sewickley a rather peculiar odor—I would say, from start to finish, perhaps a month.

Q. Whenever attention was called to it, in regard to the
403 three places you have mentioned?

A. No, I don't mean to confine myself to the three places that I have mentioned. Other places made complaints. As previously testified to, not on some days,—they might notice that odor

in the gas today and might not notice it tomorrow, or it might come back the next day. That was the manner in which it acted. Other communities also. For instance, Bellaire, Bridgeport, in Ohio—I believe I even had one or two complaints in Pittsburgh here. I don't mean to confine it to three localities at all.

Q. Those are all you remember at the present time?

A. Oh, I would say yes.

Q. Well, if you remember any others, tell us.

A. You mean than the three?

Q. Those you have named specifically?

A. No, I would not want to say that right offhand. Those are the principal points from which complaints came. I received a complaint from Ambridge, down the Ohio River. I sent down and had a sample of that gas taken; I believe I had several samples taken at different points.

Q. Where were these samples taken?

A. They were gas taken from the pipe lines.

Q. At what points?

A. Say Ambridge for one, and Sewickley for another, and Steubenville, Ohio, for another; I don't recollect offhand whether
404 I got a sample from New Castle or not, I believe I sent a container for it, and it ceased to exist there, something of that sort. I don't recollect whether I got a sample from New Castle or not.

Q. Sewickley is a suburb of Pittsburgh?

A. Pittsburghers are glad to believe so; it is about twelve miles from Pittsburgh.

Q. Well, you wouldn't want to reverse that statement?

A. I would like to; it is a nice place to live.

Q. What was that sulphur gas, artificial gas?

A. All I know about it is that the people who examined it claimed that it contained sulphur, yes.

Mr. Hoffheimer: There are several items which have been called for by counsel for the complainants on re-direct examination which have not yet been produced by Mr. Quay. We may desire possibly to cross examine on them when they are produced, but for the present we have nothing further.

Mr. Weil:

Q. Mr. Quay, I asked you this morning, I believe, to secure a list of a number of the largest holdings of stock of the Manufac-
405 turers Light & Heat Company. Did you procure that information?

A. Yes, sir.

Q. Have you that with you now?

A. I have. (Producing paper.)

Q. What is the capital stock outstanding?

A. The capital stock outstanding is $23,000,000.

Q. Of that amount the Company itself holds $469,600, as shown by its annual report of December 31st, 1919, does it not?

A. Yes, sir.

Q. Have you there the list of the sixty-there largest stockholding accounts in the company?

A. I have.

Q. Showing the number of shares held by each of those sixty-three stockholders?

A. Yes, sir.

Q. What is the largest individual holding of any?

A. 11,141 shares.

Q. Those shares are par $50?

A. Par $50.

Q. That would be $557,050, then, of the capital stock?

A. It would be fifty times 11,141.

Q. Now, this statement shows the total of those sixty-three accounts of the largest holdings to be 142,449 shares, does it not?

406

A. Yes, sir.

Q. And the balance of stock outstanding is in 4,107 additional stockholding accounts; and the total number of stockholders is 4,170?

A. That is correct.

(The statement just referred to, showing by figures only, the sixty-three largest individual holdings of stock of the Manufacturers Light & Heat Company, was here marked as Pennsylvania Exhibit No. 14).

Mr. Weil: In connection with the testimony of the witness, and as showing the number of shares held by each of the sixty-three stockholders, I offer Pennsylvania Exhibit No. 14 in evidence.

Mr. Hoffheimer:

Q. This Pennsylvania Exhibit No. 14, just offered in evidence, relates to holdings of stock of your company as of March 31st, 1920?

A. That is correct.

Q. That indicates nothing as to holdings on any other date?

407

A. I believe that record is furnished you from data as the books stood March the 31st, 1920.

Q. Your stock ownership changes from time to time in individual instances, does it not?

A. The stock is listed on the Pittsburgh Stock Exchange, and there are very frequent sales, so I would say that the stock ownership changes from time to time.

Q. And in a number of instances, such as is common with other listed stocks, they are held by purchasers without transfer on your corporate books?

A. That you are asking something of which I wouldn't have knowledge.

Q. That is what I was trying to get at, that the mere fact that your stock books show particular holdings does not indicate in the instance of your company, any more than any other, the actual ownership or holdings of stock, does it?

A. I could only answer the question by saying that if the books showed people owning the stock they would own it.

Q. Who is this owner of 11,141 shares?

A. That I don't know.

Q. Can you give us the name of the holder of any of these items of sixty-three holdings you have listed?

A. To say with any degree of certainty, no,—unless one,
408 there might be one there which might represent stock which I own—or will own when it is all paid for.

Q. Well, aside from this statement of individual holdings, can you tell us the names of any stockholders as of March 31st, 1920?

A. None, only from hearsay. I believe my stenographer is a stockholder of the company. I believe—have reason to believe—that a good many of the employees of the company are stockholders of the company; but whether they have all sold their stock or not, I don't know; a great many of them are, or were stockholders of the company.

Q. I suppose that your officers and directors are stockholders?

A. I know Mr. Gill, the President, is a stockholder; Mr. Ratcliffe owns some stock; I believe Mr. Meyran owns some.

Q. Well, who are your directors?

A. There are twelve of them. Do you want me to name them?

Q. Yes.

A. William Flinn, John E. Gill, E. H. Jennings, John M. Reed, P. C. Beers, J. I. Buchanan, John W. Donnan, A. E. Succop, James P. Eagleson, J. W. Gill, L. A. Meyran, and C. F. Niemann.

Q. How were the stocks of the Manufacturers Light and Heat Company held in 1915?

A. You mean as to the number of stockholders?

Q. Yes, sir, and the size of the holdings.

409 A. That would be a mere guess. I simply wish to state that the list of those sixty-three names was information to me, and confirms my belief, as I have stated several times, that I rather dislike to guess as to figures or conditions without having and knowing that I have a definite knowledge as to about the correct circumstances or figures which you ask me for.

Q. And the same would apply to the year 1910?

A. The question of stock ownership is one that does not come under my jurisdiction, and, of course, would be completely out as to any direct knowledge, any more than I meet a great many stockholders who come in and state that they are stockholders and talk over business, and so forth.

Q. Who is the officer of your company that has direct knowledge of those matters?

A. The record of stock ownership is not kept, I believe, by any officer or by my company. I believe that is in the hands of the Colonial Trust Company.

Q. So that any information you have given as to stock holdings, with the exception of yourself and your stenographer and certain employees of the company, is based upon information received from the Colonial Trust Company?

A. I did not so testify.

Q. I do not accuse you of that, but I want to know the fact.
410 A. I stated that the record of stock ownership is not kept by any officer of the company, is my belief. That is kept by the Colonial Trust Company. The information I have, as stated to you when you referred and asked me as to those persons who I knew owned stock, I stated I knew that my stenographer did, and I have been told that others, that I named some, did, in addition to employees of the company.

Q. Well, you are well acquainted with Mr. John G. Pew?

A. I am proud of it.

Q. Was Mr. John G. Pew at any time a stockholder of the Manufacturers Light and Heat Company, to your knowledge or information?

A. I will answer that question in this way: That I have had opportunity of once or twice looking over the record, and I do not recollect of John G. Pew's name being on the list of stockholders. He might be, but not to my recollection.

Q. To your knowledge or information, was Mr. John G. Pew ever an officer or director of the Manufacturers Light and Heat Company?

A. To my knowledge, he never was.

Q. How about Mr. John L. Porter?

A. The same thing would apply—in fact, I don't know John L. Porter, only by representation. The same answers would apply to John L. Porter, any more than this exception: I have no recollection of making an investigation to see if John Porter owned any
411 stock—in fact, I made no investigations, just casually looked over the list.

Q. I didn't ask you about the stock ownership of Mr. Porter, but whether he was an officer or director of the Manufacturers Light and Heat Company at any time, to your knowledge or information?

A. Not to my recollection.

Q. And the same in regard to Mr. George W. Crawford?

A. Now, I am told that Mr. Crawford is a stockholder of the company. Whether that refers to George Crawford or not, I don't know, or some of the other Crawfords; there are Crawfords who are stockholders, I believe. As to his being an officer of the company, I have no recollection of him ever being a director or stockholder—not during my time, at least, with the company.

Q. Who preceded you in the office of General Manager of the Manufacturers Light and Heat Company?

A. Mr. M. B. Layton.

Q. How long was he general manager?

A. I think he was general manager eight months.

Q. Who preceded Mr. Layton?

A. Mr. T. O. Sullivan.

Q. How long was he general manager?
412 A. I believe he has been—was general manager from some time in August, 1910, on.

Q. Up to the time Mr. Layton took office?

A. Mr. Layton succeeded Mr. Sullivan.

Q. That was the time when Mr. Sullivan became Vice-Presider and General Manager of the Hope Natural Gas Company?
A. That is correct—about that time, at least.
Q. I mean, it was to fill that vacancy?
A. Yes, sir.

Mr. Weil: In the examination this morning the witness was aske by me to have prepared a statement showing the average consump tion of the different domestic consumers in the respective States o Ohio, Pennsylvania and West Virginia; he has informed me tha in order to prepare this, it would involve an examination of an im mense amount of data, and for the present I have instructed him i was unnecessary to prepare that data accordingly. I have no presen intention of having prepared or offering the same.

An adjournment was here taken until Wednesday, June 9th, 1920 at 10:00 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of June 9th-12th, 1920.

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413 Wednesday, June 9th, 1920.

And now Wednesday, June 9th, 1920, the hour of 10:00 o'clock A. M. having arrived, hearing resumed pursuant to adjournment. Present: The Commissioner, Levi Cooke, Esq.; A. Leo Weil, Esq., on behalf of The Commonwealth of Pennsylvania; Freeman T. Eagleson, Esq., on behalf of The State of Ohio; and Messrs. Hoffheimer, Steptoe, Blue, and John on behalf of The State of West Virginia.

T. O. SULLIVAN, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Sullivan, where do you reside now?
A. In the city of Pittsburgh, Pennsylvania.
Q. And what is your present position in connection with the natural gas business?
A. I am Vice-President and General Manager of the Hope Natural Gas Company.
Q. How long have you held that position?

A. Since July 1st, 1918.

Q. Prior to July 1st, 1918, were you in the natural gas
414 business, and if so, without being specially interrogated, will you give your respective positions in that business, or employment, in connection with the natural gas business?

A. I have been engaged in the natural gas business since 1886. For eight years previous to my connection with the Hope Natural Gas Company, I was general manager of the Manufacturers Light & Heat Company; for a period of about two or three years previous to my connection with the Manufacturers Light & Heat Company, I was the general manager and general superintendent of the Peoples Natural Gas Company in Pittsburgh; previous to that, I was connected with the Central Kentucky Natural Gas Company, constructed and lined a plant into the Cities of Lexington, Winchester and Mt. Sterling, Kentucky. Previous to that, I was engaged with various companies, and worked for the East Ohio Natural Gas Company, the Reserve Gas Company, the United Natural Gas Company, the Buffalo Natural Gas Fuel Company, and several other companies. I was engaged on construction work, building pipe lines and looking after fields, drilling of wells, laying of lines in the streets in various cities and towns, connecting up meters, and installing
415 regulators, and general construction, in connection with the installation of natural gas plants for distributing gas, and also in the drilling of wells and the connecting up of wells in the fields, and constructing main lines.

Q. Are you thoroughly familiar with every branch and department of the natural gas industry, including the wells, fields, the lines, and the production and supply of gas finally to the consumers?

A. I believe I am. I have been engaged in the business for about thirty-five years or better, and have worked in nearly every department in the business myself, and have also had charge of the construction and building of nearly all kinds of appliances used in connection with the natural gas business.

Q. When you speak of being general manager of the Manufacturers Light & Heat Company, that is the company of which Mr. H. A. Quay, the former witness, is now the manager?

A. It is.

Q. The same company?

A. The same company.

Q. You spoke of the Hope Natural Gas Company, of which you are now the vice president and general manager. That is the
416 Hope Company to which Mr. Quay referred as having a contract with, which has been offered in evidence?

A. It is.

Q. The Hope Natural Gas Company has gas territory in what states at the present time?

A. In the State of West Virginia.

Q. State the amount of gas territory now owned by the Hope Company, and the number of wells?

A. On December 31, 1919, the Hope Natural Gas Company held, under lease, in the State of West Virginia, 1,009,993.53 acres of land.

Q. How many?

A. 1,009,993.53 acres. This includes both the operated and unoperated acreage.

Q. How many wells?

A. On the same date, December 31, 1919, they had 3,440 gas wells—producing gas wells.

Q. Can you give us in round numbers the amount of that acreage that is considered as developed, that is, developed to the extent of being considered as gas productive, and the quantity undeveloped—not yet determined whether gas productive or not?

A. What is carried on the books of the company as operated acreage consists of parcels of land, upon which wells are actually
417 drilled. That is approximately 322,777 acres, but interspersed with that there would be a very considerable number of acres that would be considered as operated acreage.

Q. That is, productive, you mean?

A. Not productive, but it would be proven,—proven acreage rather than operated acreage. By that I mean that it lies in such close proximity to tracts of land upon which wells are drilled that it is practically proven territory, and I would say roughly that it would probably amount to two hundred or two hundred and fifty thousand acres—this territory.

Q. In addition to the——

A. In addition to what is classed as actual operated acreage. That would leave about from four to five hundred thousand acres of what might be called unproved acreage.

Q. How long has the Hope Natural Gas Company been engaged in obtaining and developing this gas territory?

A. About twenty-one or twenty-two years. I might add to that, ever since the organization of the company, which I believe was in 1898.

Q. What is the amount of the gas production of the Hope Natural Gas Company—Let us adopt the date of December 31, 1919, to which you referred—in round numbers?
18

A. During the year ending December 31, 1919, the Hope Natural Gas Company produced and sold from the—from its own territory, approximately 47,000,000,000 cubic feet of gas.

Q. 47,000,000,000?

A. Yes, sir.

Q. That is, to all of the companies with which it had contracts and to its own consumers?

A. That is the gas that it produced from its own territory. It does not include, however, the gas that it purchased from other companies and other producers.

Q. How much gas did it purchase, in addition to its production, to which you have referred?

A. During the year 1919, it purchased from other companies and other producers, approximately 20,000,000,000 cubic feet of gas.

Q. Now, the Hope Company is engaged in the business of supplying gas, is it not, directly to consumers, as well as to other gas companies?

A. It is.

Q. Will you give us, please, the consumers which the Hope Company has upon its own lines, and which it supplies, excepting for the moment other gas companies?

A. The Hope Natural Gas Company supplies gas to consumers directly from its own lines in the City of Parkersburg, West
419 Virginia, the City of Mannington, West Virginia, the City of Sistersville, West Virginia, the City of Paden City, West Virginia, Pine Grove, West Virginia, and a number of other smaller communities. Those are the principal cities which it supplies directly.

Q. In addition to that, the Hope Company supplies gas to certain gas companies; will you name those companies?

A. It supplies gas to the East Ohio Natural Gas Company, the Peoples Natural Gas Company, the Manufacturers Light & Heat Company, the Fayette County Gas Company, the West Virginia Light, Heat & Power Company, Clarksburg Light & Heat Company, and there may be one or two other smaller companies, I don't recollect.

Q. What is the total number of consumers on the lines of the Hope Company in the state of West Virginia, whom you supply directly from the lines of the Hope Company?

A. Approximately 18,000 consumers.

Q. Do you supply any other consumers directly from your own lines in any other state than West Virginia?

A. We do not.

Q. Have you a map showing the lines and territory of the Hope Natural Gas Company?

A. We have.

Q. Will you produce it, please?

A. Yes, sir.

Q. While we are waiting for that map, Mr. Sullivan, will
420 you be good enough to state the quantity of gas supplied by the Hope Company to consumers, both domestic and industrial, in the State of West Virginia, during the year 1919? And at the same time, give us the amount supplied to all others, outside of the State of West Virginia.

A. The Hope Natural Gas Company, during the year 1919, delivered to its own consumers directly in the State of West Virginia, approximately 6,300,000,000 cubic feet of gas.

Q. And outside?

A. To other consumers——

Q. I mean now, outside of the State of West Virginia—No, I don't mean that either; I mean to its other consumers.

A. To its other consumers it supplied approximately 61,000,000 cubic feet of gas, making its total sales about between sixty-seven and sixty-eight billion cubic feet of gas.

(Map previously requested, produced and marked as Pennsylvania Exhibit No. 15).

Q. Now, Mr. Sullivan, I show you map marked for identification Pennsylvania Exhibit No. 15, and ask you if this represents, according to the legend thereon, the main lines of the Hope Natural Gas Company, the Reserve Gas Company in West Virginia, and
421 the Peoples Natural Gas Company in Pennsylvania?

A. It does.

Q. As of December 31, 1917?

A. Yes, sir.

Q. Has there been any substantial change in these main lines since December 31, 1917?

A. There has been no change in the lines as shown on the map, but there has been some additions in the way of lines to wells, and some very considerable lines that have been built since that date that are not shown on the map.

Q. Those would not be known as main lines, would they—or would they?

A. Yes, they would, some of them.

Q. Well, then, as I understand you, there have been in addition to what—Well, I will put it the other way: The lines, as shown upon this map, are now in operation by these respective companies?

A. They are.

Q. And in addition thereto, certain additional lines have been laid since December 31, 1917, which are not shown upon this map?

A. That is correct.

Q. And which are now in use by these respective companies?

A. Yes, sir.

422 Q. Just digressing for a moment because of the legend upon this map, what is the Reserve Gas Company? We have not yet had it referred to.

A. The Reserve Gas Company is a company operating in the State of West Virginia, producing and transporting gas and selling it to consumers to some extent directly, and to other companies outside of the State of West Virginia—consumers in West Virginia directly and to other companies outside of the State of West Virginia.

Q. And who is the general manager of the Reserve Company?

A. Mr. John B. Corrin.

Q. Now, will you state generally what is the Peoples Natural Gas Company?

A. The Peoples Natural Gas Company is a company operating in the State of Pennsylvania, producing gas, transporting and supplying it to consumers in the State of Pennsylvania. It also purchases large quantities of gas from the Hope Natural Gas Company for distribution in the State of Pennsylvania.

Q. Does the Hope Natural Gas Company—calling your attention to this Pennsylvania Exhibit No. 15—extend much, if any, beyond the state line between Pennsylvania and West Virginia—I mean, with its lines?

A. It does not.

3 Q. And does the Reserve Company?

A. It does not, to the best of my knowledge.

Q. The general manager of the Peoples Natural Gas Company is John B. Tonkin, is he not?

A. Yes, sir.

Q. The lines as shown upon this map, Pennsylvania Exhibit No. 15, the pipe lines, do not indicate by color the respective ownership of the lines as between the Hope, the Reserve and the Peoples Companies, does it?

A. It does indicate by colors the lines owned by the Reserve Gas Company.

Q. And which are those?

A. Those are the lines marked on the map in blue. It does not distinguish by color the difference between the Hope Gas lines and the lines of the Peoples Natural Gas Company, the lines of the Peoples Natural Gas Company all being located in the State of Pennsylvania.

Q. Now, as a matter of fact, the Hope Natural Gas Company, the Reserve Gas Company and the Peoples Natural Gas Company are substantially controlled by the same interests, known as the Standard Oil interests, are they not?

A. The Hope Company and the Peoples Company are. The Reserve Company has a very large ownership.

Q. How much?

424 A. I believe about 49 per cent, according to the best information I have. The Standard interests own 51 per cent and the other interests own 49 per cent of the Reserve Gas Company.

Q. Does this map, Pennsylvania Exhibit No. 15, correctly represent, Mr. Sullivan, the respective lines of these companies?

A. It does, to the best of my knowledge and belief—that is, the main transmission lines. There has been no attempt to show either the distributing lines of the companies or the lines connecting wells.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 15. And I will say to counsel that we will have copies of this map made, which we will hand to them for their use.

Q. Mr. Sullivan, to refresh your recollection with reference to this map, Pennsylvania Exhibit No. 15, let me call your attention to what is known as the River Gas Company. Are not the lines of the River Gas Company also indicated upon this map, that is, a portion of them?

A. No, sir. The River Gas Company operates entirely within the State of Ohio, but there is a connection between the lines
425 of the Hope Company and the lines of the River Gas Company.

Q. Well, are the River lines shown upon this map in any way?

A. They are not. The connection between the lines of the Hope Company crossing the River at Marietta, Ohio, is shown, but that is all.

Q. To refresh your recollection as to part of your testimony a moment ago, when you mentioned the parties to whom the Hope Company sold gas, you did not mention the River Company, you stated there might be some that you had omitted?

A. I overlooked the River Company, that is one of the companies to which the Hope sells gas.

Q. Now, Mr. Sullivan, will you briefly, without taking up too much time, give us the sizes of the main lines of both the Hope Company and the Peoples Company? I am going to ask you about both, because you were formerly manager of the Peoples Company, and that will save time when we come to examine the representative of the Peoples. Just give us briefly—if you want the map you can refer to it—the main transportation lines, the sizes, and distances, both of the Hope and the Peoples Companies.

A. The pipe line system of the Hope Natural Gas Company is built in what we might call three divisions: the high-pressure
426 division, the medium high-pressure division and the suction lines. Starting in, in Gilmer County, West Virginia, at the point known as Cedarville, the medium high-pressure lines extend north to a point in Wetzel County known as Hastings Station, a distance of approximately 70 miles; starting from Hastings Station in Wetzel County, the lines branch, and a main high pressure line extends to the state line between Pennsylvania and West Virginia, in Greene County, Pennsylvania, to a point known as Brave Station, at which point it connects with the lines of the Peoples Natural Gas Company——

Q. Mr. Sullivan, as you go along, give us the diameter of these lines?

A. The lines differ at some points in diameter. The line I have just described, starting from Cedarville, starts out with a 14-inch line, then connects into a 16-inch line for a distance, then connects with a 20-inch line, which extends to Hastings Station. The lines leading from Hastings Station to Brave Station in Greene County, Pennsylvania, connecting with the Peoples Natural Gas Company's lines, are 10 inch—one 10-inch and one 16-inch line. Starting from Hastings Station, in Wetzel County, West Virginia, there are three lines going in a northwesterly direction to the Ohio River, to the state line between Ohio and West Virginia, at which point
427 they connect with the lines of the East Ohio Natural Gas Company. This connection is at a point just about a half a mile north of Clarington, in the State of Ohio, and the size of the lines are two 20-inch lines and one 18-inch line. Starting from the same point in Wetzel County, West Virginia—that is, Hastings Station—there are lines running in a northwesterly direction, which connect with the lines of the East Ohio Natural Gas Company at the Ohio River, at a point about three miles south of Moundsville, West Virginia. This is an 18-inch line, also a 10-inch line. There are various other lines through the State of West Virginia, varying in size from 8 inches up to 16 inches, which connect into these main feeders or lines. The lines of the Peoples Natural Gas Company, starting from Brave Station, in Greene County, Pennsylvania, and extending in a northeasterly direction to Pittsburgh, a distance of about 60 miles, are one 12-inch and one 20-inch line. In addition to these lines, there are other lines extending from Clarion County through the Counties of Armstrong and Allegheny, to Pittsburgh, a distance

of approximately 50 miles. This is part 8-inch line and part of it is 12-inch. Various branch lines leading from these main
428 lines in different directions; varying in size from 8 to 12 inches in diameter. That, in a general way, covers the lines of the Hope Company and the Peoples Company.

Q. At what point does the Hope Company cross the State line between West Virginia and either Ohio or Pennsylvania?

A. The lines of the Hope Company do not cross the state line, but connect with the lines of the other companies at the state lines.

Q. Well, as I understand, the Hope Company, for example, delivers gas at Brave—or what do you call it?

A. Brave Station.

Q. Brave Station; to the Peoples Natural Gas Company there, doesn't it?

A. Yes, sir.

Q. Well, now, don't the Hope Company's lines extend across the boundary line of West Virginia to that point?

A. I think it extends a very short distance across the state line.

Q. Yes, and delivers gas at Brave Station to the Peoples Natural Gas Company?

A. Yes, sir.

Q. Now, give us the other points in the same way—I don't care whether it extends across a foot or a mile, it is immaterial—I
429 just want the points at which it crosses the line and delivers gas to these other companies?

A. At Brave Station, in Greene County, Pennsylvania, and at a point almost in the extreme southwestern corner of Greene County.

Q. At what point?

A. It is just north of Littleton, in West Virginia.

Q. And where else?

A. Those are the only two points that it delivers gas to the Peoples Company.

Q. Well, now, to the other companies, give us those in the same way.

A. It delivers gas to the Fayette County Gas Company at a point known as Wade Station, in the eastern part of Monongalia County, West Virginia. There is no town or anything close there to indicate the exact point, but it is shown on the map. The Hope Company, in the same manner, delivers gas to the East Ohio Company at the Ohio River, at a point about three miles south of Moundsville, and at another point about half a mile north of Clarington, Ohio.

Q. Well, at this place south of Moundsville, that delivery is made in West Virginia; and that place near Clarington, the delivery is made, as I understand it, in Ohio?

A. The measurement is made in West Virginia, but my
430 information is that the Hope Company owns the lines that cross the river connecting with the East Ohio Lines on the Ohio side of the river; at the point north of Clarington, the measurement is made on the Ohio side of the river.

Q. Well, then, near Moundsville the Hope Company's lines cross into Ohio there?

A. That is my information.

Q. Now, what is the next point? Go ahead with some of the other companies.

A. The Hope Company delivers gas to the River Gas Company at a point in Pleasants County, West Virginia, almost directly opposite from Marietta, Ohio. In this instance, the Hope Company also owns the line leading into Ohio, across the river.

Q. Through which this gas passes?

A. Yes, sir. The Hope Company delivers gas at another point to the Peoples Natural Gas Company, from Brooke County, West Virginia; that is at a place, or at a point west of Burgettstown, in the State of Pennsylvania. I think that covers the different points.

Q. Does the Hope gas line at that point cross the state line into Pennsylvania or not?

A. I am unable to say definitely regarding that; I don't know.

431 Q. Going back again to the companies to which the Hope Company sells gas, let me refresh your recollection as to the Northwestern Ohio Gas Company supplying the towns of Toledo, Ohio, and other cities in Ohio, what have you to say about that?

A. The Hope Company sells gas to the Northwestern Ohio Natural Gas Company, supplying Toledo, Ohio, and that gas is transported through the lines of the Reserve Gas Company, and, in fact, is part of the production of the Reserve Gas Company.

Q. And where is that delivery made by the Hope Company?

A. That gas is delivered to The Connecting Gas Company, at the Ohio River, and is then transported through the lines of The Connecting Gas Company from the Ohio River to a point in Ohio known as Sugar Grove, Ohio, I think in—I forget the name of the county—in Fairfield County, at which point it is delivered to the lines of the Northwestern Ohio Natural Gas Company.

Q. Well, now, who owns the lines crossing the river through which this gas is transported, the Reserve or the Hope Company—I mean, between West Virginia and Ohio.

A. The lines crossing the river are owned either by the Reserve Company or the Connecting Gas Company; now I am unable to say which.

432 Q. Can you give us the number of miles of pipe of the Hope Company in the State of West Virginia?

A. Approximately 3,550 miles, in sizes of two inches and above.

Q. As I understand, these maps do not purport to give anything except the general lines? They don't enter at all into the gathering lines, or the small lines supplying any of the towns or cities?

A. They do not—merely the transmission lines in sizes of eight inches and above; and no attempt has been made to show on the map smaller lines through the fields or the distributing lines to the various plants, the town plants.

Q. Do I understand, this only shows the transmission lines, you say, eight inches or above?

A. There may be a very few lines shown on there of a smaller size than eight inches, but only comparatively few.

Q. Is that true also of the Peoples Company lines, as shown upon the map?

A. Yes, to the best of my knowledge. I have not examined the sizes of all the lines shown, but my understanding is that the map is only to show the larger lines.

Q. Turning again to the map, Pennsylvania Exhibit No. 15, will you give us, Mr. Sullivan, the location of the compressor
433 stations upon your lines, the lines of the Hope Company; and state their capacity as you go along, without being specially interrogated.

A. Do you want all of them?

Q. Yes, all of them.

A. The largest station, compressing station, is located in Wetzel County, West Virginia, at a point known as Hastings. This station delivers gas to the East Ohio Natural Gas Company and the Peoples Natural Gas Company, and consists of four large gas engines, with a combined horse power of about 5,000; also, nine steam engines, with a combined horse power of approximately 12,150. There is another station located at a point in Monongalia County, West Virginia, about five miles south of *of* Brave Station, known as Lemley's Station. This station also delivers gas to the Peoples Natural Gas Company, and has a horse power of approximately 250.

Another station located in Marion County, at a point near Mannington, West Virginia, which delivers gas to the Peoples Natural Gas Company and to the Manufacturers Light & Heat Company. I am unable to give the horse power in this station from memory. Hawkins Station, located in Marion County, West Virginia, at a point south of Fairview, which delivers gas to the Fayette County Gas Company; I am unable to give the horse power
434 from memory. The Bridgeport station, located in Harrison County, West Virginia, at a point northeast of Clarksburg, delivering gas into the lines leading into Wright Station. Peora Station, located at a point in Harrison County, West Virginia, slightly northwest from Lumberport. Schutte Station, located in Doddridge County, West Virginia, at a point northeast of West Union, delivering gas to the lines leading to Hastings Station. Fink Station, located in the northern part of Gilmer County, West Virginia, also delivering gas to lines leading to Hastings Station. Schultz Station, located in Pleasants County, West Virginia, delivering gas to lines leading to Parkersburg, West Virginia, and Marietta, Ohio. Craig Station, located in Ritchie County, West Virginia, at a point east of Macfarlan, delivering gas to the lines leading to Parkersburg, West Virginia, and Marietta, Ohio. The Big Spring Station, located in the northern part of Calhoun County, West Virginia, delivering gas into the same lines as Craig Station and Schultz station. Centerville Station, located in Tyler County, West Virginia, southeast of Sistersville, delivering gas to the lines of the Manufacturers Light and Heat Company. Deep Valley Station, located in the western part of Doddridge County, West Virginia, de-
435 livering gas to lines leading to Hastings Station. Ice Station, located in the eastern part of Wetzel County, West Virginia,

delivering gas to lines leading to Hastings Station, and also the lines connecting to the lines of the Peoples Natural Gas Company. Hawkins Station, located in Marion County, West Virginia, northeast of Mannington, delivering gas to the lines of the Fayette County Gas Company, in Pennsylvania. Sardis Station, located in Harrison County, West Virginia, delivering gas into the lines leading to Wright's Station. Marts Station, located in Doddridge County, West Virginia, delivering gas into the lines leading to Hastings Station. Milford Station, located in Harrison County, West Virginia, at a point near West Milford, delivering gas into the lines leading to Hastings Station. Lightburn Station, located near the county line between Harrison and Lewis Counties, West Virginia, delivering gas into the lines leading to Hastings Station. Hoover Station, located in the northern part of Braxton County, West Virginia, near Burnsville, delivering gas to the lines leading to Hastings Station, and also to the lines of the West Virginia Light, Heat & Power Company, to whom the Hope Company sells gas.

There are at the present time about thirty-seven, as I
436 recollect, of these stations, and I may have missed some of them in going over the map. I am unable to give the horse power of all the different stations, but the total horse power is approximately 60,000.

Q. Now, in addition to these compressor stations, to which I have called your attention, of course the Hope Company has its measuring stations, so called, or meter stations, at various points upon its lines, both where it receives gas by purchase and where it sells gas to other parties?

A. It does.

Q. And has a large number of such stations?

A. It has.

Q. Now, we have had considerable testimony in the case heretofore and today about compressor stations. Will you just briefly state what a compressor station is?

A. A compressor station is a collection of machinery that is installed for the purpose of taking gas from the wells after the natural rock pressure gets so low that it will no longer force it through the lines to a market. The compressing stations are installed at various points through the different fields, and the lines leading from these compressing stations are connected to the wells. The operation of these stations has the effect of reducing the pressure in the lines low enough,—lower than the well pressure, so that the natural pressure, whatever the well may produce, will enable the gas to feed
437 into those lines. Now, in many instances, these compressing stations reduce the gas to a point below atmospheric pressure.

Q. You man, reduce the pressure of the gas?

A. Reduce the pressure below atmospheric pressure, so that the wells have an opportunity of discharging the gas into those lines, and the compressing stations compress the gas and raise it to a pressure sufficient to cause it to flow through the transmission lines to a market. What this pressure may be depends very largely on the size of the lines leading from the stations and the distances which the gas

has to travel, but the station has the effect of permitting the flow all of the gas in the sand to the markets, by reason of reducing pressure between the station and the wells, and then increasing sufficiently at the station to cause it to flow through the lines to markets.

Q. In other words then, the compressor station has a dual effe The first effect, what we will call back of the compressor station, a the other effect, what we may call in front of the compressor statio

A. Usually, in speaking of that, we term the lines from the stati to the wells the suction lines, and the lines from the stations to markets the discharge lines.

438 Q. Very well then, using the nomenclature of the tra the effect is to reduce the pressure in the suction lines, so to enable the gas from the oil sands to pass up to the gas sands, a pass up to a point where the compressor station will affect that g and then compress it in the compressing cylinders, so that when it discharged into the transmission lines, it has an initial pressure the amount to which it has been compressed by the compressors, as to pass through those transmission lines to some other po distant therefrom?

A. That is correct. That is the effect the operation of the stati has on the gas.

At this point a recess was taken until 1:30 P. M.

439 Wednesday Afternoon.

And now the hour of 1:30 o'clock, P. M., having arrived, heari resumed, pursuant to adjournment.

T. O. SULLIVAN resumes the stand.

Direct examination (continued).

By Mr. Weil:

Q. Mr. Sullivan, have you available the figures, and are you a to give us the amount of gas delivered by the Hope Company to t respective Companies which you said in your testimony you w supplying with gas during the year 1919?

A. I think I can; I will see—I have that information and c furnish it.

Q. Did the Hope Company supply these same companies in 19 the year previous, and are they likewise supplying them now?

A. They did supply them in 1918, and are supplying them no

Q. Now, then, taking them up in such order as you may desire When you give us the amount of gas supplied in 1919, I presu you refer to the calendar year?

440 A. I do.

Q. Also state at the same time the larger cities that th companies supply with gas, so as to have it all in the one answer.

A. During the year ending December 31, 1919, the Hope Natural Gas Company delivered to the East Ohio Gas Company 32,349,750,000 cubic feet of gas. The East Ohio Gas Company supplies gas to the city of Cleveland, Ohio; the City of Canton, Ohio; Akron, Ohio; Massillon, Ohio; New Philadelphia, Ohio; Youngstown, Ohio, and several smaller communities.

During the same year, ending December 31, 1919, the Hope Natural Gas Company delivered to the Peoples Natural Gas Company 6,496,994,000 cubic feet of gas. The Peoples Natural Gas Company supply gas to the City of Pittsburgh, Pennsylvania; to Wilkinsburg, Pennsylvania; Turtle Creek, Pennsylvania; Jeannette, Pennsylvania; Greensburg, Pennsylvania; Latrobe, Pennsylvania; New Kensington, Pennsylvania; Derry, Pennsylvania; Johnstown, Pennsylvania—through another company, another distributing company; Altoona, Pennsylvania; and a number of smaller communities.

During the year 1919, ending December 31st, the Hope Natural Gas Company supplied to the River Gas Company 1,220,
441 815,000 cubic feet of gas. The River Gas Company supplies gas to the City of Marietta, Ohio, and several other smaller places in the vicinity of Marietta, Ohio.

During the same year, 1919, ending December 31st, the Hope Natural Gas Company supplied gas to the Manufacturers Light and Heat Company, 12,268,302,000 cubic feet of gas. The Manufacturers Light and Heat Company supplies gas to the City of Pittsburgh, Pennsylvania; Carrick, Pennsylvania; Sewickley, Pennsylvania; Rochester, Pennsylvania; Beaver Falls, Pennsylvania; New Castle, Pennsylvania; East Liverpool, Ohio; Steubenville, Ohio; Toronto, Ohio; Wellsville, Ohio; New Martinsville, West Virginia; Wellsburg, West Virginia; New Cumberland, West Virginia; Moundsville, West Virginia; Benwood, West Virginia; and numerous other smaller communities in all three states.

During the year 1919, ending December 31st, the Hope Natural Gas Company supplied gas to the Fayette County Gas Company, amounting to 1,597,130,000 cubic feet. The Fayette County Gas Company furnishes gas to the City of Connellsville, Pennsylvania; Uniontown, Pennsylvania; and some other smaller towns in Pennsylvania.

442 During the same year, the Hope Natural Gas Company furnished gas to the Northwestern Ohio Natural Gas Company, through the lines of the Reserve Company and the Connecting Gas Company, amounting to 5,709,498,000 cubic feet.

This is practically the gas supplied to companies other than those connected direct to the lines of the Hope Company in the State of West Virginia; the gas supplied in the State of West Virginia is included in the amount of gas furnished by the Hope Company itself.

Q. And what cities does the Northwestern supply?

A. Northwestern Ohio Natural Gas Company supplies gas to the City of Toledo, Ohio, and a number of smaller communities surrounding Toledo.

Q. Now, do you recall any other companies?

A. We sold a small quantity of gas during the year 1919 to the Reserve Gas Company, amounting to 13,266,000 cubic feet of gas.

Q. And what communities does it supply?

A. It supplies a scattered number of consumers through the State of West Virginia, and sells its gas to the Union Natural Gas Company at Canton, Ohio.

Q. And what does the Union Natural Gas Company supply?

A. They supply a number of towns in Ohio and Indiana.

443 Q. Do you know whether the Union Gas Company also supplies communities in Indiana?

A. I am informed that they do; I have mentioned Indiana.

Q. Give us now the characteristics of natural gas, how it is found, where it is found, and what you know from your experience about how its presence is determined in any locality or in any field.

A. Natural gas can be best described as a mineral, and is found—has been found in different localities in a number of states in the United States. In many instances, geologists have been employed to examine the different sections of the country, where somebody conceived the idea that there was a possibility that natural gas might exist. In some instances where the reports of the geologists were favorable, drilling has been done, and natural gas was sometimes found, and sometimes it was not found. In many other instances, when geologists reported unfavorably upon a territory, drilling was done also, and sometimes natural gas was found there and sometimes it was not found there. About the only way that I know of to determine with any degree of certainty whether there is natural gas under any portion of the earth's surface, is by drilling for it, and drilling to the sands where it is expected to be encountered.

444 Have I covered all of *of* your question or not?

Q. I think you have very fairly. Now, then, after gas has been found by the drill in any particular locality, what is the fact as to its pervading that whole locality, and as to dry holes being drilled in vicinity to, or juxtaposition to wells that have been put down in which gas was found?

A. Where natural gas has been found in any considerable quantities in a certain territory, it is usually considered a favorable indication that gas may exist within reasonable distances at least from where the first wells have been drilled, but it very frequently occurs that dry holes are drilled even in close proximity to producing gas wells. So the fact that gas has been found in any particular well or field cannot be considered as a sure indication that other wells drilled in the same field will be productive of gas.

Q. How many gas-bearing sands are you familiar with from your own operations and observations, and give us, in the different localities, the respective depths that these sands exist from the surface.

A. In this section of the country, taking in the states of Pennsylvania, West Virginia, and some portions of Ohio, there are five or six different sands that have been productive of gas. Now, the distance——

445 Q. Now, just a moment before you reach the distance. Give us the common name by which those sands are known to the trade.

A. There is the Salt Sand, the Injun Sand, the Third Sand, the Fourth Sand, the Fifth Sand, the Gordon Sand, the Gordon Stray Sand, the Sixth Sand, the Bayard Sand, the Elizabeth and the Speechley. Now, all of those sands do not exist all over the territory in this section of the country, some existing in one territory and some in another, but generally speaking in most of this territory there are four or five sands where gas may be expected to be encountered in either one or the other of the sands, and sometimes in two or three of them, in the same well. Now, the distances at which those sands are located from the surface is something that it is impossible to determine, for the reason that the surface varies so much in elevation, and that is usually figured from some fixed strata in the earth's surface that does not change. In this section it is usually figured from the Pittsburgh coal.

Q. That is, it is figured so many feet below the Pittsburgh coal?

A. So many feet below the Pittsburgh coal. The Injun sand is at a depth of about 1,360 feet below the Pittsburgh coal; the
446 Gordon sand, as I recollect it, runs about 2,200 or 2,300 feet below the Pittsburgh coal; and the Speechley sand about thirty-one—thirty-three—thirty-one or thirty-two hundred feet below the Pittsburgh coal. Those distances all vary, as the sands may be dipping in one direction or another, usually towards the southwest in this section.

Q. And what are the various distances of the Pittsburgh coal from the surface?

A. That all depends. If you are on top of a hill, it is deeper than if you are down in a valley; it all depends on where you are.

Q. Now, what is the depth of some of the deepest wells in which gas has been found in the section you have described?

A. Well, the deepest well that I know anything about, where gas has been found, is a well drilled about 50 miles from Pittsburgh, along the Lincoln Highway, in which gas has been found. That well is somewhere about 60—well, between 6,500 and 7,000 feet, I don't remember the exact depth, but some gas has been encountered at that depth. But usually in this district the deeper wells run from 3,000 to 3,500 feet from the surface, depending on the location. Now, when I speak of "this district," I am speaking of southwestern Pennsylvania and northwestern—the northern part of West Virginia.

447 Q. Have you any information as to what that deep well cost to drill?

A. I have not any definite information regarding it, but I have understood in a general way that it will run between fifty and seventy-five thousand dollars. It may be considerably more than that before it is really in producing condition, for the reason they are having some trouble with the well now. It is impossible to tell what it will cost by the time it is eventually completed.

Q. At the present time, what would you say was a fair average of the cost of wells in the section that you have described?

A. To drill and complete wells through the section that I have been talking about, at the present time, will cost from fifteen to eighteen thousand dollars per well.

Q. Does that include the casing and tubing and equipping?
A. Yes.
Q. Ready for production?
A. Yes, sir.
Q. When a well is drilled, what is the process followed by th trade in preparing it for producing?
A. After it is drilled?
Q. What?
448 A. After it is drilled or before?
Q. After the well is drilled and the gas sand has been en countered and the gas found?
A. The first thing is to shut the well in either by closing it in i the casing or by inserting a string of tubing and a packer and shu ting it in the tubing. After this is done, a market must be secured and if there is no ready market——
Q. No, I am not speaking of a market now so much as I am th treatment of the well itself.
A. Well, after it is drilled——
Q. You spoke of the casing; when is the casing put into the well
A. The casing is put into the well during the drilling; I spoke o it as shutting the well in the casing.
Q. What is the casing? Describe what the casing is.
A. The casing is a string of pipe usually about 6⅝ inches in diameter, which is inserted in the hole to shut off any cavings o water that may be encountered, until you get to a depth below wher they are, so as to permit you to finish the drilling of the well into the gas sand.
Q. And this casing varies in depth from the surface to wha depth?
A. Well, that particular string of casing varies in propor
449 tion to the depth of the hole, wherever the gas may be en countered. If gas is found in the deeper sands, then a string of casing probably from twenty-two to twenty-six or twenty-seven hundred feet in length is inserted in the hole, to shut off the caving or water that may have been encountered in the upper part of the hole. Of course, where a well is not drilled so deep, the string o casing is shorter, but there are two or three strings of casing or pipe put into wells in drilling them, always.
Q. Well now, just explain that a little more fully, where you say two or three strings of casing are inserted in the well. The firs string put in is what is usually called drive pipe?
A. It is.
Q. And what size is that, usually?
A. Why, if you want to get at that, perhaps I had better describe the drilling of a well from the beginning.
Q. Very well, do that.
A. In the first place, after the rig is erected——
Q. You mean by the "rig"——
A. The derrick.
Q. The derrick that is constructed on the surface?
A. Yes, sir—the hole is punched in the ground to a depth of pos

sibly 20 to 40 feet, and a conductor—what we call a wooden
450 conductor, is inserted in this hole. That is for the purpose of shutting out the surface water and any loose dirt that might be caving in or interfering with the starting of the drilling of the well.

Q. And about what size is this?

A. It usually is about 13 inches in diameter. After this is inserted, they commence drilling a hole—drilling a well—and drill a hole about 12 inches in diameter, into which is inserted a string of 10-inch drive pipe.

Q. And what about depth——

A. This is usually put in to a depth of about 400 feet above the Pittsburgh coal, provided the well is located in some section where the coal is deep. It is inserted, in any event, at a point to shut off the first water that may be encountered. After that casing is inserted in the well, then a string of 8¼ drive pipe—usually termed drive pipe, it is practically the same as casing—is inserted, and that extends through the Pittsburgh coal and shuts off the next water which may be encountered. After the 8¼ pipe is inserted in the well, drilling is continued until the Injun sand is drilled through or into. If no gas is found in this sand, a string of 6⅝ casing is inserted in the well, to case off all of the cavings above that sand. And then drilling is continued. If gas is found in some of the deeper sands, it is customary usually to put in a string of five and
451 three-sixteenths casing to the top of the Gordon sand, or to the lowest point at which any water or caving is encountered in the hole.

Q. About what would you say is the average depth there?

A. Oh, that runs anywheres from two to three thousand feet in depth, depending on the locality.

Q. Well, go ahead. What after that?

A. After the 5 3/16 is inserted, the well can be drilled into the gas producing sands, providing gas is found in any of the known sands common in this district. Of course, in drilling a deep well like the first well I mentioned, that procedure is changed somewhat, and the casing is put down to much deeper depths than the ordinary wells.

Q. Well, now then, after your well is completed, you spoke of putting in a string of tubing.

A. Yes, sir.

Q. What do you mean by that?

A. That is a string of pipe that is put into the well with a packer on the bottom of it, to shut off all water and caving that might be in the well at any point above the gas-bearing sand. That packer is usually placed right on top of the gas-bearing sand, and then the gas comes up through the tubing and is taken from the well
452 through the tubing.

Q. And what is the size of the tubing?

A. It varies, depending on the size of the well, anywheres from two to four inches in diameter—and also depending somewhat on the different sizes of casing that you have in the well. You have to put

in a string of tubing that will go inside of the smallest string of c
ing that has been used.

Q. Well, now, the packer that you have mentioned, what is the

A. A packer is a contrivance that is made of iron, with a band rubber fitted in between the two sections of iron, and this rubber usually from—oh, from about an inch in thickness—and is plac down in the well just at the top of the gas-bearing sand, and t weight of the tubing—the contrivance is secured onto the bottom the tubing, and the weight of the tubing is allowed to rest on th rubber, so that when the weight comes down it presses the rubb out against the walls of the well, so as to shut off and prevent t gas from going up outside of the tubing, but pulls it so it will go the surface on the inside of the tubing.

Q. You have below that packer what is termed in the trade— device known as the anchor, have you not?

453 A. Sometimes. That depends on the kind of packer yo use, whether it is an anchor packer or a wall packer.

Q. Well, now, after you get it cased and tubed, as you have d scribed, what do you do then?

A. That all depends on the conditions. If you have use for th gas, it is connected up to the line leading from the well and turne into the main line, and the gas taken to market. If you don't hav a market for it, and no use for it, it is usually shut in and allowe to remain in the well as long as it will stay there.

Q. How do you shut this in?

A. By the closing of the gate at the top of the well and ancho ing it down,—If the pressure on the well is enough, so that the will be no danger of its blowing the tubing out of it.

Q. What is this gate?

A. The gate is a valve made to open or close, so as to pull bac the flow of gas or to permit it to flow through the valve when it i opened.

Q. What forces the gas from the gas-bearing sands up to the su face?

A. The pressure which may be back of the gas,—that might b water pressure, or possibly oil pressure, or some other—It might b something else, but it is the pressure back of the gas tha

454 forces it to the surface.

Q. What are the variations in pressure of the gas in th wells?

A. Oh, that varies greatly in different localities and in differen sands. There are some wells of very few pounds and in other well it runs up into thousands, or more than a thousand pounds.

Q. Now, as the pressure,—what is called the rock pressure?

A. The rock pressure is the pressure which will accumulate i the well when the gate or valve at the top of the well is closed, an no gas being taken out of the well. In other words, it means th pressure at which the gas is confined in the rock.

Q. Now, as the gas is taken out from the well for utilization, wha is the fact as to the rock pressure gradually declining?

A. Just as soon as the gas commences to be taken away fro the well, the pressure commences to decline.

Q. And I suppose that varies in accordance with the quantity taken out?

A. It does.

Q. And also varies, does it not, with the porosity of the sand in which the gas is confined?

A. I don't know that the porosity of the rock would affect
455 the rock pressure at all.

Q. I was speaking though of the rapidity with which it declined. Doesn't that depend——

A. I think the rapidity with which it declines depends almost entirely upon the rapidity with which the gas is taken away from the well, taken out of the sands. Of course, where the rock is open and porous, the volume of gas taken out in a given time is usually larger than it is where the rock is close and hard.

Q. Well, what is the fact as to the rock pressure alone being any standard by which can be determined the quantity of gas that can be obtained from a given well?

A. The rock pressure does not indicate anything in regard to the volume. It frequently occurs that a well with a very high rock pressure may have a very small volume of gas, and produce but very little gas; whereas, on the other hand, a well with an open, porous sand would have—would not have so much rock pressure, but would produce more gas in a given time—a larger volume, very much larger.

Q. What has been your observation from your long and wide experience, as to the effect upon the exhaustion of gas in a given territory by other wells being drilled in the same locality or section?

A. The greater the number of wells drilled in any par-
456 ticular field, if the gas is utilized, the more rapid will be the decline of the field.

Q. And what has been the effect of drilling of oil wells in gas sections?

A. That has also had the effect of injuring a good many gas wells, by reason of the fact that when the oil wells are drilled, the gas is allowed to escape, thereby depleting the amount of gas in the field; and in some instances oil flows in and drowns the gas out.

Q. And what about water having that effect?

A. Water,—also the same thing occurs with water, very frequently, more especially as the pressure in the field declines; as the pressure gets lower, the water comes in on the field and drowns out the gas or forces it to some other location or point.

Q. In consequence of those facts, what has been the experience of the trade as to the necessity of finding a market for and using the gas when once found in the sand, in order to avoid this depletion or exhaustion by others operating in the same territory?

A. It has been considered necessary in all fields where there was any number of people operating, to obtain a market for the gas as early as possible, for the reason that the gas would be taken
457 out by others and cannot be conserved and held in the ground under conditions of that kind.

Q. Has any device ever been discovered by the trade whereby, when the gas has been found and permitted to come to the

surface, it can be stored or kept on hand for ultimate use or consumption?

A. Only in limited quantities. Gas holders, in some few instances, have been built for this purpose, but a holder cannot be built that will hold a sufficient quantity of gas to make it of any very great benefit to the trade. A holder that would hold ten million cubic feet of gas would be a very large holder—an unusually large holder, in fact. And with the demand that there has been for natural gas, and the quantities that have been supplied by the different companies to their customers, 10,000,000 feet of storage would be of very little benefit.

Q. On most large gas lines, it would only operate, would it not, as the capacity for a very few hours?

A. That is all, a short time.

Q. On account of these characteristics which you have described, what has been the practice of the operating gas companies as to protecting themselves as far as possible by obtaining around their wells or fields large acreage, to prevent others from tapping the same sands?

458 A. It has been the custom with all of the larger companies to secure a sufficiently large body of territory to protect them from encroachments by other companies, in so far as they were able to do so, but it has not been possible to do that, only in some instances; in others, the territory has been taken up and leased by the different companies, in many instances about the same time,—there was a scramble to see who could get the leases. In some instances, a certain amount of territory was taken up and held for a time as being prospective territory, and in this class of territory there is not so much of an effort made to secure it all in a block as there is where it is considered producing territory. When this prospective territory is taken up, in many instances, where it is a little difficult to secure leases—possibly some of them are mixed up with numerous heirs, or other little legal technicalities, the companies have not bothered to clear those out of the way, leaving therefore a certain amount of open territory. Therefore, if that happens to be productive territory, the others are after it just about as soon as there are any indications that it is productive territory, to get their share of it if they can.

459 Q. Now, at one time in the history of the trade, before the introduction of compressor stations, this gas was conducted through the transmission lines to market by the pressure with which the gas itself flows from the wells into the respective lines?

A. Yes, sir.

Q. About how long has it been since the installation of compressor stations became common with the trade?

A. The first compressing stations were installed—oh, possibly thirty years ago. Those were rather small stations, and were installed in fields where the gas had commenced to decline. In this section of the country the installation of compressor stations started in generally, you might say, about between fifteen and twenty years ago.

Q. Has there been much development in the improvement and

efficacy of these compressor stations since their installation became general?

A. There has been a very marked improvement. The first compressing stations that were installed were, of course, experimental, and very little was known about them, but as time went along, improvements were made, until at the present time the compressing stations are very efficient and, in fact, it is practically impossible to conduct the business without them.

Q. What are the classes into which the consumers of gas are divided, as generally known to the trade?

460 A. The two principal classes are domestic and industrial. Numerous companies carry accounts on their books, such as Miscellaneous and Churches and Public Schools, and different kinds of consumption, in different terms.

Q. And for what is the gas used?

A. For domestic use, the gas is used for cooking, lighting, and heating the homes of the people. Industrial gas is used in factories and mills, for manufacturing purposes and power purposes.

Q. The two uses then are for fuel purposes and for lighting purposes?

A. Fuel and lighting are the two uses; and for the production of power in gas engines.

Q. How far is the gas at the present time from the West Virginia fields being transported for consumption—the longest distances—just a rough estimate.

A. Oh, roughly, I would say about 200 miles.

Q. What would be the distance, for example, from the West Virginia fields to the City of Toledo?

A. Well, that would be considerably more than 200 miles. I judge that would be—Well, to the best of my recollection, that would run about 225 or 230 miles. Now, I am speaking of the pipe lines, the distance by pipe lines, when I say that; the distance by

61 direct line might not be so far.

Q. Well, I mean the distance by pipe line. What would be the distance, for example, to Muncie, Indiana?

A. Well, I couldn't give that. I suppose——

Q. That would be still farther?

A. That would be still farther, in my opinion; I couldn't give that.

Q. And on the way east, how far would it be, for example, to Altoona from the West Virginia fields, by pipe lines, through which the gas is transported?

A. Well, I think about two hundred miles.

Q. Now, returning to the installation of these compressor stations, would the gas have been transported from the points of production in West Virginia, for example, to places like Muncie or Toledo or Altoona, or the other points of consumption—distant points of consumption in Ohio, Pennsylvania and Indiana—without the installation of these compressing stations?

A. It could not in any large quantities.

Q. And state whether or not these compressing stations were in-

stalled and the lines built, with reference to their size, for the pu
pose of transporting this gas in that way to the more distant poin
of consumption.

Mr. Hoffheimer: That is objected to, as calling for an opinion
conclusion of the witness; and as incompetent, irrelevant an
462 immaterial.

The Commissioner: Note the objection; the witness ma
answer.

A. Every natural gas plant is designed and built for some specif
purpose, with a view to taking gas from some certain field, trans
porting it and delivering it to some certain market; and the instal
lation of the compressing stations, the size of the lines, the size o
the compressing stations, their location,—all of those things are care
fully studied out and planned before the plant is built. The com
pressing stations are installed where it may be considered is the mos
favorable location to take the gas from certain territory,—or from
wells located in certain territory, and deliver it into the lines leadin
to the markets. This is all definitely planned and fixed with mos
every gas company when the project of installing it is being consid
ered and thought out. It is built for a certain specific purpose. O
course, later on, depending on conditions, additions and change
may be made from the original plan, but it is originally planned fo
a certain definite purpose.

Mr. Weil:

Q. Were the compressing stations, then, of the Hope Company
and the lines of the Hope Company built with reference to this sup
ply of gas to cities and towns in Ohio and Pennsylvania?

463 Mr. Hoffheimer: Same objection.

The Commissioner: Let the objection be noted, and the
answer taken.

A. It is my understanding that the lines and compressing stations,
and the general plan of the pipe line system of the Hope Natural
Gas Company was laid out and installed with the definite purpose in
view of supplying gas to towns in Ohio and, later on, to towns in
Pennsylvania.

Mr. Hoffheimer: I move to strike out the answer, on the grounds
stated in the objection; and also on the ground that the answer of
the witness is hearsay.

Mr. Weil:

Q. In the operation of your lines in West Virginia, state whether
or not it is the fact that, through your connection with the River
Company and other companies which obtain production in Ohio and
also in West Virginia, and other companies similarly situated and
which supply cities or towns in Ohio and other States, at times the
gas from those other lines, depending upon the pressure upon the

lines, goes back into West Virginia through the lines of the
464 Hope Company, and at times goes to consumers in West Virginia.

Mr. Hoffheimer: Objected to, first, because the question is vague; secondly, because it calls for an opinion or conclusion of the witness; thirdly, because no facts have been stated upon which such an opinion or conclusion could be based; fourthly, because the answer called for is speculative; and, fifthly, because the testimony is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection, and let the witness answer.

A. Yes, sir, it is true that gas at times goes from the lines of the River Gas Company back into the State of West Virginia, through the lines of the Hope Natural Gas Company. I know this because there is a meter on the lines, and we pay the River Gas Company for the gas that goes through.

Mr. Weil:

Q. Now, Mr. Sullivan, prior to 1880, natural gas was produced, was it not, as merely incidental to the production of oil—or about that time?

A. Yes, prior to about that time, it was—at or prior to that time.

Q. And since the development of the natural gas business,
465 what is the fact as to sections of Pennsylvania and Ohio, and other States, being substantially wholly dependent upon natural gas for light and fuel in their homes?

Mr. Hoffheimer: Objected to, as calling for an opinion or conclusion of the witness, and not for any specific facts; and as incompetent, irrelevant and immaterial.

A. It is a fact that there are many communities in the States of Ohio and Pennsylvania, and other States, that are dependent upon the supply of natural gas for fuel and light.

Mr. Weil:

Q. What is the fact as to these appliances in those localities being specially adapted to the burning of natural gas, and not adapted to other fuel?

A. That is the case very largely where natural gas is used, that the appliances are specifically adapted to the use of natural gas, and they are not adapted to the use of other fuel, unless it was another gas. In some instances, coal appliances have been converted so as to use gas in them; those, of course, could be converted back to coal
466 appliances easier than appliances which were especially constructed for the use of natural gas.

Q. And what is your knowledge as to the fact of houses having been constructed solely with reference to the burning of natural gas and not adapted—without reconstruction—to the use of other fuel?

A. There are many houses in the different localities where natural gas has been in use which are not adapted, not constructed so as to permit the use of coal, or other fuel or similar character, without a very considerable amount of reconstruction.

Q. Can you give us the amount of the investment made by the Hope Natural Gas Company in the State of West Virginia in acquiring lands, drilling wells, laying pipe lines, paying rentals and royalties, installing pumping and compressing stations, and other necessary incidents and appliances to its present natural gas business—giving this to us in round numbers, from the beginning to the present time?

A. I can only give you that approximately.

Q. That is all I want.

A. I can't give that very accurately, because it takes in a very wide scope, but I would say, roughly, that it exceeds a hundred million dollars, and might exceed that by a very considerable figure.

Q. You are satisfied that it would amount at least to that amount?

A. I feel satisfied it would be more than that; but anything
467 I say about that is based more on the expenditures and investment for the last ten years than previous to that time, when I am not familiar with the money spent by the company. I am satisfied it would exceed a hundred million dollars, and might exceed it very considerably.

Q. What is your present investment—that of the Hope Company—in the State of West Virginia, in wells, acreage, pipe lines, compressor stations and all other paraphernalia and appliances connected with the business?

A. Our investments are approximately $37,500,000 invested in West Virginia, excluding such items as materials and merchandise on hand, cash in bank, accounts receivable, and so forth.

Q. You mean by that, then, in actual plant?

A. Yes, that is the actual investment in plants. Your former question, as I understood, had reference to money spent in West Virginia—that included money spent for expenses and all other items of that character.

Q. Oh, yes.

A. Now, this is investment strictly, and takes in such items as gas wells, compressing stations, pipe lines, distributing plants, telephone and telegraph lines—tangible assets invested.

Q. Does this include the stocks in other companies——

A. It does not.

Q. —owned by the company?

A. It does not. Neither does it include any valuation on
468 the leaseholds other than the cost of obtaining them, the first payment, which is always charged against the leaseholds.

Q. Now then, in order to understand this a little more definitely: You gave us the item of thirty-seven million—what was it?

A. About five hundred thousand, I think.

Q. $37,500,000. Now, as I understand, this does not include, according to your statement—to your testimony—the stocks of other

companies operating in West Virginia which are owned by the Hope Company?

A. It does not include securities owned in other companies?

Q. Does this amount of $37,500,000 include any valuation upon the gas leaseholds held by the Hope Company, except the amount of bonus they may have paid therefor, or the rentals paid thereon?

A. It does not include any rentals. Neither does it include any valuation on the gas deposits, but it does include the bonuses paid for the leaseholds at the time they were acquired; rentals are not investment.

Q. Then, in this figure which you have given us, there is no valuation there upon the leaseholds as gas-holding territory?

A. Nothing other than as I have stated.

Q. Does this include the cost of drilling the gas wells that the company owns?

469 A. It does not include the cost of the labor in drilling; it does include the tangible material in the wells, such as pipe, casing, and so forth.

Q. Does it include the cost of the rigs upon these wells—the derricks?

A. It is my understanding that it does not, although I am not positive on that item.

Q. Does it include the cost of laying field lines or gathering lines for the system?

A. I am unable to answer that question just now; I can ascertain that.

Q. Will you ascertain that and let us know later on, if necessary? And will you ascertain before our next meeting the investment in the stocks of other companies?

A. You just want the amount?

Q. Yes.

A. Yes, sir.

Q. Also the cost of drilling the wells which the company now owns—just the cost of drilling—I am talking now about the labor cost.

A. The cost of drilling all the wells the company owns?

Q. Yes, at the present time. You can get that approximately. Also the cost of building the rigs in those wells, if the rigs are not included—you said you would find out.

A. Do I understand that you want the total cost of all the

470 rigs that have been built?

Q. No, the rigs on the wells now owned. You said, I think three or four thousand wells, I have forgotten the number.

A. They haven't all got rigs on them.

Q. Well, those that have rigs.

A. I don't believe I can get that for you, Mr. Weil; that covers a pretty wide scope. We have all those figures in our inventories, but it requires a great deal of work.

An adjournment was here taken until Thursday, June 10th, 1920, at ten o'clock A. M.

471 Thursday, June 10, 1920.

And now, Thursday, June 10, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed pursuant to adjournment.

T. O. SULLIVAN, recalled.

Direct examination resumed.

Mr. Weil:

Q. Mr. Sullivan, when we suspended yesterday, you had given us the amount of your capital investment, and I asked you to secure, if possible, certain other data which was not included in that capital investment. Can you give us the amount invested in the stocks of other companies in that particular field or section?

A. The Hope Natural Gas Company has invested in stocks of other companies $3,141,010. This does not include investments which it has in Liberty Bonds.

Q. Now, then, have you been able to obtain for me the cost
472 of drilling the wells, which was excluded from that $37,500,000?

A. The Hope Natural Gas Company has spent in drilling wells and the purchase of wells, the sum of $21,316,028.48, which is not included in the sum of approximately $37,500,000, which I gave you yesterday as being the investments of the Hope Company in West Virginia.

Q. And those are the present wells of the company, to which you referred in your former testimony?

A. Yes, sir.

Q. Now, have you any data from which you can estimate the cost of laying the field lines,—which you said was not included in the thirty-seven millions—at the present time?

A. We do not have an exact account of the cost of these lines, of the labor cost of constructing these field and gathering lines; but estimating them, taking into consideration about the average length as near as we can arrive at it, and the cost of obtaining rights of ways and so forth, I would say that the labor cost would run from two to three thousand dollars per line.

Q. And how many of those? Just give us the aggregate.

A. Well, we have, I find, 3,567 wells, and each one of those would have to have a line, the cost of which, in my opinion, would approximate somewheres between two and three thousand dollars per well.

473 Q. And how many of them do you have?

A. 3,567 wells.

Q. Now, that would be $5,134,000, at $2,000?

A. Yes, sir.

Q. Then you would say it would be somewhere between five and seven millions of dollars, figured as between two and three thousand dollars?

A. That is my opinion.

Q. Now, have you obtained the figures on the cost of drilling wells,—which was not included in the thirty-seven millions?

A. The cost which is not included in the thirty-seven million would be included in this twenty-one million that I just gave you.

Q. Oh, it would be?

A. Yes, sir; and it also included the rigs, which you asked about yesterday.

Q. That also includes the rigs?

A. Yes, sir.

Q. Adding to your thirty-seven million five hundred thousand those items to which we have just referred, it would bring up that investment to between sixty-five and seventy millions of dollars, would it not?

A. It would bring that up to about $65,000,000.

474 Q. You stated yesterday that the Hope Natural Gas Company supplied the Peoples Company, the Fayette Natural Gas Company——

A. The Fayette County Natural Gas Company.

Q. —the Fayette County Natural Gas Company, the East Ohio Natural Gas Company——

A. Yes, sir.

Q. —the River Gas Company?

A. Yes, sir. The Northwestern Ohio.

Q. Well, I want to leave out the Northwestern Ohio for the present. State whether or not the Hope Natural Gas Company is, to these four companies, their chief source of gas supply; and if not, what is the fact in that particular?

A. The Hope Natural Gas Company is the chief source of supply for those four companies.

Q. The Hope Company is the chief supply of those four companies?

A. Yes, sir.

Q. Roughly estimated, what proportion of the gas of the Peoples Company would you say they obtain from the Hope Company, of its gas supply?

A. I do not have figures to show that, but I would estimate that they receive about 75 per cent of their supply from the Hope Company.

475 Q. And what about the Fayette?

A. The Fayette Gas Company, according to the best information I have, receives the major portion of its gas from the Hope Company, and only has a very small supply of gas of its own.

Q. Practically all then?

A. That is my information.

Q. And what about the East Ohio?

A. The East Ohio Company receives about 80 per cent of its supply from the Hope Company.

Q. And what about the River?

A. The River Gas Company receives the major portion of its supply from the Hope Company. Their own production is small.

Q. Give us the territory,—or rather, give us the names of the towns or cities in West Virginia that are supplied by the Hope Company directly?

A. The City of Parkersburg, West Virginia; the City of Mannington, West Virginia; the City of Sistersville, West Virginia; Paden City, West Virginia; Pine Grove, West Virginia; Fairview, West Virginia, and a number of smaller communities.

Q. Does it supply any of the local gas companies in West Virginia that supply towns or cities in West Virginia?

476 A. It does.

Q. What?

A. It supplies gas to the Light, Fuel and Power Company.

Q. Of where?

A. Of West Virginia. It is supplying gas to the Cities of Gassaway, Sutton and Burnsville, and two or three other smaller places. It supplies gas to the Clarksburg Light & Heat Company, who furnish gas in the City of Clarksburg, West Virginia. It is supplying gas to the West Virginia Heat & Light Company, who furnish gas in the City of Pennsboro, West Virginia, and Cairo, West Virginia. I think those are the only companies that it is supplying gas to or distributing gas to in West Virginia.

Q. Does it supply itself, the Hope Company directly, any of the towns or cities in Ohio or Pennsylvania, adjacent to the state lines?

A. It does not.

Q. Is it a part of your business, Mr. Sullivan, to keep advised as to the various gas fields developed throughout the country?

A. It is,—more particularly in the eastern section of the country.

Q. That is, in the eastern part of the United States?

A. Yes, sir.

477 Q. And to keep a general eye out for the whole United States?

A. Yes, sir.

Q. And are you familiar with all of the developed and prospective gas fields in the eastern part of the United States?

A. I am, in a general way.

Q. Are there any fields tributary to the cities and towns now being supplied by the companies which you have named, which are not now being developed and occupied by the various gas producing companies?

A. I know of no such fields. The territory adjacent to practically all of the large centers where natural gas is being supplied has been drilled and tested to a very considerable extent; so that it does not seem possible that any large fields are likely to be discovered in proximity to those centers of population.

Q. And have substantially all of the big operating companies, and many of the small, been conducting these pioneering developments for the purpose of discovering new gas deposits or fields, which would be tributary to this section for the last few years?

A. Practically all of them have been doing more or less development work, along those lines.

Q. That development work is called "wildcatting," is it not?

178 A. To some extent, it is,—where it is being carried on near territory that has not been previously tested. In many instances, old territory which has been practically abandoned is being drilled over and drilled to deeper sands than ever, to find new production.

Q. At the present time, take the situation as you know it to be: s there a sufficient supply of natural gas for the demands now being nade upon the companies for their present consumption?

A. There is not.

Q. And during the last winter particularly, what was the general xperience of the natural gas companies supplying the public, as to aving shortages of gas or otherwise?

A. Practically all of the companies that I am familiar with had n insufficient supply of gas last winter to meet the requirements of heir domestic consumers in the colder weather.

Q. There was a general shortage of natural gas with all the companies during those periods when the supply was most needed. That as the fact, wasn't it?

A. That was the situation.

Q. Is it possible at the present time, Mr. Sullivan, with the present levelopments, in known fields, and operations, for the gas companies you have described to obtain a sufficient supply of gas

179 to furnish their consumers during the coming winter?

A. In my opinion, it is not.

Q. In your opinion, then, there is bound to be a shortage?

A. Yes, sir, if the present demand and the demand of past years ontinues.

Q. I suppose the amount of that shortage of course will depend pon the temperature and weather conditions?

A. Very largely.

Q. You have testified to the delivery of gas to a number of these ompanies. I presume those deliveries are regulated by contracts in riting, are they not?

A. They are.

Q. Have you those contracts, or copies of them?

A. We have; contracts, I believe, with all of the companies that I ave named on which deliveries are made outside of the state of Vest Virginia. In some instances, the supply of gas to companies n the State of West Virginia was arranged for by letters.

Q. Now, then, have you the contract with the East Ohio Company, dated March 1, 1910; with the Peoples Natural Gas Company, ated May 1, 1911; with the Fayette County Gas Company, dated lay 1, 1910; with the Mountain State Gas Company; and the River Gas Company, dated April 1, 1910, which was assumed by

180 the Hope Company on April 1, 1910; the contract with the Northwestern Ohio Natural Gas Company, dated October 16, 915; the contract with the Reserve Gas Company, dated April 11, 913?

A. We have those contracts.

Q. Will you produce those, please?

A. Copies of them, or do you want the originals?

Q. Well, after showing them to counsel, we can no doubt subs tute copies. While those contracts are being obtained, we might well proceed, perhaps, and put them in a little later. Mr. Sulliva do you know anything about the operations of the local compani in the State of West Virginia, and whether or not they made pr vision or reserved acreage, to look out for demands upon them f gas, as did the older, more experienced companies?

A. I only know about that in a general way. I do not have an direct information as to the acreage that any of those companies a holding, but through conversation with some of them, I have unde stood that the acreage that they were carrying under lease was ver limited, and that they had not made provision sufficient to insu them a future supply.

Q. And that is true, is it not, of practically all of the local com panies in West Virginia?

A. It is, according to the best of my information an belief.

481 Q. And, as a matter of fact, it is a part of your duty as th general manager of this Hope Company, to ascertain wha general acreage is held by all of the different companies in the ga territory in the state, is it not?

A. It is, to certain extents. There are many of those things tha are common knowledge. I haven't made any examination of th records or anything of that kind to ascertain that.

Q. No, of course not. Do you know when those local companie first began to organize as gas companies in the State of West Vir ginia? About that time, when they began to organize such com panies?

A. The most of those companies have been organized in the las twenty years.

Q. Do you know whether or not they were organized by thos having had prior experience and expert knowledge of the gas busi ness?

A. I do not, of my own knowledge, but my general information is that the majority of them were organized by people who were unfamiliar with the business.

Q. Was it not a matter of general comment in the trade that mos of these local companies that were organized to supply local commu nities with gas were not making any provision for the future in pro curing territory and drilling wells, as was required by th

482 experience of those familiar with the natural gas business and, in consequen the companies generally officered by men of experience in the business, looked upon these organization as temporary and not as being organized for the purpose of continu ously supplying their respective communities? What are the fact as to that situation?

Mr. Steptoe: The question is objected to, both on account of it form and because any answer thereto would be irrelevant, immateria and improper.

The Commissioner: Note the objection.

A. It has been a matter of comment among the officers of the larger companies that when these smaller companies were organized and supplying gas at different communities, that their life would probably be short, on account of the fact that many of them started in to supply gas with one or two wells, and it was generally believed that when the supply of gas from those wells became exhausted, that they would not care to invest the additional money necessary to secure territory and to drill other wells and lay the pipe lines necessary to connect up the wells which would be drilled at greater
483 distances than those which they were first using.

Q. Mr. Sullivan, do you know anything about whether or not these local companies, after they went into business, paid dividends upon their capital?

A. I do not.

Mr. Steptoe: The question is objected to.

Mr. Weil: He said he did not.

Mr. Steptoe: All right, if it is left there, the objection is withdrawn.

Mr. Weil:

Q. Do you know, Mr. Sullivan, anything as to the average consumption per domestic consumer in West Virginia, for the year 1919, as compared with other states?

A. I have a record of that, I believe, some place, but I have not got it with me now. I can get that, I think.

Q. I would like to have that if you have it; if you have made that calculation.

A. I will look it up. I am sure I have got it, if I can locate it, and I will look it up at dinner time.

Q. Make a note of that, so you can get me that at noon, if
484 you will, please?

A. Yes, sir.

Q. If the gas companies operating in West Virginia, in accordance with the terms and provisions of the statute in controversy here, were required to supply all such industries with their requirements of natural gas throughout the state, before transporting the gas elsewhere, what would be the effect upon the operation of your company and its ability to carry out its contracts with the companies to which you have already referred? Go into that question, without being specially interrogated, as fully as you can.

Mr. Hoffheimer: This is objected to, as calling for an opinion and conclusion of the witness. And for the further reason that the contracts in question or their performance can have no bearing upon the validity of the statute in question or the regulatory powers of the State of West Virginia. For the further reason that the witness has detailed no facts upon which a conclusion or opinion may be properly drawn or expressed; and for the further reason that the evidence is incompetent, irrelevant and immaterial.

485 The Commissioner: Note the objection, and take the answer.

A. If the provisions of this statute were put into effect, it would result in such a demoralization of the business as to make it impossible for us to fulfill our obligations under the contracts which we have made with other companies for a supply of gas outside of the state of West Virginia. It would also have the effect of making the service that we could render to those companies so unsatisfactory to their consumers that they would necessarily have to adopt some other means of providing heat in their homes. Natural gas service, in order to be at all satisfactory, has to be practically a continuous service. Unless it can be relied upon, the public generally would only use it for such purposes as could be dispensed with easily at any time. In addition to that, if the service is intermittent and unreliable, it creates a very dangerous condition. The fact that gas would have to be discontinued on short notice, and then might be turned back into the lines again on short notice, would create a very dangerous and unsatisfactory condition, and it would practically have the effect of rendering the service of little or no value to the consumers.

486 Q. What would be the effect of the enforcement of this Act with reference to the supplying of industries of the State of West Virginia their full requirement, as to increasing the amount of gas that those industries would take from the respective natural gas companies in the state?

Mr. Hoffheimer: We object, on the ground as stated in the last preceding objection.

The Commissioner: Note the objection.

A. There is no doubt but what if the industries in West Virginia could secure all of the gas that they need for their requirements, or could use, that it would very materially increase the quantity which they would take.

Q. Could you form any estimate, or have you any means of determining, the extent of this increase and its effect upon your gas supply to other sections?

Mr. Hoffheimer: The same objection.

The Commissioner: Note the objection.

487 A. We have attempted to make an estimate of the increased amount which consumers connected to our lines and closely tributary thereto, would require to take care of their business, if they were using natural gas for all purposes. And we estimate that that would be in the neighborhood of from sixty to seventy-five million cubic feet per day. If this quantity of gas was deducted from the quantity of gas which we are supplying to other companies, it would result in decreasing the amount which they require, which is insufficient for their requirements at the present time, so much that it would make the service to all of the companies very unsatisfactory, and inadequate for the requirements of their customers.

Q. As a matter of fact, this demand on the part of consumers in

West Virginia, under the conditions we have described under the operation of this statute, would be largest during the coldest days, just as the demands upon your lines are now largest during the coldest days, throughout the whole system, would it not?

A. That would no doubt be the result.

Q. That is the inevitable result?

A. Yes, sir.

Q. And at the present time, during those cold periods, you have not a sufficient supply now?

A. We do not have a sufficient supply now.

488 Q. And with this increased demand during those cold periods, which the operation of this statute would have, and which you have described, would it enable you to practically give any service to any of these companies upon your lines outside of the state and under these contracts that you have described? Would it enable you to give them substantially any service during those particular periods?

Mr. Hoffheimer: The question is objected to as leading. Also, because it calls for an opinion or conclusion of the witness, not only as to alleged matters of fact, but also as to the construction, the effect and the operation of the statute. Also, because the answer to the question must necessarily be speculative and involve elements not testified to, and for which no sufficient foundation has been laid. Also, because the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection, and let the witness answer.

A. The service on cold days would be so poor that it would be practically of no value to the consumers of those companies.

Q. What would be the effect upon the operation of your
489 lines of an order from the Public Service Commission of the State of West Virginia to make connections with and supply the deficit of other natural gas companies in the State of West Virginia, for which you had made no provision and which previously you were not supplying, during these cold periods I have already referred to?

Mr. Hoffheimer: The same objection.

Mr. Weil:

Q. The statute providing that the Public Service Commission should have the power and the right to compel any gas company in the state engaged in the transportation of gas to make connections with and supply the deficit to any other or all other gas companies in the state which had a deficit at the time?

Mr. Hoffheimer: We repeat our last previous objection, and also object to the erroneous interpretation of the statute involved in the question of counsel.

The Commissioner: Note the objection.

A. In many instances it would be practically impossible for us to comply with an order of that kind, under the present
490 construction of our pipe line systems. The lines are built with a view to delivering gas to certain communities. The compressing stations are installed for that purpose and with that end in view. A connection of that kind made on many of the suction lines in the field leading to these compressing stations would necessitate shutting down those stations, in order to permit the gas to accumulate in the suction lines and get a sufficient pressure from the natural rock that it would produce such a pressure as to force the gas to the points where it might be needed. It would have the effect of rendering a good portion of our equipment valueless for the purposes for which it was intended.

Q. And what would be the effect if this connection were made, or ordered, on some portion of your line after the gas had left the compressing station, between different compressing stations, as to the operation of your lines?

Mr. Hoffheimer: The same objection.

The Commissioner: Note the objection.

A. Then it would have the effect of taking whatever quan-
491 tity of gas might be required away from the other points where gas is already being supplied. Inasmuch as the quantity of gas available now is insufficient to meet the consumers' needs connected to the different lines, it would render that insufficiency larger by whatever amount was taken away.

Q. And what effect of disorganization would it have upon your operations, where no provision had been made for this particular demand at those particular times?

Mr. Hoffheimer: The same objection.

The Commissioner: Note the objection.

A. It would have the effect of creating a very chaotic condition, and of generally demoralizing the business. It would be almost impossible to operate under those conditions. In order to take care of any business, it is necessary to make some provisions, and if those provisions are interfered with, it certainly creates a very chaotic condition; more especially if that interference comes at times when all of the available supply is being utilized. It then creates a condition—I am frank to say I wouldn't know how to cope with it.
492 It would be so dangerous that I would be very much disinclined to comply with any order of that kind, if it came at a time when conditions were serious.

Q. As I understand your answer then, as a practical gas man, you don't know what you could do under those circumstances, to operate the lines?

A. Not if I complied with the order. I should feel very much inclined to disregard the order and take a chance on going to jail, possibly.

Mr. Hoffheimer: We move to strike out the answer.
The Commissioner: Let the motion be noted.

Mr. Weil:

Q. Mr. Sullivan, you stated that before you accepted this position
ith the Hope, which you now hold, you were with the Manufac-
rers Light & Heat Company for a number of years as its general
anager?
A. Yes, sir.
Q. Now, as general manager of the Manufacturers Light & Heat
ompany, and as general manager of the Hope Natural Gas Com-
pany, have you information as to the quantities of gas that
93 were being used in former years by industrial plants in the
State of West Virginia, before this shortage of gas became
ute?
A. I did not have that information as to the Manufacturers Heat
Light Company. I know from my recollection of the quantities
gas supplied, that they supplied large quantities of gas for indus-
al purposes, but I haven't the figures in my mind.
Q. Now, from your recollection of the quantity of gas that was
quired by these industrial plants in West Virginia, both from your
ior and present experience, what do you say as to those industrial
nts, if they could receive all of the gas they desired for all of their
erations, having a demand sufficient practically to take most of the
produced in the state?

Mr. Hoffheimer: This is objected to; first, as assuming a condition
in accordance with the Statute. Secondly, as calling for an
nion and for a conclusion of the witness, and being speculative
to future conditions. And generally, because the evidence is in-
mpetent, irrelevant and immaterial.
The Commissioner: Note the objection and take the answer.

A. In cold weather, when the demand of the domestic
consumers would be large, if all the industries adopted the use
atural gas to meet all their requirements, then, in my judgment,
e would be a demand to take practically all of the gas that the
e Natural Gas Company produces. This might not apply to all
ions of the State of West Virginia, but in the sections in which
re operating, there would be a demand for practically all of the
that is being produced at those times.
. Can you give us the names of some of these large industrial
ts using natural gas?
. Yes, sir. The Whitaker-Glessner Company, of Wheeling,
t Virginia. I may not be able to give the names of those com-
es exactly properly. The La Belle Iron Works, of Wheeling,
t Virginia; the Warwood China Company; the Parkersburg Iron
eel Company, at Parkersburg, West Virginia; the New Martins-
Glass Company, at New Martinsville, West Virginia; the Paden
Pottery Works, at Paden City, West Virginia; the Monongahela
& Steel Company, at Paden City, West Virginia; the Bowers

Pottery Company, at Mannington, West Virginia; the General Porcelain Company, at Parkersburg, West Virginia; the Vitrolite Company, at Parkersburg, West Virginia; the Hazel-Atlas Glass
495 Company, at Parkersburg, West Virginia; the Weirton Steel Company, at Weirton, West Virginia, and also at Clarksburg, West Virginia; the Owens Bottle Company, at Clarksburg, West Virginia. There are many others; I can't remember the names of all.

Q. How about the Wheeling Steel & Iron Company?

A. Well, I mentioned that. If I didn't, they are consumers of gas.

Q. What about the United States Window Glass Company?

A. Yes, sir.

Q. At Morgantown?

A. There is a company of that kind at Morgantown, West Virginia. I didn't attempt to name those companies at Morgantown, because I am not familiar with the names of the companies. We don't supply them.

Q. What about the Follansbee——

A. The Follansbee Company, at Follansbee, West Virginia, are large consumers of gas.

Q. Do you know the Homer Laughlin China Company?

A. I do. They are also large consumers of gas, on the lines of the Manufacturers Light & Heat Company.

Q. What about the Grasselli Chemical Company? Aren't they a very large consumer of gas, at Parkersburg?

A. Yes, sir; they consume considerable gas; just how much I don't know.

496 Q. Do you recall that the requirements of those companies at Morgantown alone, as disclosed in some litigation that is pending there now,—or has been—was nearly 8,000,000 feet of gas a day?

A. My recollection is that it was so testified in a suit in Morgantown.

Q. That was just for those located in that immediate district?

A. One or two glass companies—two or three glass companies, I think.

Q. Do you recall the period when inducements were offered by gas companies to industries to locate their plants in the State of West Virginia, on account of the cheap gas?

A. I recall having heard at different times that such inducements were offered and held out by various communities, in order to induce the location of factories and mills at certain points.

Q. Was this policy pursued, so far as you know, by any of the large, experienced gas companies?

Mr. Hoffheimer: That is objected to, as based on hearsay and calling for hearsay.

The Commissioner: Note the objection.

A. I do not know of any cases where offers of cheap gas
497 were made to manufacturers in order to get them to locate at certain places, but of course gas has been sold at a very cheap rate in a number of towns in West Virginia.

Q. Is there any difference between the industries located in West Virginia and those located outside of the State of West Virginia, using other fuel for their respective operations than natural gas? Is there any difference in that respect, advantageous or disadvantageous, between those companies, those industrial organizations, inside of the State of West Virginia or outside?

A. No; similar industries would be operated similarly, whether they were located within the state of West Virginia or outside of the state.

Q. What do you say as to the ability of those companies located in the state of West Virginia to use producer gas, or powdered fuel, such as coal, and so forth, or oil as fuel, as compared with the use of similar fuel by industries outside of the state?

Mr. Hoffheimer: This is objected to, because the witness has shown no competent knowledge on the subject; secondly, because the question calls for an opinion and a conclusion of the witness. Thirdly, because the evidence is incompetent, irrelevant and immaterial.

98 The Commissioner: Note the objection.

A. I know of no reason why industries in the State of West Virginia cannot use other fuel equally as well as industries outside of the state of West Virginia can use other fuel.

Q. From your knowledge and experience in the operation of natural gas companies, have you ever known of an instance in which the lines of a gas company were manipulated or operated, with reference to gas pressure, so as to destroy or for the purpose of injuring other operators in the same field?

Mr. Hoffheimer: This is objected to as calling for an opinion or conclusion of the witness.

The Commissioner: Note the objection.

A. I have never known of such a case. Of course, all of the companies, as far as I know, operating in the fields, endeavor to operate their lines and their compressing stations, in such a manner as to obtain the largest quantity of gas from the fields that they can get. That is done for the purpose of supplying their trade.

99 Q. What percentage of the open flow of a well, from your experience would you say that well was putting into the line, against the varying pressure of the line, taken as a general average?

A. Of course that varies considerably, but as a general proposition, we figure that if we can obtain into the lines from twenty to twenty-five per cent of the open flow, that is all that we can do. Now, that condition changes somewhat as the volume of gas which the wells produce declines, and compressing stations are installed,

so as to take the gas away from the well at nearer—against nearer the same pressures that it would be flowing into the air against.

Q. It is charged in the Answer of the State of West Virginia that competitive leasing between the large natural gas companies has been, by some sort of agreement, eliminated, and this competition stopped. What are the facts as to this?

A. There is no such agreement, as far as my knowledge goes. And, as far as my knowledge goes also, there is just as much competition in leasing now, as between the companies, as there ever was—perhaps more so, as territory looks to be desirable. The quantity of territory which is considered as being desirable is very much less than it was in years gone by, when new territory was being developed right along.

500 Q. What do you say as to this competitive leasing by the respective gas companies and the drilling of wells producing the situation which you have described, which necessitates the marketing of the gas?

A. In my opinion, it is more pronounced now than ever before. As the available gas declines and the companies are short and unable to supply the gas that the customers need, they are making more and stronger endeavors to obtain territory that looks as though it might be productive of gas; and their drilling operations are much stronger, in an endeavor to get gas, than they were in previous years.

Q. Where territory is drilled that way, by any company, and gas found in the wells and turned into the lines, what is the effect of that upon other companies owning gas in the same field, if they do not take out their gas from their wells at the same time, as far as possible?

A. The effect is generally for the gas in the sands to flow in the direction of the wells that are being utilized,—where the pressure is lowest in the sand. It has an effect, if one company is taking out gas and utilizing its wells and the other company is not, and their wells shut in, the tendency is for the gas to flow in the direction of the wells that are being used, on account of the pressure in

501 the rock being reduced at that point more than where the wells are shut in.

Q. What has been your experience in that respect, even when you open the wells that have been shut in?—Do you regain the natural flow, or does that condition which you have described continue, notwithstanding the fact that you subsequently open your own wells?

A. We oftentimes, after a well has been shut in and we open it up, find that the pressure in the well has decreased; that some of the gas has gone to some other point.

Q. And you never regain it?

A. No; as a general proposition, it never comes back. After it is once gone it is gone forever.

Q. Have you any means in the trade of knowing just how far one gas well will affect another?

A. There is no way that I know of, or that I think anybody else knows of, to determine that definitely.

Q. How far have you, in your own experience, known of one well draining or affecting another gas well—what distances?

A. I would say that I have known cases where one well affected another for a distance of half a mile to a mile. In other instances, though, I have known of cases where wells were located quite close together, and one did not affect the other. It depends very
502 largely on the character of the sand; whether it is an open, porous sand, or a hard close sand, as to how far one well will affect another.

Q. There is no way to tell that, is there, except to drill the well and wait and see?

A. That is the only way that I know of. After wells are drilled in, and the rock pressure ascertained, if those wells are shut in and continued to maintain the rock pressure which showed when they were first drilled in, then they are not being affected. But on the other hand, if the pressure declines while the well is shut in, it indicates very clearly that the gas is going some place.

Q. What is the rule of the Hope Natural Gas Company as to giving a preference to domestic consumers over industrial consumers, in the event of a shortage of gas on the lines, and not sufficient to supply both?

A. There has always been a rule of the Hope Natural Gas Company to give the domestic consumers the preference.

Q. That is the general rule, is it not, of all natural gas companies engaged in the business?

A. It is, as far as my knowledge goes.

Q. And has been for many years, has it not?

A. Always, since I have been connected with the business.

503 Q. You have described already, partly the effect of the enforcement of this statute upon the operations of your lines, and some of the dangers you adverted to, of operating the line under such circumstances. I wish you would state a little more fully what you mean by dangers to life and health and so forth of the domestic consumers on your line who are dependent upon gas transported from your lines and delivered to these other companies for the supply of domestic consumers, in the event of your being compelled upon orders of the Public Service Commission or otherwise, to give preference to industrial consumers and others in the State of West Virginia? Go into that as fully as you can, without being specially interrogated.

Mr. Hoffheimer: That question is objected to, in so far as it involves an assumption that the statute in question requires a preference to consumers of the State of West Virginia.

The Commissioner: Note the objection and take the answer.

A. The danger is caused by the decline in the pressure, which will occur if any large quantities of gas were diverted from places
504 where it was being used. It many times will occur that people are away from home, and they leave certain fires or lights burning in their homes. If the pressure drops to a pressure that some of those fires or lights became extinguished, and then came back on slightly again, there would be an escape of

gas into the buildings, which would cause explosions, or might cause loss of life to people who were in the buildings. If this were to occur at night—people frequently retire leaving certain fires and lights burning—and if anything should occur during the night whereby those fires and lights were extinguished and the gas escaped into the rooms, it would be very dangerous and might ignite and cause explosions that would do almost unlimited damage. It would be impossible to estimate what a condition of that kind might bring about.

Q. And what would be the effect on the consumers of natural gas in Pennsylvania and Ohio if this gas were diverted to industries and other consumption in West Virginia, during the cold weather, under present conditions and otherwise?

A. It would have the effect of reducing their supply; and in many instances, as I stated before, it would no doubt make the supply so unsatisfactory that they would be compelled to discontinue its use entirely, for heating purposes anyway and maybe
505 for lighting also. It would all depend on how large a quantity was required in West Virginia. But with the present shortages which exist in the States of Ohio and Pennsylvania, any additional quantity taken out of the lines would have a very detrimental effect on the service in other states.

Q. What would you say would be a fair estimate of the average cost to the present domestic consumers in the States of Pennsylvania and Ohio, now using natural gas, to change their appliances to other fuel, where those appliances could be changed without reconstruction of the houses? What would be a fair average, or have you made any figures upon that subject?

A. I have attempted to make figures upon it, but it is rather a difficult thing to do, to arrive at an average, of course. It is a very easy matter to estimate what the cost would be of changing any particular house, by making an examination of it and seeing what it is necessary to do; but as far as I have been able to figure it out, an average price would probably—would be between two and three hundred dollars per house. That might be more or might be a little less. I don't think it would be any less; my judgment would be that it would be more, if anything.

Q. It would cost each consumer then from two to three
506 hundred dollars to change his appliances from natural gas, as now used, to other fuel?

A. It would, at the present time, in my opinion.

Q. In the operation of a natural gas company, there is what is usually called, or frequently referred to, the peak load?

A. Yes, sir.

Q. Now, tell us what the peak load is, in your experience as a natural gas man?

A. The peak load is the demand created by the increased quantity of gas required by consumers on cold days and at certain hours of the day. In cold weather, on an extremely cold day, the demand of the average domestic consumer will be from four to five times greater than it is on the normal day. Then there are certain hours in the

day when the demand is very considerably increased above the normal demand; that is, from about 6:30 to 8:30 in the morning, during the time that breakfasts are being prepared. Then again, from about 11:30 to 1:30 in the afternoon, while the mid-day meal is being prepared. And again, from about five o'clock in the evening to seven o'clock, when supper is being prepared. This creates a very increased demand, which probably at times is as high as 15 to 20 times more than the regular average daily load. Of
507 course, the demand in the winter season—the normal demand in the winter season, is considerably larger than the normal demand in the summer season, probably about four times.

Q. What was your estimate of the maximum peak load over the other period, what per cent?

A. About 15 per cent.

Q. How much?

A. 15 to 20 per cent.

Q. No, I say the maximum peak load.

A. Well, that is what I said, the maximum peak load, about 15 to 20 per cent more than the normal load.

Q. Do you mean 15 or 20 per cent, or do you mean 15 or 20 times as much?

A. 15 to 20 times, is what I mean.

Q. That is what I thought. From 1,500 to 2,000 per cent is what you mean, isn't it?

A. Well, you put it in percentage; I hadn't figured it out that way. I should have said 15 or 20 times.

Q. From 15 to 20 times as much, the peak load is, as the normal load?

A. Yes, sir.

Q. Now, does the Hope Natural Gas Company supply any of the municipalities and governmental institutions with gas?

508 A. They do.

Q. Such as what? Just in a general way describe some of them.

A. Such as water works in the towns that we are supplying gas to, post office buildings; some dams, government dams; and court houses and buildings of that character.

Q. Any hospitals?

A. A good many hospitals and churches and public schools. All those kind of——

Q. Public buildings?

A. Public buildings and institutions.

Q. You mean, you contract, I suppose, in some instances, with the state, and in some instances with the United States government, and in some instances with the municipal authorities?

A. Yes, sir.

Q. You have produced, in accordance with the request made a while ago, copies of contracts between the Hope and the Fayette County Gas Company, dated May 1, 1910. And between the Mountain State Gas Company and the River Gas Company, dated April

1, 1910; I will ask you if the performance of that contract was taken over and assumed by the Hope Natural Gas Company?

A. It was.

509 Q. Also the agreement between the Hope Natural Gas Company and the East Ohio Gas Company, dated March 1, 1910; and the Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated the 1st day of January, 1906, and the agreement between the Hope Natural Gas Company and the Peoples Natural Gas Company, dated the first day of May, 1911, and the agreement between the Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated the 16th day of October, 1915; and the agreement between the Reserve Gas Company, the Union Natural Gas Corporation, the Hope Natural Gas Company, the Connecting Gas Company and T. N. Barnsdall, dated the 11th day of April, A. D. 1913. I ask you if those are the contracts to which you referred in your testimony and which I asked you to produce?

A. Let me see them.

(Papers shown witness.)

Q. Or copies of them, rather. Suppose you look those over. It is time for the noon adjournment now, and you can answer the question after lunch.

Here a recess was taken until 1:30 o'clock, P. M.

510 Thursday Afternoon, June 10, 1920.

And now, the hour of 1:30 o'clock having arrived, hearing resumed pursuant to adjournment.

T. O. SULLIVAN resumes the stand.

Direct examination (continued).

Mr. Weil:

Q. Mr. Sullivan, I called your attention this morning to certain contracts which you identified, and which I now propose to offer in evidence, to wit: Copy of contract between Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated the 16th day of October, 1915—that contract is now in operation and in force between those respective companies?

A. It is.

(Contract just identified marked as Pennsylvania Exhibit No. 16.)

Q. I next show you contract between the Hope Natural Gas Company and the Peoples Natural Gas Company, dated May 1, 1911. Is that contract now in force between those respective com-

511 panies?

A. Let me see that contract—(Paper handed Witness)—It is.

Contract just identified by the witness marked as Pennsylvania Exhibit No. 17.

Q. I now show you contract between the Reserve Gas Company, the Union Natural Gas Corporation, Hope Natural Gas Company, Connecting Gas Company, and T. N. Barnsdall, under date of 11th day of April, 1913, and ask you if that contract is now in force and operation between the respective companies?

A. It is.

Contract just identified by the witness marked as Pennsylvania Exhibit No. 18.

Q. I now show you contract between the Hope Natural Gas Company and the East Ohio Natural Gas Company, under date of March 1, 1910, and ask you if that is in force between those respective companies?

A. It is.

Contract just identified by the witness marked as Pennsylvania Exhibit No. 19.

512 Q. I show you contract between the Mountain State Gas Company and the River Gas Company, under date of April 1, 1910, which you stated this morning was taken over, and the covenants thereof assumed, by the Hope Natural Gas Company, and ask you if that is now in force between the Hope Natural Gas Company and the River Gas Company?

A. It is.

Contract just identified by the witness marked as Pennsylvania Exhibit No. 20.

Q. I show you contract between the Hope Natural Gas Company and the Fayette County Gas Company, under date of May 1, 1910, and ask you if that is now in force between the respective companies?

A. It is.

Contract just identified by the witness marked as Pennsylvania Exhibit No. 21.

Mr. Weil: I now offer in evidence Exhibits marked Pennsylvania Exhibits Nos. 16 to 21, inclusive, being the copies of contracts identified by the witness, the originals of which are in the possession of the company, and to which counsel for the defendant will be 13 given access, and an opportunity to examine whenever they may desire; and I ask that counsel for defendant stipulate and agree that these copies may be offered in evidence with like force and effect as the originals, subject to that stipulation.

Mr. Hoffheimer: There is no objection to the substitution of the copies for the originals.

Mr. Weil: And I would state that whenever counsel for the defendant desire to examine the originals, at any time during the hearings, if they will notify us to that effect, we will produce the originals for their use.

Mr. Weil:

Q. I asked you this morning, Mr. Sullivan, if you could give me the figures comparing the amount of gas furnished to the domestic consumers of the Hope Natural Gas Company in West Virginia, and the amount of gas furnished to domestic consumers in other states by the companies which are supplied with gas by the Hope Natural Gas Company, and I would ask you now if you have obtained those figures? Just answer whether you have obtained the figures.

A. I have obtained the figures showing the average amount
514 of gas used, by months, per consumer, on the lines of different companies, over a certain period of time.

Q. Over what time?

A. From January 1, 1917, to April 30, 1919, a period of two years and four months.

Q. Now, then, give us the average amount of gas that was supplied by the Manufacturers Light and Heat Company, the Fayette County Gas Company, the Peoples Natural Gas Company, and the East Ohio Natural Gas Company, being the amount supplied per month to all of the domestic consumers upon the lines of those respective companies.

A. During the period from January 1, 1917, to April 30, 1919, covering two years and four months, domestic consumers on the lines of the Manufacturers Light and Heat Company in the States of Ohio and Pennsylvania, consumed 9,883 cubic feet per month. During the same period, consumers on the lines of the Fayette County Gas Company in Pennsylvania consumed 9,209 cubic feet per month. During the same period, consumers on the lines of the Peoples Natural Gas Company in Pennsylvania consumed 11,592 cubic feet per month. During the same period, consumers on the lines of the East Ohio Natural Gas Company, in Ohio, consumed 9,845 cubic feet per month. When I speak of consumers, I am referring to domestic consumers in all instances.

515 Q. During this same period, what was the amount of gas consumed by the domestic consumers in West Virginia, on the lines of the Hope Natural Gas Company?

A. During the same period, domestic consumers on the lines of the Hope Natural Gas Company in West Virginia consumed 13,285 cubic feet per month.

Q. From your knowledge and experience in the natural gas business and the operation of natural gas companies, if those companies engaged in furnishing, or required by law to furnish, natural gas for public use, or for the use of the public, for domestic, industrial or other consumption, within the state of West Virginia, are compelled to furnish a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed, or desired to be consumed, by the public, or any part of the public, within the state of West Virginia, within what length of time, in your opinion, would the demand for natural gas in the State of West Virginia, for domestic, industrial and other

purposes, as defined by the Act now in controversy, take substantially all of the gas produced in the State of West Virginia?

Mr. Hoffheimer: That is objected to as incompetent, irrelevant and immaterial, as entirely speculative, and as having no
516 bearing on the validity of the statute in question, or upon the issues in this case.

The Commissioner: Let the objection be noted. The witness may answer.

A. If the different natural gas companies operating in the State of West Virginia were compelled to furnish all of the gas that might be required for use within the state, in my opinion it would be only a comparatively short time until there would be sufficient demand to use all of the gas that is produced. I base this opinion upon the desires which have been expressed by different firms and persons using gas within the state, of what their requirements would be, if they could obtain all the gas they needed. I also understand that in certain industries natural gas is very much better adapted for certain purposes than any other fuel that can be secured. And in view of that, it would no doubt cause other manufacturers outside of the State of West Virginia, to locate in the state, on account of the advantages which they would obtain by the use of this fuel. Taking these mat-
17 ters into consideration, I feel satisfied that it would be only a comparatively short time, possibly a year, maybe two years, until there would be a demand developed within the state that could use all of the gas that might be produced.

Mr. Hoffheimer: I move to strike out that answer, on the grounds stated in the objection to the question, and for the further reason that the answer is in a large degree based on hearsay.

The Commissioner: Let the motion be noted.

Cross-examination.

By Mr. Steptoe:

Q. Mr. Sullivan, I believe you took charge, as general manager and vice president of the Hope Company July 1, 1918?

A. Yes, sir.

Q. And prior to that time, for some eight years approximately, you were the general manager of the Manufacturers Light and Heat Company?

A. I was.

Q. Who was the former general manager of the Hope Company?

A. Mr. John G. Pew.

Q. And for how long?

A. I am unable to tell that exactly, but my recollection is, since
8 about 1906—Yes, I think 1906 is correct.

Q. Are you more or less familiar with the officers and management of the other companies you have testified about, especially the Peoples and the Reserve?

A. I am.

Q. Was there not a change in the management of the Peoples and the Reserve about the same time that you became general manager of the Hope?

A. There was.

Q. Who are the present general managers of those two companies?

A. Mr. John B. Tonkin is the general manager of the Peoples Natural Gas Company, and Mr. John B. Corrin is the general manager of the Reserve Natural Gas Company.

Q. Prior to their becoming such general managers, who had the management of those two companies?

A. I understand that Mr. John G. Pew had the management of both of those companies prior to July 1, 1918.

Q. And for about the same length of time that he occupied that position with the Hope Company?

A. No. Mr. Pew had charge of the Peoples Natural Gas Company for a longer period of time, or previous to his assuming the managership of the Hope Natural Gas Company, and my recollection is that he became general manager of the Reserve Natural Gas Company at a later date than he did of the Hope Company, al-

519 though I am unable to state positively, or when that date was.

Q. The Hope Company and the Reserve Company were largely managed and operated by the same officials, were they not?

A. They were, previously.

Q. And practically the same field force and superintendents?

A. No, each of the companies has its own field force and its own local foreman or superintendent.

Q. And how about the general superintendent?

A. The general superintendent of the Hope Company also has general charge of the Reserve Gas Company, but has no connection with the Peoples Natural Gas Company at all.

Q. My question referred to the Hope and the Reserve only. And there the management is largely the same?

A. The management is not. The general managership is entirely different, but the general superintendent of the Hope Company has charge of the operating—field operations, in a general way, for both companies.

Q. In the time of Mr. Pew they did have the same general manager?

A. That is my information.

Q. Now, when you were, during some eight years, the general manager of the Manufacturers Light & Heat Company, what

520 were your duties and what was your jurisdiction as general superintendent?

A. As general manager.

Q. As general manager?

A. I had charge of the general operations of the Manufacturers Light & Heat Company in all departments, taking in the production of natural gas, drilling of wells, laying of field lines, operation of compressor stations, distribution and sale of gas, and all other parts of the operation of the company.

Q. And that jurisdiction and management, of course, covered the ubsidiaries or controlled companies of the Manufacturers Light & Heat Company about which you have testified—or I mean, about vhich Mr. Quay testified?

A. It did.

Q. Do you know Mr. George W. Crawford?

A. I do.

Q. What connection has he with those companies?

A. Which companies do you refer to?

Q. I mean the Hope, the Reserve and the Peoples.

A. To my knowledge, Mr. Crawford has no connection whatever ith either of those companies.

Q. Has he ever had any connection with them in an official capac- y or interested as a stockholder or otherwise?

A. Not to my knowledge.

21 Q. Who is Mr. Crawford? Where does he live?

A. Mr. George W. Crawford maintains an office in the irst National Bank Building, City of Pittsburgh, Pennsylvania. understand when he is in town that he lives at the Duquesne Club, portion of the time. When he is out of town, I am unable to tell here he does live.

Q. I want to know in what business he is engaged now?

A. I am unable to give you that information. I do know that r. Crawford is connected in some capacity with the Ohio Fuel Gas ompany,—I believe is the name of the company,—No, Ohio Fuel upply Company; but I am unable to say at this time whether he is officer or not.

Q. Do you know Mr. John G. Porter?

A. I do.

Q. Is he interested in the gas business, and if so, how?

A. I am sure I don't know; I do know that Mr. Porter is connected th the Fisher Oil Company, or operating more particularly in the business. He may be interested in the gas business, for all I ow.

Q. To be specific, Mr. Sullivan: these two gentlemen—Mr. Craw- d, Mr. Porter and John G. Pew are mentioned in the Manufac- ers Light & Heat Company with the Hope Company, as a com- ttee to supervise the distribution of some two hundred thousand lars. I want to know what was their interest in the transaction, either of those two companies? You need not reply as to Mr. Pew.

2 A. I am unable to answer that question; I have no infor- mation as to what their interests were as to the distribution that money.

Q. Now, with reference to the acreage of the Hope Natural Gas mpany, I believe you testified that there was about 1,009,000 acres l territory in West Virginia, held by the Hope Company, and 322,777 acres had been developed. By "development," do you an fully developed or merely operated in the sense that a well been drilled upon the various farms making up that acreage?

A. I believe I explained in my testimony that by "operated acre-

age," I meant farms or parcels of land upon which wells had been drilled.

Q. Then that would not necessarily mean that those farms had been fully developed, would it?

A. It would not mean that there might not be room for the location of other wells on the same farms.

Q. Practical gas operators have an idea of how many wells should be drilled, under ideal conditions—that is, assuming that there is no drainage or competition—to the acreage, have they not?

A. That has been estimated by numerous people as to about the number of wells that it would be advisable to drill on a certain number of acres.

523 Q. What in your judgment, under average conditions and in the absence of competition, is about the proper acreage that should be assigned to a well?

A. That depends very largely upon the nature of the sands. If the territory or sand is open and porous, wells ought not to be drilled as closely as they would be drilled in territory where the sands are hard and close. Ordinarily, in my judgment, about one well to a hundred acres is sufficient.

Q. Would that exhaust, in your judgment, all of the gas under that hundred acres?

A. I think, speaking generally, that it would. Of course, as I stated, if the sands were close, then it might be advisable to drill more than one well on a hundred acres. There might be instances where it might be advisable to drill two or three wells on a hundred acres, and there might be instances where it might not be advisable to drill more than one well on two or three hundred acres,—depending on the nature of the sand entirely.

Q. In what counties of West Virginia does the Hope Gas Company operate and produce gas itself?

A. The Hope Gas Company is operating in Monongalia, West Virginia; Wetzel County, Doddridge County, Marion County, Tyler County, Harrison County, Calhoun County, Gilmer County,

524 Lewis County, to a small extent in Brooke County, Ritchie County, Wood County; there might be one or two other counties that I have not mentioned,—also Pleasants County; but the counties I have named take in the bulk of our operations.

Q. How about Wirt?

A. To a small extent in Wirt County.

Q. And Upshur?

A. We may have some little operations in Upshur County not very large, if any.

Q. And Braxton?

A. To some extent in Braxton, yes, sir. A little operation in Barbour County.

Q. What about Taylor?

A. Taylor, yes, sir, some operations there. Marshall County also.

Q. The counties you have mentioned are not a complete list of all the gas producing counties in West Virginia, are they?

A. They are not.

Q. There are a number of counties south of the most southern counties you have mentioned, in which gas is produced and marketed commercially?

A. There are.

525 Q. And the Hope Company holds leases in all of the counties you have mentioned, does it?

A. Yes, sir, more or less.

Q. And buys gas in all of those counties?

A. I can't say we are buying gas in all of those counties, but we are willing to buy gas in any of those counties, providing it is close enough to our lines that it can be gotten with a reasonable expenditure.

Q. When did the Hope Natural Gas Company begin to furnish the City of Parkersburg?

A. Somewhere about April, 1910. I cannot give the exact date that they commenced to supply gas to Parkersburg.

Q. As a matter of fact, it acquired the service of Parkersburg as a part of taking over the Mountain State Gas Company, did it not?

A. It did.

Q. What other towns were taken over for service, by reason of the same transaction—that is, the purchase of the Mountain State?

A. I am unable to answer that question. There may have been some smaller towns which the Mountain State were supplying, which were taken over at the same time that that contract was taken over, but I am not familiar with the conditions at that time, that

526 would enable me to state.

Q. How about Sistersville?

A. I am unable to say whether Sistersville was taken over from the Mountain State Gas Company at that time or not. Just how the Hope Company acquired the City of Sistersville, I do not know. I am inclined, however, to think that it was a part of that contract.

Q. Do you know anything about the Mountain State Gas Company—where it did business?

A. I know that it supplied gas to the City of Parkersburg, and that held leases and operated in Pleasants County, West Virginia, possibly in other counties also, that they had a pipe line—or there was a pipe line, at least—through which gas was transported from Pleasants County, West Virginia, to Parkersburg, and possibly to other points, but beyond that I am not familiar with conditions surrounding the Mountain State Gas Company.

Q. Do you know whether that company is now in existence?

A. I understand that it is not. That is the information I have.

Q. And did the Hope Company acquire all of this property and assets at the time it took over this service?

A. My information is that the Hope Company acquired all of its property and assets in the state of West Virginia. Whether

527 they had any outside of the state or not, I don't know, and if so, the Hope Company did not acquire those.

Q. Do you know whether the Mountain State Company was ever in business and had holdings in Harrison and Doddridge County?

A. I do not.

Q. Are you able to furnish us from the records of the Hope Company with a statement that would show, from the year 1910 to date the acreage held by the Hope Company, both developed and undeveloped; also the number of wells?

A. 1910, did you say?

Q. Yes, sir, to date.

A. Number of wells each year?

Q. Yes, sir. I mean the total for that time.

A. All right.

Q. Also, the production and the amount of gas purchased annually. Also, the quantity of gas sold and marketed to each of the various companies to which the Hope Company sold, naming the companies. Also, the sales in West Virginia to domestic consumers industrial consumers and the quantity sold in the field, including also the amounts consumed in conducting the operations of the company—running compressors, and so forth.

A. Do you wish to have that all separated, or totals?

Q. As your records show it, will be satisfactory.

528 A. I think I can give you some of that information now

Mr. Weil:

Q. Suppose you give us what you have of that now.

A. In the year 1910, the Hope Natural Gas Company held under lease 994,825 acres, of which 151,838 were classed as operated acreage, and 842,987 acres were classed as unoperated acreage.

For the year 1911, under lease, 1,066,404 acres, 176,670 acres of which were classed as operated, and 889,734 acres classed as unoperated.

1912, under lease, 909,884 acres, of which 198,242 acres were classed as operated, 711,641 acres classed as unoperated.

1913, 918,930 acres, of which 220,132 acres were classed as operated, and 698,798 acres was classed as unoperated.

1914, under lease, 819,880 acres, 243,112 acres classed as operated, 576,768 acres classed as unoperated.

1915, 928,301 acres, of which 254,997, classed as operated, and 673,303 acres classed as unoperated.

1916, under lease, 1,258,638 acres, 276,931 acres of which
529 were classed as operated acreage, and 981,706 acres classed as unoperated.

1917, under lease, 1,166,471 acres, 302,936 of which was classed as operated, and 863,535 classed as unoperated.

1918, under lease, 1,115,503 acres, 315,037 acres classed as operated, and 800,466 acres classed as unoperated.

1919, under lease, 1,009,933 acres, 322,777 of which was classed as operated acreage, and 687,155 acres classed as unoperated acreage.

During the same period, the Hope Natural Gas Company had the following number of producing gas wells:

1910, 1,326 wells.

1911, 1,659 wells.

1912, 1,940 wells.

1913, 2,246 wells.

1914, 2,542 wells.
1915, 2,692 wells.
1916, 2,997 wells.
1917, 3,300 wells.
1918, 3,410 wells.
1919, 3,440 wells.

During the same period, commencing with the year 1910, the Hope Natural Gas Company purchased 22,889,861,000 cubic
530 feet of gas,—that is, in the year 1910. And during the same year they produced from their own wells 46,874,231,000 cubic feet of gas.

During the year 1911, they purchaser 33,775,917,000 cubic feet; and produced 38,117,453,000 cubic feet.

During the year 1912, they purchased 32,014,727,000 cubic feet; produced 46,427,111,000 cubic feet.

During the year 1913, they purchased 31,077,215,000 cubic feet; and produced from their own wells, 47,953,239,000 cubic feet.

The year 1914, they purchased 26,604,201,000 cubic feet; produced from their own wells 43,788,747,000 cubic feet.

In the year 1915, they purchased 20,916,491,000 cubic feet; produced from their own wells 46,350,733,000 cubic feet.

In the year 1916, they purchased 26,261,531,000 cubic feet; produced from their own wells 81,318,666,000 cubic feet of gas.

In the year 1917, they purchased 30,857,488,000 cubic feet; produced from their own wells 73,969,909,000 cubic feet of gas.

In 1918, they purchased 27,986,543,000 cubic feet; produced
531 from their own wells 58,323,670,000 cubic feet of gas.

In the year 1919, they purchased 20,647,040,000 cubic feet of gas; produced from their own wells 47,298,392,000 cubic feet.

Now, as to the wells in West Virginia during the same period, commencing with 1910, the Hope Company sold for domestic use, in the state of West Virginia, in 1910, 1,376,490,000 cubic feet of gas; for industrial use, 2,411,643,000 cubic feet. In 1911——

Mr. Steptoe:

Q. Just a moment. How about field service,—that was included in the question.

A. Field service is included in industrial gas.

Q. All right, go ahead, proceed in your own way.

A. I was just thinking whether I was right in saying field service was included in that or not; I believe it is, but I don't want to make that as a positive statement.

In 1911, for domestic use, 1,906,358,000 cubic feet of gas; for industrial use, 3,043,346,000 cubic feet.

1912, sold for domestic use, 2,014,614,000 cubic feet; for industrial
532 use, 3,288,577,000 cubic feet.

1913, sold for domestic use, 1,948,850,000 cubic feet; for industrial use, 3,858,992,000 cubic feet.

1914, sold for domestic use, 2,100,765,000 cubic feet; for industrial use, 3,870,000,000 cubic feet.

In 1915, sold for domestic use, 2,120,929,000 cubic feet; for industrial use, 3,706,342,000 cubic feet.

In 1916, sold for domestic use, 2,211,045,000 cubic feet; for industrial use, 4,906,571,000 cubic feet.

1917, sold for domestic use, 2,534,237,000 cubic feet; for industrial use, 5,040,991,000 cubic feet.

1918, sold for domestic use, 2,573,927,000 cubic feet; for industrial use, 4,254,123,000 cubic feet.

For the year 1919, sold for domestic use, 2,512,816,000 cubic feet; for industrial use, 3,869,729,000 cubic feet.

I believe that the amounts of gas given as having been sold for industrial use include the quantity of gas sold in the field and used by the company in its compressing stations, but I can have this looked up and verified.

Q. And as I understand, you cannot tell me until further investigation whether the field service and consumption for compressor stations is or is not included in the industrial consumption given?

A. It is my impression that it is included, but, as I said,
533 I would like to verify that, I may be wrong on that.

Mr. Weil:

Q. Well, you can verify that by tomorrow morning?
A. I can.
Q. And give counsel the exact information with reference to it?
A. Yes, sir.

Mr. Steptoe:

Q. Without being exact as to number, there are a great number of individuals and small producing companies from which the Hope Company purchases, are there not?

A. There is quite a large number.

Q. Where are those located, or are they located generally throughout the producing fields?

A. They are located principally in some of the counties where the operations are oldest, were first commenced.

Q. In the older fields, or portions of the fields?

A. In the older fields. Some in Doddridge County, some in Pleasants County, some in Monongalia County, some in Lewis County, some in Calhoun County, but principally in the counties in which the first developments took place—or the earlier developments took place.

Q. It would embrace particularly Wetzel, Monongalia,
534 Marion, Tyler, Harrison and Lewis Counties?

A. Taking in all of those counties, I think we have gas purchase contracts in all of them.

Q. Is the gas so purchased turned into what you refer to as high-pressure mains or medium-pressure mains, or into the gathering lines?

A. The gas is almost invariably taken into the gathering lines, or what we term suction lines.

Q. The map which you have filed as Pennsylvania Exhibit No. 15, I believe, shows only the high-pressure and medium-pressure transmission lines, but no gathering lines, as you stated?

A. Few, if any, unless there might have been some lines put on the map originally which were high-pressure lines, but have now been changed over to low-pressure lines, and connected to the suction lines to the stations.

Q. Do the suction lines generally lead into the compressor stations?

A. Invariably.

Q. And are those suction lines at all of the compressor stations?

A. Yes, sir; there have to be suction lines to all of the stations to enter the compressor station. That is what is termed usually the suction lines, in gas parlance. That means the lines leading
535 from the wells to the compressors.

Q. Is there any compressor station on your lines which is simply a forwarding station of gas sent through a transmission line from another forwarding or compressing station?

A. There are stations on our lines which receive gas which is forwarded to it from another compressing station—if that answers the question.

Q. But that same compressor station also receives gas from suction lines, in addition to that received from the transmission lines?

A. It does, in most instances.

Q. And those suction lines are not only gathering lines to your own wells, but gathering lines from the gas purchased from individuals and smaller companies?

A. That is true.

Q. Your company purchased from the United Fuel Gas Company a large quantity, under contract, does it not?

A. We attempted to purchase from them large quantities, but we did not get such awfully large quantities.

Q. You are purchasing under contract——

A. We are.

Q. —some gas. What is the point of delivery?

536 & 537 A. Cedarville—a place called Cedarville, in Gilmer County, West Virginia.

Q. That is the point of connection between the lines of the Hope Company and the lines of the United Fuel Company?

A. Yes.

Q. Is that gas forwarded from Cedarville through any particular lines?

A. That gas from Cedarville is forwarded through the lines leading to Hastings Station in Wetzel County, West Virginia; but the various branch lines are so connected that it can flow to other points.

Q. It may go through several lines to Hastings Station?

A. It could go through several lines to Hastings Station. Of course, there are gate valves installed on these various branch lines, and if those valves are closed, then it confines the gas to the direct line to Hastings station; but if those valves on the branch lines are open, then that gas can go to other points in the system.

Q. Those gate valves are a part of the operation of the system?

A. They are. They are sometimes open and sometimes closed.

Q. That is, according to the exigencies of the operation?

A. Exactly.

Q. The production from the Hope Gas Company's own
538 wells and the production by the companies from which the Hope purchases is fed into that line along the route—the various branch lines, at the compressor stations.

A. Yes, if there are any of those purchasers located along that line, the gas which is going through the different stations would be fed into that line at times, or into the discharge lines from the compressing station through which it was going to pass.

Q. What compressing stations are there on the route from Cedarville to Hastings Station?

A. Cove Lick compressing station, Fink compressing station—Those are the only two stations located directly on that line. Of course, the various other stations scattered through the field are connected in such a manner that the gas can be diverted in different directions, so as to reach the particular point on the system of pipe lines where it is most needed.

Q. Is there a compressing station at Cedarville?

A. There is not. That gas is delivered into our lines by the United Fuel Gas Company, at a pressure sufficient to enable it to feed against the pressure on our lines.

Q. Does the United Fuel have a compressor station at that point for the delivery?

A. No; I do not understand that they have a compressor
539 station at that point; I do understand that they have a compressing station farther down in their field, which pumps the gas through that line to the point where it is connected to our line.

Q. Then it is rather a measuring station, instead of a compressor station?

A. There is a measuring station located at that point at Cedarville, through which the gas is measured that comes into our lines.

Q. The gas that you take from the United Fuel is then commingled with your own production and the gas purchased along the route, as taken into the measuring stations?

A. It is.

Q. Is the Reserve Gas Company furnishing any gas to Parkersville?

A. No, sir, not at this time, and has not at any time, except during cold weather last winter. The Hope Natural Gas Company had one well in the field which was not connected to its pipe line system, but was located in close proximity to one of the lines of the Reserve Gas Company, and I made arrangements with the management of the Reserve Gas Company to sell the gas from that well to them, and to take a like amount out of their line at a point where it crossed the lines of the Hope Natural Gas Company leading to Parker-
540 burg, on those days during the winter when that gas was needed in Parkersburg.

Q. Was that point of connection Schultz Station?

A. Pardon me?

Q. Was that point of connection between the two companies Schultz Station?

A. It was not. That point of connection was at Boaz, south of Williamstown, along the Ohio River.

Q. Is there a connection between the two companies then at Boaz—the Hope and the Reserve?

A. I believe that that connection is still there, although no gas is being used through it now.

Q. Is that the only point of connection now or heretofore between those two companies?

A. No.

Q. Where are they connected?

A. There are connections between the two companies out in the field. While I do not know just exactly where those connections are, my belief is—my understanding is that they are in Doddridge County, West Virginia. The Reserve Gas Company has sold gas to the Ohio Company in that section—or sold gas to the Hope Natural Gas Company in that section.

Q. Is the Hope Gas Line system connected with the lines
541 of any other company, excepting the Manufacturers Light & Heat Company that has been testified about, and also excepting the Reserve which you have just referred to?

Mr. Weil: Do you mean in the State of West Virginia or anywhere?

Mr. Steptoe: I mean in the State of West Virginia.

A. There is connection, as I stated, between the lines of the United Fuel Gas Company and the Hope Natural Gas Company at Cedarville, in Gilmer County, West Virginia. There is connection between the lines of the Hope Natural Gas Company and the—My recollection is that the name of the company is the West Virginia Light & Power Company, but in any event it is the company that supplies gas to Burnsville and Sutton and Gassaway, West Virginia. There is connection between the lines of the Hope Natural Gas Company and the Clarksburg Light & Heat Company, in Harrison County, West Virginia.

Q. Did you give a full list of all of the local companies in West Virginia, to which the Hope was furnishing a supply of gas?

A. I think that I did, although I stated, I believe, that
542 there might be one or two companies that we supplied small quantities of gas to. I would be unable to state that definitely without making an examination of the books and contracts.

Q. Well, let me take some, then, separately: Does not your company sell to the Rural Gas Company?

A. (Referring to statement:) I find no record of sales going to the Rural Gas Company in West Virginia.

Q. How about the Jennings Oil Company?

A. The Jennings Oil Company is one of our customers in West Virginia.

Q. What consumers or territory does it furnish?

A. I do not understand that the Jennings Oil Company furnishes

any gas to consumers in West Virginia, although it may be possil
that they do supply a small portion of gas to certain consumers
cated in the fields in which they are operating for oil. The g
which the Hope Natural Gas Company sells to them is sold for th
own use in the operations of their business in West Virginia.

Q. Is that the same situation with reference to the Marion (
Company,—or do you furnish them?

A. We sell a small quantity of gas to the Marion Oil Compan
and the situation is about the same as with the Jennings Oil Co
pany, although I do understand that the Marion Oil Co
543 pany furnishes some few consumers with gas.

Q. Where is that?

A. I believe that their property is located in Monongalia Count
West Virginia; that is my recollection.

Q. How about Keener's Oil, Natural Gas & Fuel Company?

A. I do not find any record of sales of gas to the Keener Natur
Gas & Oil Company in our statement of March, 1920.

Q. Do you recall that the Hope Company has furnished th
Keener Company in past years?

A. I do.

Q. And where does the Keener Company furnish consumers—
what communities?

A. Weston, Lewis County, West Virginia, and possibly son
smaller outside boroughs; I am not informed as to that.

Q. Does the Hope Company sell and deliver gas to the Comet O
and Gas Company?

A. We do sell some gas to the Comet Oil and Gas Company.

Q. Where does it operate, and what communities does it furnish

A. I believe that the connections on our lines are made in Harr
son County, West Virginia. I do not think, however, that th
Comet Oil and Gas Company supplies any large number of co
sumers. They may supply a small number of consumer
544 but it is my understanding that the gas which they produc
and also which they purchase, is being used for the operatio
of the glass plants of the Hazel-Atlas Glass Company, of which th
Comet Oil Company is the gas producing part of the company. Thi
is the understanding that I have; whether it is correct or not, I a
unable to say.

Q. Now, how about sales to the Monongahela Valley Tractio
Company, and what community does it serve?

A. I know that we have the name of the Monongahela Valle
Traction Company on our statement of March, 1920, but they wer
taking no gas. The connection between these companies, as I un
derstand it, was made as a precautionary measure, so that in case any
thing happened to the lines of the Monongahela Valley Tractio
Company, that they could take gas from the Hope Natural Gas Com
pany; or, on the other hand, if anything happened to the lines of th
Hope Natural Gas Company that they could take gas from the Mo
nongahela Valley Traction Company, but, unless in emergency case
this gas was not to be used by either company.

Q. What community does that company furnish?

A. The Monongahela Valley Traction Company, I believe, supplies gas to Fairmont, West Virginia, and possibly some town surrounding Fairmont.

Adjourned until Friday, June 11, 1920, at 10 o'clock, a. m.

545 Friday, June 11, 1920.

And now, Friday, June 11, 1920, the hour of 10 o'clock a. m. having arrived, hearing resumed pursuant to adjournment.

T. O. SULLIVAN recalled.

Cross-examination (resumed).

Mr. Steptoe:

Q. On yesterday, Mr. Sullivan, you were unable to give me the amounts sold annually since the year 1910 to the Peoples Natural Gas Company and other purchasers from the Hope Company. Have you that data now?

A. I have.

Q. Please give us your figures.

A. Commencing with the year 1910, and during each year thereafter, the Hope Natural Gas Company sold and delivered:

To the Fayette County Gas Company, 1,854,874,000 cubic feet of gas, in the year 1910. In 1911, 1,890,911,000 cubic feet. In 1912, 2,098,327,000 cubic feet. In 1913, 1,986,753,000 cubic feet. In 1914, 1,765,177,000 cubic feet. In 1915, 1,766,014,000 cubic feet. In 1916, 2,007,087,000 cubic feet. In 1917, 1,976,034,000 cubic feet. In 1918, 1,386,413,000 cubic feet. In 1919, 1,597,-
546 130,000 cubic feet.

During the same period, the Hope Natural Gas Company sold and delivered to the East Ohio Natural Gas Company:

In the year 1910, 26,381,236,000 cubic feet. In 1911, 27,784,-565,000 cubic feet. In 1912, 31,242,971,000 cubic feet. In 1913, 32,622,919,000 cubic feet. In 1914, 25,688,561,000 cubic feet. In 1915, 20,177,370,000 cubic feet. In 1916, 45,027,900,000 cubic feet. In 1917, 44,036,867,000 cubic feet. In 1918, 36,069,354,000 cubic feet. In 1919, 32,349,750,000 cubic feet.

During the same period, the Hope Natural Gas Company sold and delivered to the Peoples Natural Gas Company, commencing with the year 1910:

In 1910, 20,427,446,000 cubic feet. In 1911, 19,855,811,000 cubic feet. In 1912, 23,303,041,000 cubic feet. In 1913, 20,176,-604,000 cubic feet. In 1914, 17,919,695,000 cubic feet. In 1915, 21,597,627,000 cubic feet. In 1916, 26,251,185,000 cubic feet. In 1917, 23,276,116,000 cubic feet. In 1918, 18,209,928,000 cubic feet. In 1919, 6,496,994,000 cubic feet.

You will note that the quantity of gas delivered to the Peoples

Natural Gas Company during the year 1919, was very mu
547 less than the quantity delivered in former years. This w
caused by the fact that a very considerable pool of gas w
discovered near McKeesport, in Allegheny County, Pennsylvan
during the summer of 1919. The Peoples Natural Gas Compa
purchased a very large portion of this gas, and therefore their
quirements from the Hope Company were reduced in proportio
That field is now producing a comparatively small quantity of g
and it cannot be presumed that next winter they will obtain an
where near the quantity of gas from that field that they did obta
during the past winter. I call attention to that simply on accou
of the fact that the Peoples' requirements were very much less
1919 than in previous years, or than we expect that they will be
the years to come.

During the same period, the Hope Natural Gas Company so
and delivered to the Manufacturers' Light and Heat Company, co
mencing with the year 1910:

In 1910, 9,405,015,000 cubic feet. In 1911, 10,006,907,000 cub
feet. In 1912, 9,026,131,000 cubic feet. In 1913, 9,271,288,0
cubic feet. In 1914, 9,282,353,000 cubic feet. In 1915, 9,44
951,000 cubic feet. In 1916, 14,238,191,000 cubic feet. In 191
14,687,008,000 cubic feet. In 1918, 12,086,331,000 cubic feet.
1919, 12,268,302,000 cubic feet.

548 During the same period, the Hope Natural Gas Compan
sold and delivered to the River Gas Company, commencin
with the year 1910:

In 1910, 1,049,015,000 cubic feet. In 1911, 1,197,537,000 cub
feet. In 1912, 1,368,036,000 cubic feet. In 1913, 1,133,827,0
cubic feet. In 1914, 1,348,795,000 cubic feet. In 1915, 1,45
506,000 cubic feet. In 1916, 1,354,270,000 cubic feet. In 191
1,419,252,000 cubic feet. In 1918, 1,362,193,000 cubic feet.
1919, 1,220,815,000 cubic feet.

During the same period, the Hope Natural Gas Company so
and delivered to the Northwestern Ohio Natural Gas Company, co
mencing with the year 1910:

In 1910, 3,673,685,000 cubic feet. In 1911, 3,814,692,000 cub
feet. In 1912, 4,285,096,000 cubic feet. In 1913, 4,704,660,0
cubic feet. In 1914, 5,213,506,000 cubic feet. In 1915, 5,196,78
000 cubic feet. In 1916, 5,296,766,000 cubic feet. In 1917, 6,34
845,000 cubic feet. In 1918, 6,059,661,000 cubic feet. In 191
5,709,498,000 cubic feet.

On yesterday I stated that I was unable to say definitel
549 whether or not the sales of gas to consumers in the field an
the gas used for the compressing stations of the Hope Natur
Gas Company in West Virginia, was included under the headin
"Gas sold to industrial consumers," during each year, commencin
with 1910, and continuing to 1919. I have investigated this, and
find that those sales were included in the figures which I gave ye
terday.

Q. What is the gas used for field service? What purpose is
furnished for?

A. That is gas sold to consumers for drilling wells and operating machinery through the fields for the production of oil and gas.

Q. Does it include the gas consumed by the Hope Company in its own operations?

A. It does.

Q. Well, then, as I understand you, it is what gas is furnished by your company, not only for your own drilling, but sales made to other producers and operators for drilling purposes?

A. That is the fact.

Q. Can you give us the amount furnished by the Hope Company during the year 1919, for such field service, included, as you say, in the industrial amounts rendered by you on yesterday?

550 A. We may be able to ascertain that from our records. However, I consider it doubtful, for the reason that that gas—contracts are made for the sale of that gas, and it is sold the same as if it was sold to any other consumer for any other industrial purpose.

Q. Do you keep a record of what your own company consumes for that purpose?

A. We do. We make contracts with ourselves the same as we do with other consumers.

Q. I wish you would investigate at our next recess, and advise us as to the amounts, if they can be furnished, and if not, the best approximation or percentage, of industrial consumption that you can make?

A. Yes, sir.

Q. The common form of oil and gas lease in West Virginia requires the furnishing of free gas to the farmer or lessor, does it not?

A. Usually it does.

Q. Is there much of that gas supplied by your Hope Company to its lessors?

A. There is a very large quantity.

Q. That, and the royalty per well, and the delay rental, prior to operations, constitute the consideration paid to the farmer for the lease, as a rule?

551 A. The consideration paid to the farmer for the lease consists of the free gas which is furnished, the rental per acre paid to the farmer, the royalty for the well when it is drilled and gas found in paying quantities, and the bonus, if any, which is paid at the time that the lease is taken.

Q. In the figures which you gave us yesterday for domestic consumption furnished in West Virginia by the Hope Company, did you include the free gas furnished to farmers?

A. I did not.

Q. That is not shown in the figures you gave yesterday under any heading?

A. It is not.

Q. Of the amounts supplied annually by your company at the state line to the Peoples Natural Gas Company, is there any part of that gas used or furnished by the Peoples Company in Pennsylvania, for industrial purposes?

A. Our contract with the Peoples Natural Gas Company onl covers a supply of gas for domestic purposes; but in years past, whe the Hope Natural Gas Company has had surplus gas, it has supplie gas—has sold gas to the Peoples Natural Gas Company, which, I hav every reason to believe, was sold by them for industrial purposes.

Q. Does the Peoples Natural Gas Company have gas ter
552 tory and production of its own in the state of Pennsylvania

A. They do.

Q. Does it purchase gas from other producers in that state?

A. It does.

Q. Through what system is this gas produced and purchased b the Peoples Company in Pennsylvania, supplied to its customers?

A. Through their regular pipe line system.

Q. Is that the same system into which the purchases from th Hope Company at the state line are fed?

A. It is.

Q. Are the purchases and production of the Peoples Company i Pennsylvania fed into that system along the routes of the pipe line in substantially the same way in which the Hope Company acquire or gathers up its production and purchases in West Virginia?

A. It is substantially in the same manner.

Q. That is, all along the route?

A. More or less. There are certain sections where there is no ga being produced; where it is not being produced. In those sections of course, there would be no gas feeding into the line.

Q. Does the Peoples Company furnish its consumers directly or through the medium of distributing companies, in th
553 City of Pittsburgh and other cities and communities?

A. I understand that the Peoples Company furnishes th majority of its consumers directly. I believe it has one or two con tracts for the supply of gas to other distributing companies.

Q. Where are those other distributing companies?

A. I understand that one of them is *d*upplying gas in Johnstown Pennsylvania. That is the only one that I know of.

Q. Is that true in the town of Altoona also?

A. No, sir; it is my understanding that the Peoples Company i furnishing consumers direct in the town of Altoona.

Q. What is the name of the distributing company furnishing Johnstown?

A. I believe the name of that company is the Johnstown Fue Company, although I am not positive as to the name of the company

Q. Is this method of producing and supplying its consumers used by the Peoples Company presently, the same method that has been used for some years past?—That is, of gathering up its production and purchasing from other producers in Pennsylvania, and supply ing the same to its consumers through the same system?

A. It is, to the best of my knowledge.

Q. Do you know how much of its supply of gas is fur
554 nished by the Peoples Company directly or through its dis tributing companies in Pennsylvania for industrial use?

A. I do not.

Q. You do know that it furnishes a large number of industrial consumers?

A. I know that it furnishes gas to several industrial consumers.

Q. How long has it been furnishing gas for industrial use in Pennsylvania?

A. To my knowledge, since 1903.

Q. Do you know whether the East Ohio Gas Company has any production of its own?

A. I am informed that they have.

Q. Where is that territory located?

A. In the vicinity of Cleveland, Ohio; some of it very close to the city, and some some little distance—some distance away from the city.

Q. Does the East Ohio Gas Company purchase gas of any producer other than the Hope Company?

A. My information is that they do.

Q. Who is that producer, and where is that gas produced?

A. The information I have is, that the East Ohio Natural Gas Company purchases gas from a number of individual producers who have territory in close proximity to the City of Cleveland,
555 Ohio.

Q. Are those purchases fed into the same system through which the gas purchased from the Hope Company is delivered?

A. My information is that it is.

Q. Does the East Ohio Gas Company furnish its consumers directly or through other distributing companies?

A. The bulk of their consumers is furnished directly by them. They may have some contracts, some few contracts, with other small distributing companies. I am unable to state that definitely—whether they have or not.

Q. You do not know where those distributing companies are located, or what communities they serve?

A. I do not, if there are any.

Q. Does the Fayette County Gas Company have territory and production of its own?

A. I understand that they have.

Q. And does it purchase from other sources than the Hope Company?

A. I am unable to say whether they do or not. I don't know.

Q. Where is its own territory and production?

A. It is located in the vicinity of Connellsville and Uniontown, Pennsylvania.

556 Q. Is that production fed into the same transmission lines and distributing system through which the purchase from the Hope is furnished or supplied?

A. I understand that it is.

Q. Does the Fayette County Gas Company furnish any gas for industrial use in Pennsylvania?

A. I understand they do.

Q. How long has that been going on?

A. Well, I am unable to state that. To the best of my knowledge,

they have been furnishing gas to industrial consumers at least since 1910, and I believe prior thereto, although I am not informed on that subject.

Q. What about the River Gas Company, as to production of its own?

A. They have production of their own.

Q. Where is that located?

A. In the vicinity of Marietta, Ohio.

Q. Have you any idea as to the amount of its own production in Ohio?

A. I have not, other than that it is my impression that it is not very large.

Q. About what proportion of its entire supply?

A. I would be unable to answer that question.

Q. Does the River Gas Company purchase from any com-
557 pany other than the Hope Company?

A. I understand that they purchase gas from local producers.

Q. In what state?

A. In Ohio.

Q. I suppose, like the other companies, that production of its own and those purchases in Ohio are fed into the same system and distributed through the same system of the River Gas Company that the purchases from the Hope Company are fed?

A. The information I have is that it is.

Q. What about the supplying of industrial consumers by the River Gas Company, now and in prior years?

A. I understand that they supply industrial consumers when they have surplus gas for that purpose.

Q. You don't know, as to any of these companies, the proportion or the amounts used for industrial purposes, do you?

A. I do not.

Q. Now, with reference to the Northwestern Ohio Natural Gas Company: does it have territory and production of its own?

A. I believe it does, although I am not informed as to that.

Q. If it has any such territory and production, what is your idea as to where that is located?

A. My idea would be that it would be located in the vicinity
558 of Toledo, Ohio.

Q. You know of no territory or production by it in the State of West Virginia?

A. I do not.

Q. Do you know whether that company purchases from any other producers than the Hope Company?

A. I do not.

Q. Do you know whether it supplies any of its gas for industrial purposes now, or has supplied any in prior years?

A. I do not know definitely. It is my impression that they do not supply gas for industrial purposes now. They may have done so in former years.

Q. Does it supply gas directly or through distributing companies?

A. I understand that it supplies gas directly. It may also supply gas to other distributing companies. I don't know.

Q. Can you tell us where the territory and production of the Peoples Natural Gas Company of Pennsylvania, is located? In what counties?

A. I know they have leases in Clarion County, Pennsylvania—leases and wells in Clarion County; Westmoreland County, Pennsylvania; Allegheny County, Pennsylvania; Westmoreland County, Pennsylvania, and I believe some in Washington County,
559 Pennsylvania. And they may have some leases and wells in other counties with which I am not familiar.

Q. It has had that territory and production for a number of years past?

A. It has.

Q. Can you tell us approximately the acreage, the number of wells or amount of production, of the Peoples Natural Gas Company of Pennsylvania?

A. I cannot.

Q. You have considerable familiarity with the territory and operations of the Manufacturers Light and Heat Company, have you not?

A. I did have for eight years prior to July 1, 1918. Since that time I have not; I am not familiar with it since that time.

Q. That company had, and for years prior to your severing your connection with it, had very considerable territory and production in Pennsylvania?

A. It did.

Q. Either of its own, or through its various subsidiaries?

A. It did. It also purchased gas from other producers in the state of Pennsylvania.

Q. Was that gas purchased and produced by it in Pennsyl-
560 vania fed into the same general distributing system into which the gas derived from West Virginia by purchase from the Hope Company and otherwise was fed?

A. It was.

Q. All of that gas was commingled, and furnished generally throughout the system?

A. It was.

Q. Now, with reference to the service of consumers of the Hope Company in West Virginia, how are the domestic consumers furnished or supplied, that is, from the transmission lines or from the suction lines?

A. The lines leading to the towns in which the Hope Natural Gas Company are supplying gas to consumers are connected on the discharge lines of the company, in most instances. There are some instances where they are connected on the intermediate or suction lines.

Q. From what lines do you supply the industrial consumers which you furnish direct? And by industrial consumers I do not mean field service or compressor stations.

A. Those are furnished from the same lines that transport the

gas from the fields to the domestic consumers to the various towns in which those industries are located.

Q. That is, the discharge or transmission lines?

A. That is from the transmission lines. In order to make
561 that clear, I had better explain, perhaps, that the domestic consumers are always furnished through a low pressure system which is installed at the end of the transmission lines. It frequently occurs that the industrial consumers are connected directly to these transmission lines, with a system of independent regulators, which controls the supply of the industrial consumers.

Q. Is that about the same way in which the Manufacturers Light & Heat Company supplied its domestic and industrial consumers while you were connected with that company?

A. It is. The systems of all gas companies in that respect are constructed very much alike.

Q. Are your pipe lines laid over lands owned by the Hope Company?

A. The pipe lines are laid over lands to which rights of way have been secured by the Hope Company. It is not a vested ownership, as I understand it.

Mr. Weil:

Q. A what?

A. It is not a vested ownership.

Mr. Steptoe:

Q. By that you mean that the fee simple ownership or
562 entire ownership of the land is not owned by your company, but simply a right of way?

A. A right of way, for the purpose of laying, maintaining and operating a pipe line.

Q. And telephone lines along with the pipe line, as a rule?

A. That is frequently the case.

Q. And also telegraph lines, over the same right of way?

A. In some instances we have obtained rights of way for telegraph lines or telephone lines. We generally, as a rule, have both over the same right of way.

Q. How are those rights of way acquired?

A. The right to lay pipe lines is usually secured from the owner of the property by agreement, for which a certain sum of money — to the owner.

Q. In case of inability to deal with the farmer, how are they acquired?

A. In some instances by condemnation proceedings.

Q. A considerable portion of your lines cross over the public highways of the State of West Virginia, do they not?

A. There are many places where our lines cross the public highways.

Q. And a considerable portion of the gathering lines not only cross, but are sometimes laid along the highways, are they not?

63 A. That is sometimes the case, but I do not think that there is a considerable portion of them laid along the high-ways. Where this is done, however, where they are laid along the ighways, it is customary to secure a right of way from the farmer, f it can be obtained, the same as though it crossed through the roperty.

Q. Do you secure permits or franchises from the proper officials or the use of the roads in crossing or running along in and upon hem?

A. I believe that is usually done.

Q. Now, as a matter of fact, Mr. Sullivan, the Hope Company olds one or more franchises from the County Court of Harrison ounty, for the use of all of the public roads in that county for lay-ng pipe lines, does it not?

A. It is my understanding that the Hope Natural Gas Company as certain permits from some of the county courts in West Virginia. would be unable to say whether it was Harrison County or not— or granting them the privilege of laying pipe lines along certain ighways. I only have that from hearsay, as I never examined he records to ascertain just what those permits covered.

Q. The records of your company should disclose those facts, if hey are correct.

A. I presume that they would.

63½ Q. Now, doesn't that same condition maintain in other counties?

A. It may. I am unable to say.

Q. In the towns or communities which the Hope Natural Gas ompany furnishes directly, it has permits, has it not, for the use f the streets and roads?

A. I presume that it has, although I have never seen those fran-hises or permits, except in, I think, one instance. I have only ad occasion to look up one of those.

Q. In incorporated towns, that permit must be had from the own officials, must it not?

A. That is my understanding.

Q. And where they are unincorporated, you get your permits rom the County Courts of the Counties; is that correct?

A. No, not entirely. I believe in some of the unincorporated owns we have secured the permission of the owners of the property, who wanted the lines to supply them with gas. In fact, in some nstances, that has been done by petitions, which have been ent into the company by different owners of property along the ne through the different localities, where they desired to have gas, equesting the company to instal those lines and to furnish them gas.

64 Q. To take a specific example, the Hope Natural Gas Company has and holds a franchise from the City of Parkers-urg, for the use of its streets for the laying of pipe lines and other urposes of its distributing system, telephone and telegraph lines, as it not?

A. It has a franchise in the City of Parkersburg for its pipe lines, for the purpose of distributing and supplying natural gas to consumers in the city. I do not think that that includes right of way for telephone and telegraph lines, although I am not able to state that positively without making an examination of the franchise.

Q. Well, you do know that it has telephone and telegraph lines in the city to its offices?

A. It has a telephone and telegraph line to its office in the City of Parkersburg, but how it gets there I am unable to say. It may go in over the lines of another company, for all I know.

Q. Going to the matter of compressor stations, of course those vary in cost acording to size and capacity, but in order that we unlettered and inexperienced people may have some idea on the subject, could you tell us the approximate cost of a modern compressor plant?

A. The cost of compressing stations varies on account of the size of the station, its location, with reference to its inability
565 to have material delivered on the ground—that is, whether or not it is located close to railroad points or whether the material has to be hauled or transported a long distance by trucks; and it is almost impossible to make any definite estimate that would cover the cost of a compressing station, without knowing all of the details in connection with it. However, speaking generally, we estimate at the present time that the cost of a compressing station would run from $125 to $150 per horsepower, depending on the amount of horsepower that was installed, as to what the total cost might be.

Mr. Weil:

Q. A 5,000 horsepower then would be how much?

A. Using the figures of $150 per horsepower, a station having 5,000 horsepower would cost then approximately $750,000.

Mr. Steptoe:

Q. What is the average horsepower of the thirty-five or more compressor stations owned by your company?

A. I would be unable to say what the average horsepower, divided up equally among all those stations, is.

Q. Suppose you give us——

566 A. Every station that is installed is built for a specific purpose, with a view to handling whatever quantity of gas may be produced in the field which the station is presumed to operate upon. Now, in some instances small stations are installed, of possibly 150, 200 or 300 horsepower. In other instances, very immense large stations are installed, but that all depends——

Mr. Weil:

Q. Well, give us the maximum. You say large stations are installed—How many horsepower?

A. The largest station the Hope Company has, contains about

17,150 horsepower. I am giving those figures from memory, but I think that I am fairly accurate in that statement. However, some of the other stations do not contain as much horsepower.

Mr. Steptoe:

Q. They will run, in horsepower, between the maximum you have ust mentioned and what minimum?

A. About 200 horsepower, approximately; run from 200 horse-ower to 17,150, on the system of the Hope Natural Gas Company. Those are approximate figures.

Q. While you are upon this subject of your largest com-67 pressor station,—which I understand to be the Hastings Station—can you tell us the cost of its construction?

A. I cannot, without reference to the books.

Q. It will run up into the many millions, will it not?

A. It will run up into millions, yes, sir.

Q. Now, you spoke of the necessity of compressor stations in pres-nt day operations. How long have these compressor stations been ecessary in order to properly conduct the business of your company?

A. My recollection is that the Hope Natural Gas Company com-enced installing compressor stations about 1903 or 1904, and have en adding to them since that time, as the occasions arose for them. wish to correct my testimony in regard to the horsepower at Hast-gs Station. Now that I think it over, I believe there is another rbine engine at that station, which I did not include in my calcu-tions when I stated that the horsepower was 17,150 horsepower. I ould like to ascertain the horsepower of that turbine engine and rrect those figures accordingly, later.

Q. Other compressor stations from time to time then are contem-ated by your company?

A. They are, as the occasions make them necessary.

Q. Are these compressor stations necessitated solely because of forwarding the gas? Is that the only occasion for installing 8 them?

A. The only occasion for installing a compressing station is en the actual pressure in the field gets so low that it will no longer se the gas to flow through the lines to market, and these com-essing stations are installed for the purpose of taking the remaining s that is left in the field, in the sands, out of the sands and trans-rting it to market. Increasing the compression by the use of com-essing stations causes the gas to flow through the lines to the rkets.

Q. By my question I meant to develop this feature, Mr. Sullivan: territory of the Hope Natural Gas Company is not located in any d block, is it?

A. It is not.

Q. It is scattered through various counties and various sections of gas producing field?

A. It is.

Q. And in those same fields or sections other companies, especially larger ones you have referred to, as well as smaller operators and ducers, are engaged in producing and selling or marketing gas.

A. They are.

Q. Now, if any one of those other companies in the same field installs a compressor station, I mean to ask you if it is not necessary, as a matter of self protection, for your company to do likewise?

569

A. In one sense it would be. However, none of these gas producing companies are very anxious to spend large sums of money in installing compressing stations until it is necessary to do so in order to get the gas. If the natural rock pressure in the field is sufficient to force the gas to market, it would be bad business to spend money to provide an artificial means of doing the same thing.

Q. Yet if any one company installs a compressor station, can it not, and does it not, get a larger share of the gas than the companies which do not have compressor stations?

A. It might get a larger share of the gas. That would depend very largely on the location of its wells and territory, with reference to the wells and territory of the other companies.

Q. And if the wells of that company are on farms surrounded—or in the same immediate vicinity as your wells, it would have the advantage over the Hope Company?

A. It would be reasonable to presume that it would.

Q. And in such case then, your company would go and do likewise, would it not?

A. We would consider the matter of going and doing likewise, and if conditions seemed to warrant it, it is likely that we would.

570

Q. Can you tell me what is the present average rock pressure of the wells of the Hope Natural Gas Company?

A. I can give you the average rock pressure of the wells owned by the Hope Company, as determined by the pressures taken, I believe, in the month of September, 1919, of a number of wells scattered through different fields which were shut in for some considerable time, so that we might obtain the rock pressure of those wells as nearly as it could be obtained. There are always, in all fields, some wells that are kept practically continuously in use, and it is impossible to ascertain the rock pressure of those wells, without shutting them in long enough to permit the pressure to accumulate in the well.

Q. Well, as a matter of fact, that is the way of your company for ascertaining and determining that rock pressure, that average rock pressure?

A. It is.

Q. What is that average rock pressure?

A. I have here the pressures taken on twenty-three wells during the month of September, 1919; these wells being located in Monongalia and Wetzel Counties, West Virginia. The average rock pressure of the twenty-three wells being 174 pounds. I have also the pressures of twenty-eight wells located in Doddridge

571

County, West Virginia, pressures taken at approximately the same period; the average rock pressure of which is 111 pounds. I have also the pressures of twenty-nine wells, located in northern Wetzel County and southern Marshall County, West Virginia; pressure taken in 1919, the average rock pressure of which is

68 pounds. I have also the pressures of twenty-four wells, located in Wetzel and Tyler Counties, pressures taken at approximately the same period, the average rock pressure of which is 84 pounds. The average rock pressure of the total number of wells, 104 in all, is 107 pounds.

Q. My question sought to elicit the average rock pressure of all your wells.

A. It is impossible to give that, or for any company that is using its wells to do so. All it can give is the information it can get.

Q. What you have given us is the most you can give, for the year 1919?

A. No; I could ascertain the pressures in some other portions of the field. These are figures which I had compiled a short time ago for my own information, but I could add to them if it is necessary.

Q. Without going into further investigations of your records on the subject, could you approximate the rock pressure in that 72 section of your territory located in Marion, Harrison and Lewis Counties?

A. The general information which I have regarding those counties, leads me to believe that the average rock pressure of the wells in those counties would be less than 100 pounds.

Q. Now, then, as you proceed further south, does the average rock pressure get any higher?

A. It does, somewhat.

Q. Would it be correct to say that the earlier development, and the greatest development heretofore, has been in the northern section of West Virginia, and that the development has, in a general way, proceeded southerly?

A. That would be correct.

Q. And that the rock pressures of the earlier developed sections would, as a rule, be lower than in the later developed sections?

A. That would be correct, where gas is found in the same sands.

Q. Prior to the installation and general use of compressors, did the larger companies figure out and estimate the distances over which gas could be delivered under varying rock pressures or natural pressures?

A. That was undoubtedly very fully considered.

Q. And you have a general idea about the distance over which gas could be transported through varying sized pipe lines on 73 varying natural pressures?

A. I have.

Q. Of course, a great many elements enter into the matter, but can you not give us an approximation of the distance which gas would be transported through, say a 10-inch line, with a natural rock pressure at the beginning point of 100 pounds?

A. Mr. Steptoe, in order to answer that question, I think you will have to go a little further, and give me the pressure at the outlet—that you wish to maintain at the outlet end of the line.

Q. Let us say that the outlet pressure is such pressure as would be ordinarily necessary to enable the distributing company to furnish gas to its consumers?

A. To get that now in shape so that it can be answered, it would

be better to assume a certain fixed pressure at the inlet to the lin and also a fixed pressure at the outlet, and then the distance th you wish to transport it; and then it is easy to determine the qua tity of gas that a line of that size and those pressures maintain will transport over a given period.

Q. Well, let me ask you what is the ordinary pressure at whi gas is taken by a distributing company furnishing a community say 25,000 inhabitants?

A. That depends very largely on the construction
574–576 the distributing plant. A pressure ordinarily of from
to 25 pounds, maintained at the distributing end, wou supply a distributing plant; the 10 pounds being maintained in t summer season, when the delivery was comparatively light, and t higher pressures in the winter, when deliveries were grater.

Q. Now, can you give your answer on that basis of intake pressu by the distributing company?

A. I can figure that out. Perhaps I had better get that for y just after the noon recess. Assuming what length of line?

Q. You may assume the line as long as you please. I want to g the distance to which gas delivered at the natural pressure at t wells, of 100 pounds, at a given point, would be transported throug a 10-inch line.

Mr. Weil: This cross-examination is objected to, in the first plac as not being cross-examination on anything developed in the exam nation in chief. Secondly, as asking the witness for an opinion an a calculation upon a state of facts incomplete and without providin the necessary data and information upon which a calculation can b
made. Thirdly, the question of transportation of gas with a
577 initial pressure assumed in the question, of 100 pounds, t
some distributing line at some point, involves the question the quantity of gas desired at that particular point; it being a matte of physics and ordinary mathematics, that gas into a line at the poi of inception, with a pressure of 100 pounds, will pass through th line in certain quantities, in varying distances, from 10 miles to pe haps a thousand, depending upon the quantity that is expected fro the outlet; and therefore the whole cross-examination affords no i formation to the Court, or any inquiring body, as to anything i volved in this controversy, and it has already taken a large amou of time, and is therefore objected to.

The Commissioner: Let the objection be noted and let the wi ness answer.

A. In order to answer the question, I will have to have more da than you are giving me.

Mr. Steptoe:

Q. Would it enable you to answer the question, to put tha
578 10-inch line at a length of 100 miles, and then again at 5
miles, and then again at 25 miles? And if you can, on th

facts assumed, so answer, I would still like to know for what distance any gas delivered under the assumed facts, would be transported.

A. If you will put your question in this way: Fix the initial pressure and the outlet pressure, and the length of the line, I can then tell you the quantity of gas that could be delivered through a line of that length in a given period of time, if those pressures were constantly maintained. I cannot tell you the distance that some gas would flow through a line of great length. It would be presumed that any gas that is put into the line at one end would eventually come out at the other end, until the friction in the pipe had increased to such an extent that the pressure on the outlet end was equal to the air pressure or atmospheric pressure, and when it reached that point, the atmospheric pressure would prevent any gas from coming out of the line at the outlet end.

Q. Very well, I will state the question according to your suggestion. Assume an initial pressure of 100 pounds, constantly maintained; assume an outlet pressure of 25 pounds, which I un-
579 derstand you to say would be a fair pressure, at which to deliver to a distributing company such as was mentioned; and assume the length of the 10-inch line at 100 miles, and then again at 50 miles, and then again at 25 miles; and give me your estimate of the quantity of gas which could be transported and delivered in the period of 24 hours.

A. A 10-inch line, 100 miles in length, with 100 pounds inlet pressure, maintained constantly, maintaining 25 pounds at the outlet end, will deliver in twenty-four hours 3,144,000 cubic feet of gas.

Mr. Weil:

Q. Through a line of what length was that?

A. 100 miles. The same line 50 miles in length, with the same pressures being maintained—that is, 100 pounds at the inlet and 25 pounds at the outlet—will deliver 5,760,000 cubic feet of gas.

Q. In twenty-four hours?

A. In twenty-four hours. The same line 25 miles in length, with the same pressures being maintained—that is, 100 pounds at the inlet end, and 25 pounds at the outlet end—will deliver 8,640,000 cubic feet of gas in twenty-four hours.

580 Mr. Steptoe:

Q. The figures you have given are illustrative of calculations made which could be extended to various size lines and various pressures and various distances?

A. It could.

Q. I believe you stated that the system of the Hope Company was one complete system?—not separate units separately operated?

A. It is.

Q. It is operated as a whole?

A. It is.

Q. So that the gas received into the system can be, if desired, diverted to any given point or any given transmission line?

A. It can be diverted into any transmission line. It can be diverted into any of the transmission lines connected with the general system throughout the field. After the gas passes through compressing stations, it then enters the lines leading to certain cities or towns, and cannot be diverted, the way the lines are connected, after that occurs.

Here a recess was taken until 1:30 P. M.

581 Friday Afternoon, June 11, 1920.

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed pursuant to adjournment.

T. O. SULLIVAN resumes the stand.

Cross-examination (continued).

By Mr. Steptoe:

Q. Let me direct your attention to the map filed as Pennsylvania Exhibit No. 15; there are at the majority of the compressor stations divergent lines, are there not?

A. I do not understand just what you mean by "divergent lines".

Q. I mean, there are one or more lines leading away from the compressor station?

A. There are, but usually in the same direction away from the station.

Q. For example, beginning in the southerly portion, let us take your Cove Lick Station. Is there not a line leading from that station to the east, around through Weston, and thence northwardly; and another line from Cove Lick Station in the direction of Fink Station?

A. There are such lines connected to the Cove Lick Compressing Station, but the line leading around toward Weston is primarily a suction line, while the line running towards Fink is a dis-
582 charge line from the station. One line is used to take gas into the station, and the other line used to discharge gas from the station, after it passes through the station.

Q. Could the suction line toward Weston be used for a transmission line from Cove Lick Station?

A. If it were to be so used, it would shut off all the wells that are connected to that line.

Q. Take Fink Station, can the gas received into that compressor station be sent through the line leading to the right through Harrison and Marion Counties, or through the line leading off to the left through Doddridge County and on to Hastings Station?

A. That line is also primarily a suction line leading into Fink Station, and while the lines are connected through to a point in Doddridge County, where it connects with the line leading to Hastings Station, and the line to that extent could be used as a dis-

charge line from the station, the gas from that station goes either through the line marked H-5 on the map, or H-45, and both lead to Hastings Station.

Q. The letters "H-45", and so forth, do not appear on the map filed as Pennsylvania Exhibit No. 15, do they?

Mr. Weil: I presume the lines appear, but not the notation.

583 A. The notation "H-45" does not appear on the exhibit, but the line referred to is marked "10-inch".

Mr. Steptoe:

Q. How about Sardis Station in Harrison County; is there more than one transmission line leading from that compressor?

A. There are two transmission lines leading from Sardis Station, a 16-inch and a 10-inch line. One of these is at times used for a suction line to Peora Station, but at other times it is used as a discharge line from Sardis Station.

Q. Is there more than one transmission line from Wright Station?

A. There are two transmission lines from Wright Station to a point in Marion County marked "Morgan". From that point north there is one transmission line connecting with a branch line extending to the east and connecting with a line at Hawkins Station. This branch line is used as a suction line to Hawkins Station.

Q. What is the line leading from Wright Station in a westerly direction towards Hastings—transmission or suction?

A. That is sometimes used as one and sometimes as the other, depending on the way the gas is traveling. If gas from
584 Hastings Station is coming across to Wright Station, then it is used for a suction line,—or, a discharge line from Hastings Station, and is connected to the suction in Wright Station, and vice versa. If it is used as a discharge line from Wright Station, it is then connected into the suction at Hastings.

Q. And you use those lines as transmission lines when you desire?

A. We use any of our lines in whatever way the exigencies of the business may require us to use them. Of course, at certain times, when lines are flowing into a compressing station, it has the effect of shutting out certain wells that are connected to those lines and which are usually feeding into the suction, but, in case of an emergency, we have the lines so connected that we can use them,—some of them, either as a suction or discharge line.

Q. How do you make the change?

A. By opening one gate and closing another.

Q. So that, by closing a gate on that line leading out of Wright Station in a northwardly direction to Marion and Monongalia Counties, you can divert that gas through the line leading westwardly towards Hastings?

A. Yes, that can be done.

585 Q. Now, isn't that situation particularly true at Hastings Station, where a number of transmission lines converge, both feeding in and feeding out?

A. It is not. The lines feeding out of Hastings Station have very few connections from them; they all go to definite points.

Q. Suppose you explain to us what becomes of the gas taken into the Hastings Station.

A. The gas taken into Hastings Station is delivered to the East Ohio Natural Gas Company at the Ohio River.

Q. Through what transmission lines?

A. Through three lines marked on the map—(referring to Pennsylvania Exhibit No. 15)—as crossing the river, the Ohio River, north of Clarington; through two lines shown on the map as crossing the river about two miles south of Moundsville, West Virginia. And a portion of the gas is delivered to the Peoples Natural Gas Company in Pennsylvania, through the line shown on the map as crossing the State line of Pennsylvania in the southwest corner of Greene County, Pennsylvania. At other times, as I just stated, the line shown on the map as extending from Wright Station to Hastings Station is used as a discharge line. Whatever gas is discharged from Hastings Station passes through the Wright Station and is delivered to the Peoples Natural Gas Company at their
586 compressing station at Brave, in the southern part of Greene County, Pennsylvania.

Q. What about the line running almost due westward from Hastings Station towards Sistersville? Is that a suction or transmission?

A. That is a transmission line and delivers gas to the Hope Natural Gas Company's consumers at Paden City and Sistersville, West Virginia.

Q. Does all of that gas pass through the Hastings Station?

A. It does.

Q. And from there it is fed into the various transmission lines you have last mentioned?

A. Yes, sir.

Q. Is each of those series of transmission lines, or single lines, as the case may be, equipped with gates, as you have mentioned?

A. There are gates on practically all lines.

Q. Can you shut off at Hastings Station, by closing the gates, any one of those transmission lines, if you desire?

A. We can.

Q. And if you chose to do so, you could, by closing all other gates, send all of that gas through the transmission lines leading, for example, to Clarington Station, as far as the lines would take it?

A. It is my belief that we could. It may be that the con-
587 nections are not so arranged so that all the gas going through the lines leading across the Ohio River at Moundsville could be thrown into the other lines crossing the river at Clarington, although I rather think that it can be done.

Q. Well, that is the method by which you regulate whether the gas from the pump station shall go into one transmission line or in another, namely, by shutting the gates?

A. No, sir; those gates are put in there for the purpose of protection more than for the purpose of shutting off the line and throwing the gas through one line or the other. In case of a broken line, or

any repairs being necessary, it is possible to shut the gates and close the gas out of that line temporarily, and deliver as much gas as we can through the other lines while the repairs are being made. Those gates are not installed entirely for the purpose of diverting or changing the flow of the gas.

Q. As a practical operation, however, it is possible for you to control how much shall go through one transmission line or how much through another?

A. I wouldn't like to say that that was the fact as a practical proposition. Those things can be done, but it is not a practical thing to do, unless it is a case of necessity.

Mr. Weil:

588 Q. Mr. Sullivan, in order to save time, let me ask you just at this point: Would it not depend upon the capacity of the lines as to whether or not the gas could be sent through?

A. It certainly does, on the quantity of gas that could be sent through the other lines—or the quantity of gas which could be sent through the other lines would be governed entirely by the capacity of the lines.

Mr. Steptoe:

Q. I am not getting at that proposition, Mr. Sullivan. Under the contracts that the Hope Company has for delivery to the various purchasing companies, some have priority over others, some take larger contracts than others——

Mr. Weil: Larger quantities.

Mr. Steptoe:

Q. —or larger quantities. How do you regulate how much shall be delivered to the one and to the other, and how do you furnish that priority to the one or the other, stipulated for in the contract?

A. Our plant is designed and built specifically for that purpose, and is so arranged—measuring stations installed so as to measure the quantity of gas delivered to each company.

589 Q. All of the gas passing to the East Ohio Gas goes through Hastings Station, does it not?

A. Passing to the east of Ohio County, did you say?

Q. To the East Ohio Gas Company.

A. It does.

Q. Suppose the amount of gas passing through that pump station is sufficient only to supply the contract quantity of the East Ohio Company, what do you do about the transmission line which connects from Hastings Station to the lines of the Peoples Company?

A. In that event we do the best we can to supply the Peoples Company through the line from Wright Station; but, as a matter of fact, in general practice we have been unable to give either one of the companies the amount of gas that they are entitled to take under their contracts.

Q. That does not quite reach my question, Mr. Sullivan.

(Preceding question and answer repeated.)

A. It seems to me that answers your question, Mr. Steptoe.

Q. Under the conditions I have named, do you still use the transmission line connecting from Hastings Station to the Peoples Company, and transmit any gas to the Peoples Company?

590 A. We do; if the quantity of gas passing through the Hastings Station was only sufficient to supply the quantity of gas to which the East Ohio Company is entitled, then we would curtail that quantity to some extent and give the Peoples Gas Company a portion of their supply also. That is, it creates a shortage on the lines of both companies.

Q. Could you shut off the Peoples Company, if you chose so to do, entirely from this supply leading to Hastings Station?

A. Not without violating the terms of our contract with the Peoples Company.

Q. As a physical operating proposition, you could?

A. It can be done.

Q. Are these gates you have spoken about as installed at the various compressor stations open all the time?

A. No, sir; some are open and some are closed, depending on the conditions under which the gas is being used.

Q. Suppose you explain briefly why they are open—or when they are opened and when they are closed?

A. I cannot fix any definite times when those changes are made, as it depends upon the conditions. They are open when it is desired to have the gas go through the lines, and they are closed, or partially closed, when it is desired to shut the gas out of the line, or to curtail the quantity which is going through a certain line.

Q. And some may be open and some closed, according to the exigencies of the business?

591 A. That is practically the condition of all valves. If the demands vary, the plant is regulated so as to meet those demands.

Q. How many gates are there between Hastings Station and Brave Station?

A. That I am unable to tell you. There are several at different points on the line, as it is customary on all lines to instal gates at certain points so, in case of accidents, certain sections of the line can be shut off for repairs, without emptying the entire line.

Q. How many gates are there at Brave Station?

A. I can't tell you.

Q. And what are the gates along the line between Hastings and Brave for?

A. For the purpose that I have just stated—for the purpose of shutting out such certain sections of the lines in case of breaks or wash-outs or interference with the line, necessitating repairs, without emptying the entire line from one into the other.

Q. In your direct examination, you mentioned with some detail the points of delivery to the various purchasing companies. With

the map before you—(Referring to Pennsylvania Exhibit No. 15)—I wish you would tell us the point or points of delivery for the East Ohio Gas Company?

592 A. That is delivered to the East Ohio Company at a point of connection between the lines of the Hope Company and the East Ohio Company, maybe one-half mile north of Clarington, Ohio.

Mr. Weil:

Q. In what state?

A. In Ohio. Gas is also delivered to the East Ohio Company, at a point where the connection between the lines of the Hope Company and the East Ohio Company is made, about three miles south of Moundsville, West Virginia, at a point marked on the map as Round Bottom.

Q. In what state is that?

A. In the State of Ohio. And connections with the lines in both instances are made on the Ohio River.

Mr. Steptoe:

Q. Are those the points of delivery required by the contract between the companies?

A. Substantially they are.

Q. Is it the same point at which deliveries have always been made?

A. The same point.

593 Q. There has been no change in the point of delivery either near Clarington or at or near Round Bottom, since you have been General Manager of the Hope Company?

A. There has not been any change since that time.

Q. Are you certain of your statement as to that point of delivery near Clarington being in the State of Ohio?

A. I am certain of my statement that that is the information I have.

Q. Where did you get that information?

A. From the other officials of the company, and also from the records of the company, showing that the line across the river belongs to the Hope Natural Gas Company.

Q. You personally, of course, do not know where that state line is, do you?

A. I do not, although I have a pretty good idea where it is, for the reason that I laid or had charge of the laying of those lines across the river at a point south of Moundsville. I laid the first lines that were laid across there for the Hope Company.

Q. What is the boundary line between Ohio and West Virginia?

A. My recollection is that it is at the low water mark on the Ohio side of the river. I am giving that from memory now; I haven't looked it up or tried to verify that recently, but that is my

594 recollection from the time that I worked there, that that is the point that was fixed.

Q. I understand you to say that there has been no change in location since the regime of Mr. Pew as general manager?

A. No, sir. I stated that there has been no change since I have been general manager of the Hope Company. I will say further, however, that as far as my information goes, there were no changes made during Mr. Pew's period of management.

Q. Did any of your information about the location come from Mr. Pew?

A. I cannot say that it did, directly.

Q. Do you know about this location or these locations of the points of delivery being involved in litigation, to which Mr. *Pew* testified? (Should this be "Quay"?)

A. I do not.

Q. You don't know Mr. *Pew* testified that they were at the state line or on the West Virginia side in all cases?

A. I do not.

Q. Where is the point of delivery to the Fayette County Gas Company?

A. The point of delivery is at or very near the state line between the states of Pennsylvania and West Virginia. Whether the lines of the Hope Company extend over into Pennsylvania at all or
594½ not, I am unable to state. The gas is measured at a point about one-half mile south of the state line, in the state of West Virginia, but the Hope Natural Gas Company owns the line leading from that station to the station line. Whether it extends into the state of Pennsylvania or not, I am not informed.

Q. And where are the points of delivery of the supply to the Peoples Natural Gas Company?

A. The delivery to the Peoples Company is made at the measuring station located in Greene County, Pennsylvania, located near Brave Station, in the State of Pennsylvania.

Q. How near to the state line?

A. Very close; I don't think it is more than 500 feet, maybe not that much, in the State of Pennsylvania.

Q. Is that a matter of information furnished you or a matter of personal knowledge on your part?

A. It is both information and personal knowledge, as I was connected with the Peoples Natural Gas Company at the time this connection was made. I recollect that the Hope Company brought the lines to the measuring station.

Q. You have been there to that point of connection?

A. Many times.

Q. Do you know where the boundary line is?

A. I did know where. I have had occasion to look up the state line between Pennsylvania and West Virginia at that point, on account of business matters that we had, in which that was involved.

Q. Now, how and when did you ascertain the location of
595 that boundary line at that point?

A. About 1907 or '08.

Q. How did you locate it?

A. We looked up the records as far as we were able to find them, and got the information from the residents of that vicinity.

Q. Did you survey the line?

A. No, we did not survey it. That is, I didn't; now I am not at all sure that our engineers did not survey and locate that line as definitely as it could be done.

Q. You simply ascertained that location of the line as best you could from the examination of the records and from information?

A. The best information we could get as to where it was located, as it was generally known where the state line between the two states was located, by people living in that vicinity.

Q. Did you find the boundary line marked?

A. I can't say that we did; I can't recollect that.

Q. What is the other point of delivery to the Peoples Natural Gas Company?

A. All of the gas is delivered to the Peoples Natural Gas Company at that point, although the Peoples Company own the line
596 leading to the west from the measuring station to the state line, or thereabouts.

Q. You refer now to the point where the line crosses just north of Littleton?

A. I do.

Q. Where is the point there?

A. As I say, the gas is delivered to the Peoples and measured at the station at Brave; but the Peoples Company own the line to the point where it crosses the state line north of Littleton, or very close to the state line.

Q. And joins the Hope line at the station?

A. Joins the Hope line at that point. The gas is delivered to the Peoples Company and measured to them at the measuring station in Pennsylvania at Brave Station.

Q. Is the point of delivery to the River Gas Company shown on Pennsylvania Exhibit No. 15?

A. The lines of the Hope Gas Company extend across the river at the point shown on the map marked "To Marietta, Ohio," and the gas is delivered to the River Gas Company into their lines on the Ohio side of the river by the Hope Company. I know that, for the reason that the line crossing the river was broken this last winter, and the Hope Natural Gas Company laid a new line across the river, and connected to the lines of the River Gas Company on the
597 Ohio side.

Q. Was it beyond the state line?

A. Beyond the state line, upon the bank of the river.

Q. How far over on the Ohio side is this connection at or near Clarington with the East Ohio Gas Company?

A. As nearly as I can fix it from memory, I would say about 300 feet.

Q. And how, at or near Round Bottom?

A. Not quite as far at Round Bottom, as I recollect, as at Clarington,—possibly 150 feet from the low water mark of the river.

Q. How are those points of delivery indicated on the ground?

A. I am not positive whether gates are installed at the point or not, but my recollection is that there are gates at those points.

Q. Any measuring stations there?

A. There is a measuring station at the point north of Claringto
On the other line the measuring station is located on the West Vi
ginia side of the river; gas is measured on the West Virginia side
that point.

Q. Now, how about the delivery to the Northwestern Ohio Na
ural Gas Company? Where is that point of delivery?

A. The gas which is taken by the Northwestern Ohio Natural Ga
Company is transported through the lines of the Reserve Gas Com
pany, which crossed the river at a point on the map marke
598 Boaz, about four miles south of Williamstown, West Vir
ginia, at which point the Reserve lines cross the river an
connect to the lines of the Connecting Gas Company in Ohio, an
gas is then transported through the lines of the Connecting Gas Com
pany and delivered to the Northwestern Ohio Natural Gas Company
at or near Sugar Grove, in Hawkin,—or Fairfield County, Ohio, I
forget which one.

Mr. Eagleson: Fairfield County.

A. Fairfield County, Ohio.

Q. Where is the point of connection of the Reserve lines with
the Connecting Company lines?

A. My recollection is that that is also made on the Ohio side of
the river. I had charge of constructing the first lines that were laid
across the river by the Reserve Gas Company, and I recollect we laid
the lines across the Ohio River for the Reserve Gas Company.

Q. How far from low water mark?

A. Possibly a couple of hundred feet, or something in that neigh-
borhood—two or three hundred feet. Those lines, as I recollect,
when they were built—and I had charge of several of them—were all
laid up onto the high ground out of the river, on the Ohio
599 side of the river, by the Reserve Gas Company.

Q. The object in all of those cases was to get above the flood
point?

A. Yes, and to have a definite fixed point where the property of
one company ended and that of the other company began.

Q. Has this Connecting Company any territory or production of
its own?

A. It has not, to my knowledge. The information I have is that
it is a transporting company.

Q. Has it any lines other than the line you have mentioned?

A. It has two lines leading from the Ohio River, or near the Ohio
River, to a point near Sugar Grove, in Fairfield County, Ohio.

Q. You know of no other property or pipe lines that it has?

A. I do not. It may have other property. That is all that I
know of.

Q. It furnishes no consumers itself?

A. I believe not, unless there may be a few consumers—No, I be-
lieve not, for the reason that it transports gas for other companies.

Q. You spoke of the River Gas Company having some small pro-
duction of its own, and of an instance or two when the gas from

the Ohio side went back into West Virginia. Has that occurred often?

600 A. Yes, that is the condition at all times. Take the town of Friendly, located in Tyler County, West Virginia, that town is entirely supplied with gas which the Hope Company purchases from the River Gas Company. The Hope Company has no line of its own leading to Friendly, West Virginia, and obtains all of the gas which it sells there from the River Gas Company.

Q. I thought the feeding back was into the lines of the Reserve Company?

A. What is that?

Q. I thought the feeding back of the River Gas Company was into the lines of the Reserve Gas Company?

A. No, sir. The point where the gas goes from Ohio into West Virginia is marked on the map at Friendly, Tyler County, West Virginia.

Q. The point I was interrogating you about was your testimony in chief, to the effect, as I noted it, that the River Gas Company mines feed back into the lines of the Reserve Gas Company. Was that incorrect?

A. That is incorrect, as I remember my testimony; because it is not a fact, as far as my knowledge goes. I think possibly what you have in mind is that I stated there was a connection at Boaz, West Virginia, between the lines of the Reserve Gas Company and the lines of the Hope Natural Gas Company at that point.

601 Q. With reference to the investment of the Hope Natural Gas Company, in giving the valuation of $37,500,000, did you include in that estimate the value of operated territory?

A. I did not.

Q. What is included?—Did you include the value of the various wells?

A. It includes the tangible material in the wells, that is, tubing and casing. It does not include any value for the gas which the well is producing.

Q. And does not include the labor cost, or rig cost?

A. It does not.

Q. Those last two items are intended to be included in your addition of twenty-one million odd dollars?

A. Those items were included in the item of twenty-one million and some odd dollars, which I gave yesterday.

Q. Do those two items of $37,500,000 and twenty-one million odd dollars make up your capital investment?

A. The item of $37,500,000, or approximately that amount, represents the capital account on the books of the Hope Company. The item of $21,000,000, which you refer to, was an expense account.

Q. You annually depreciate that capital investment, do you not? Do you adopt any particular rate of depreciation?

A. As I understand it, we do adopt a particular rate, which was practically fixed by representatives of the Department

602 in Washington, which has charge of those matters?

Q. What is that rate of depreciation, or what was it in 1919?

A. The rate of depreciation charged off by the Hope Natural Gas Company for the year 1919, was five per cent on field property, excluding the cost of land owned by the company in field work; the depreciation on main line property, excluding land costs, which would be sites for compressing stations, and so forth, five per cent; the depreciation on city plants and distributing systems, also excluding land costs, three per cent; depreciation on physical oil properties, five per cent; depreciation on teams and teaming equipment, 12½ per cent; depreciation on trucks and automobiles, 25 per cent. This information is furnished me by Mr. R. D. Beardsley, the treasurer of the Hope Natural Gas Company, who has charge of the books of the company.

Q. How long has the Hope Company been depreciating its property, either on this basis or on some basis established by itself?

A. Mr. Beardsley also informs me that the Hope Company commenced depreciating its property along about the years 1903 or '04.

Q. By "field property," I understand you to mean leases operated and unoperated, among other items, including wells?

603 A. I do not so understand it. It is my understanding that the value of leaseholds and wells, other than the tangible material in the wells, is not taken into consideration in figuring off this depreciation.

Q. Is the life of the gas wells taken into consideration at all, in the making up of your percentage of depreciation?

A. It is not.

Q. Do you make no provision or allowance for the depreciation in value of your gas territory, in one form or another?

A. Not in taking depreciation.

Q. How do you make allowance for the lessening value of your wells and gas territory?

A. Since the year 1918, we have been making allowance for the gas taken out of the fields through a depletion report. This was not taken into consideration previous to the year 1918, and is not deducted from the investment capital.

Q. It is not?

A. No.

Q. If I understand you correctly, your capital investment of $37,500,000 has had no deduction made for depletion?

A. It has not.

604 Q. Do you establish or carry a reserve or sinking fund to take care of that depletion?

Mr. Weil: Just a moment. This cross examination is objected to, for the reason that the witness stated in his examination in chief, in giving the amount of the investment, that the gas territory or leaseholds were carried at the cost thereof, and not at any valuation placed upon them as gas producing or gas territory. Therefore this examination, with reference to a depletion charge against gas territory, which is not carried upon the capital account, as stated by the wit-

ess, is not cross examination with reference to the capital account, as ated by the witness, the details of which were given.

Mr. Hoffheimer: I think Mr. Weil makes the common mistake,—thought he had overcome that—of assuming that the examination nd the witness's answers in chief are conclusive upon the cross xaminer.

The Commissioner: Note the objection and take the answer.

05 A. We have not established any sinking fund to take care of this account. I wish to say, however, that I am not a ookkeeper, and do not feel that I am qualified to testify in regard the accounts of the company. If you desire any information in-lving the accounting, I would prefer that it should be obtained om the treasurer of the company, who is qualified to give you that formation.

Mr. Steptoe:

Q. We will dispose of the matter in about two more questions, ich I think you can answer, Mr. Sullivan. Doesn't your com-ny carry upon its books a value under the heading "Natural Gas posits?"

A. We do.

Q. What was that value for the year 1919?

A. The beginning or the close?

Q. You may take that valuation as of the beginning of the year 18.

A. At the beginning of the year 1918, that value was $24,811,-.42.

Q. What amount, if any, has been deducted from that valuation depletion, and for what period?

A. There was deducted from that valuation for a period of two years ending December 31, 1919, the sum of $5,255,642.97.

Q. Do you know on what basis or principle that amount of depletion was figured, and why?

A. Yes. That depletion was arrived at by a comparison of the k pressures in the field at the beginning of the year 1918, as pared with the rock pressures existing in the field at the end he year 1919. The comparison of the pressures was made as of date September 30, 1917, September 30, 1918, and September 1919, instead of at the end of the year. This for the reason it is possible to shut in more wells during the summer season, rder to obtain the rock pressure, than would be the case if an mpt were made to obtain the pressures in cold weather, when e is a large demand for gas. In addition to the rock pressure hod of determining this depletion, the quantities of gas taken of the field and sold during that period are also considered, and depletion arrived at in that manner.

Q. And from the data you have mentioned, you estimated and into consideration the probable life of the field?

A. We did.

Q. Now, with regard to the amount of over one hundred million

dollars spent in West Virginia by the hope Natural Gas Compan was that estimate figured to cover all expenses for all purposes?

A. It was, but, as I stated in my previous testimony, m
607 impression is that it exceeds that sum by a very considerab item. However, I have no definite way in arriving at the tot amount of money spent by the Hope Natural Gas Company in We Virginia.

Q. Then it would include oil and oil wells, and gasoline statio and such items of investment as made in your manufacture an disposition of gasoline?

A. No, sir. I was not including those figures. I was not takin into consideration the money invested and the property account It was the money spent in West Virginia for items such as labo lease rentals, royalties, and material purchased in West Virginia- No, not material purchase. It was mainly expense items and n investments.

Q. Relating only to the gas business——

A. No.

Q. —not to your oil?

A. No, it related to all expenses in the State of West Virgini whether for oil or gas purposes or gasoline purposes.

Q. Is the company's property in oil and oil wells, gasoline an gasoline stations, figured in that capital investment of $37,500,000

A. The investment in oil wells and in gasoline stations is include in the $37,500,000 item, but that does not include the ite
608 of labor and items of that character, which were charged expense. It merely includes the physical property of th company.

Q. Are those expenditures, as well as the expenditures of th company for conducting and operation of the gas business, pai out of current income?

A. They are paid out of the income from the different depar ments.

Q. And the property involved in your capital investment of $37 500,000 is paid for in the same way, out of income from the pro erties?

Mr. Weil: This is objected to as not cross-examination, the wi ness having stated this is the capital account and not an expenditu account that has been paid out of any particular properties.

The Commissioner: Note the objection; the witness may answe

A. I am unable to answer that question. I don't know ho those acounts are kept.

An adjournment was here taken until Saturday, June 12, at 1 o'clock A. M.

609 Saturday, June 12, 1920.

And now, Saturday, June 12, 1920, the hour of 10 o'clock A. M. having arrived, hearing resumed pursuant to adjournment.

Present: The Commissioner and counsel as heretofore noted, and Arthur E. Young, Esq., representing the Commonwealth of Pennsylvania.

T. O. SULLIVAN recalled.

Cross-examination (resumed).

Mr. Steptoe:

Q. On yesterday I asked you for your figures on the amounts used by the Hope Company in field service. Have you those figures this morning?

A. I have.

Q. Please state those amounts for the year 1919.

A. During the year 1919, the Hope Natural Gas Company used for its operations in the field,—drilling, pumping wells, and so forth—1,078,834,000 cubic feet of gas. It also used in connection with compressing stations, and so forth, during the year 1919,
610 3,887,666,000 cubic feet. A total used by the Hope Company in the year of 1919 of 4,966,500,000 cubic feet.

You also asked me the amount—for the quantity of gas used by other contractors in the field for drilling and operating purposes. I find the company sold to other contractors and companies for field operations, during the year 1916, 672,946,000 cubic feet of gas.

Upon examination of the books, I find that in my testimony in chief, giving the total sales of gas by the Hope Natural Gas Company in the year 1919, as approximately 67,000,000,000 cubic feet, I failed to include in these sales gas sold to the Northwestern Ohio Natural Gas Company, consisting of 5,796,504,000 cubic feet. This gas is transported out of the State of Pennsylvania through the lines of the Reserve Gas Company, and consists of gas purchased from the Reserve Gas Company by the Hope Company. That gas is delivered into the lines of the Connecting Gas Company, and transported by them and delivered to the Northwestern Oil Natural Gas Company, at Sugar Grove, Ohio. Mr. Beardsley, the treasurer of the Hope Company, informs me that there were two minor sales made from the lines of the Connecting Gas Company, which are included in the sales to the Northwestern Ohio Natural Gas Company.

Therefore, these figures do not check exactly with the amount
611 delivered by the Hope Company to the Northwestern Ohio Natural Gas Company, but they are very close. Adding this gas to the total sales of the Hope Company, makes total sales for the year 1919, 73,741,936,000 cubic feet. I might say that my approximation of 67,000,000,000 was made from memory, and now I am giving exact figures from the books. I also stated, in giving figures for the gas sold to other companies, the total of which was 59,642,489,000 cubic feet; and deducting these sales from the total sales of

gas, the sales to the Northwestern Ohio Natural Gas Company included, it leaves a balance of 14,099,447,000 cubic feet of gas sold by the Hope Company for all purposes in the state of West Virginia—sold and delivered for all purposes in the state of West Virginia—deducting from this amount the gas used by the Hope Natural Gas Company for its own operations in the field, it leaves a balance of 9,132,947,000 cubic feet sold to parties other than the Hope Company in West Virginia, during the year of 1919.

Q. Would somewhat the same modification, substantially the same, apply to your testimony regarding previous years, as to the totals consumed in West Virginia, and marketed?

A. The same correction would substantially apply to the former years. Of course, there is considerable variation from year
612 to year in the amount of gas sold in the field and also used by the Hope Company itself in its operations; that depending largely on the conditions of the operations through the field whether there is much or little drilling being done.

Q. The total you have given for sales in West Virginia for the year 1919, for all purposes, includes the 672,946,000 cubic feet sold to other contractors and drillers in the field?

A. It does.

Q. And it includes sales and deliveries to local utility companies, as well as sales and deliveries to those consumers, domestic and industrial, which the Hope Company furnishes directly?

A. It does.

Q. On yesterday you told us of purchases and the taking over by the Hope Company of the property and assets of the Mountain State Gas Company. Has the Hope Natural Gas Company taken over any other local utilities in West Virginia?

A. It has not, since I became manager of the Hope Company on July 1, 1918, with the exception of possibly two small gas companies; one known as the Rural Gas Company, operating in West Virginia, which supplied a few customers; and also the lines and cus-
613 tomers of a company as the Berea Light, Heat & Power Company, supplying customers in Berea, and operating in Ritchie County, West Virginia. This company supplied a few customers, more than 100—practically about 100 customers. I am not very familiar with the plant of the Rural Gas Company, for the reason that the negotiations for the purchase of the plant were under way and practically completed about or soon after the time that I became manager of the Hope Company. I am familiar with the purchase of the other plant, for the reason that I conducted the negotiations myself.

Q. Did each of the two companies you have mentioned have their gas territory and production?

A. The Berea Light, Heat & Power Company had two gas wells and a few acres of territory. As I recollect, one of those wells was located on a piece of property of about a quarter of an acre, or possibly half an acre. The other was located on a little larger piece. I might say that the reason why the company purchased this company was because of the fact that the two wells which the Berea Com-

pany owned were practically exhausted and were not supplying a sufficient amount of gas to take care of the customers of the company, and they were very anxious to get out of business and dispose of their property.

614 Q. How are those two companies connected with the lines of the Hope, for service?

A. The Hope Company made connection of its lines in the case of the Berea Light, Heat & Power Company to supply the surplus quantity of gas needed in order to supply the customers of that company, after we acquired possession of their plant; this in addition to what gas their own wells would produce. In the case of the Rural Gas Company, my recollection, and the information I have, is that prior to the purchase of this company, the Hope Company was selling gas to the Rural Gas Company, and the connections were made prior to the purchase of the property of the Rural Gas Company. The Hope Company continued to supply gas to the customers on the lines of the Rural Gas Company in the same manner in which it had been previously supplied.

Q. Are the connections for these two companies made on the discharge lines or the suction lines of the Hope Company?

A. To the best of my information the connection supplying the consumers of the Berea Light, Heat & Power Company is made on the discharge line of the Hope Natural Gas Company leading from Craig Station. I am not positive that I am right in this, but I believe that I am. I do not know where the connection is made

615 which supplies the Rural Gas Company.

Q. Do you know whether the connection for the Rural Gas Company is to a suction or to a discharge line?

A. I do not.

Q. It might be upon either?

A. It might.

Q. In acquiring these two small companies, did the Hope Company take over all of the property, assets and rights of both?

A. In acquiring the property of the Berea Light, Heat & Power Company, the Hope Company only acquired its wells, pipe lines and meters. It did not secure any of the franchises or other rights of the Berea Light, Heat & Power Company. I do not know what they secured from the Rural Gas Company.

Mr. Young:

Q. How about the acreage, did they get the acreage of the Berea?

A. Yes, sir, the acreage and rights of ways, pipe lines, wells, meters, and such loose material as the company had in stock.

Mr. Steptoe:

Q. You are referring now to the Rural?

616 A. No, I am referring to the Berea Light, Heat & Power Company. I do not know what we acquired from the Rural Gas Company.

Q. Have you any recollection or knowledge, touching the pur-

chase and taking over by the Hope Company of a small West Virginia Corporation doing business near Clarksburg, known as the Hutton Gas Company?

A. I have not.

Q. Do you have any recollection or knowledge touching the acquisition by the Hope Company of the property, assets, franchises, and so forth, of the Mt. Clare Gas Company, another West Virginia corporation, doing business near Mr. Clare?

A. I have understood that the Hope Company made some purchase from the Mt. Clare Gas Company, but as to what it consisted of, I have no knowledge.

Q. Is the Hope Gas Company now serving the consumers who were formerly furnished by the Mt. Clare Natural Gas Company?

A. The Hope Natural Gas Company is supplying gas to consumers in the village of Mt. Clare. Whether or not those consumers were formerly consumers of the Mt. Clare Gas Company, I am not informed.

Q. Do you know how the connection is made for that service?

617 A. I do not.

Q. Do you know where the connection is, and whether it is to a suction or a discharge line?

A. I do not.

Q. Have you any knowledge or information touching a purchase by the Hope Company of the leasehold properties, wells and other property owned by one Godfrey Cabot, in Pleasants or Calhoun Counties, West Virginia, or both?

A. I have no knowledge of any purchase of wells or leaseholds having been made by the Hope Natural Gas Company from Mr. Godfrey L. Cabot, in either Pleasants County or Calhoun County.

Q. Do you know of a purchase by you from Mr. Cabot of any property in West Virginia?

A. We are purchasing gas from Mr. Godfrey L. Cabot in Calhoun County, West Virginia.

Q. Is that under a contract in writing?

A. It is.

Q. Is that writing recorded, do you know, in any county of West Virginia?

A. I am unable to say whether that contract is on record or not, but I presume it is.

Q. Can you give us, briefly and in substance, the nature of that contract? Is it anything more than a mere purchase of gas produced by Mr. Cabot?

618 A. It is simply a purchase of gas produced by Mr. Cabot, with the right to the Hope Company of erecting a compressing station and houses, and so forth, for its employees, on land owned by Mr. Cabot.

Q. Does that contract take all of the gas production of Mr. Cabot?

A. It does not. It takes such gas as was formerly used by Mr. Cabot in two of his carbon plants, located near Grantsville, in Calhoun County, West Virginia.

Q. At what point is that gas taken into the lines of the Hope Company?

A. That gas is taken into the lines of the Hope Company at a point near Grantsville, West Virginia. It is not shown on the map which is in evidence here, for the reason that the contract was made and the station built since the date of the map—which I believe is December 31, 1917.

Q. Does the contract with Cabot stipulate at what pressure the Hope Company shall take the gas from the wells and production of the vendor?

A. The contract does so provide.

Q. What is that pressure, and at what points?

A. My recollection is that the stipulation providing the pressure is that the gas shall be taken by the Hope Company at or near Zero.

Q. At the well north?

A. No, sir, at the point where it is delivered to the Hope Company at the station.

Q. Do you mean Cabot Station, which you have located a few miles from Grantsville, Calhoun County?

A. I do.

Q. Have you any knowledge or information touching the taking over by the Hope Company of a certain portion of the property and assets of the Wheeling Natural Gas Company, the Tri-State Natural Gas Company, the Manufacturers Light & Heat Company, of West Virginia, on or about the first of May, 1910?

A. I know that the Hope Natural Gas Company purchased certain line, leaseholds and a few gas wells from the Manufacturers Light & Heat Company, of Pittsburgh, Pennsylvania, on a contract dated about May 1, 1910; just which one of the subsidiary companies of the Manufacturers Light & Heat Company held title to this property, I do not remember.

Q. That was a contract of purchase, was it not, and the actual transfer by formal deed was made later?

A. I am not informed as to the time of the actual transfer, but it is my impression that the transfer and everything was concluded at the date of the contract.

Q. The Hope Company took over the property embraced in the contract as of May 1, 1910?

A. That is my understanding.

Q. And you are not familiar with the legal process, whereby title was vested in the Hope Company?

A. I am not.

Q. Can you tell us briefly what gas territory, and where located, was transferred in that field?

A. I cannot tell that from memory, as that transaction was all concluded prior to my connection with the Manufacturers' Light & Heat Company, and I had no occasion to look it up specifically.

Q. Do you know about what pipes and pipe lines were transferred?

A. I know that there was one pipe line included in that purchase, leading from a point marked "Bates" on the map, located in Doddridge County, West Virginia. It is my impression that that line extended in a southerly or southeasterly direction, although I am not sure as to that, and I don't know where it ended. There may have been some other small branch lines connected with this, but I am unable to say whether there were or not.

Q. Might it not be, Mr. Sullivan, that the chief pipe line transferred was a 12-inch transmission line extending from Lost
621 Creek, in Harrison County, to the Sedalia pump station in Doddridge County?

A. Well, that might be the case. I was starting from the other end of the line, near where the Sedalia Station is located, in Doddridge County, and you start probably from the opposite end, which may have been located in Harrison County. As I stated, I don't know where the other end of the line was.

Q. Where was, and is, what is known as the Lost Creek main line?

A. I do not know. That is more or less of a local term, and I don't know where it is.

Q. But there was and is a 12-inch line running between the point we have referred to, namely, the Sedalia pump station, and Lost Creek, and that is yet owned and operated by the Hope Natural Gas Company?

A. There was and is such a line, as I stated, running from Bates, in Doddridge County, in a southern or southeasterly direction, but the point on the southern end of this line I was unable to locate, with regard to the line which was turned over by the Manufacturers Light & Heat Company to the Hope Natural Gas Company.

Q. Do you know whether there were any rights of way for pipe lines transferred in that same deal?

A. I believe that there was, although I am not familiar
622 with the property that was transferred, only in a general way.

Q. Do you know, in a general way, whether or not there were gas purchase contracts embodied in the same transaction?

A. My recollection is that there were no gas purchase contracts included in the sale of the property to the Hope Company.

(Paper shown witness.)

Q. Now, in order that you may not be at a disadvantage in this particular matter, and in order to refresh your recollection and information, I hand you here what purports to be a certified copy of a deed, made under date of June 27, 1911, recorded in the Office of the Clerk of the County Court of Harrison County, in Deed Book, No. 202, page 375, to carry out a prior contract recited to be as of date of May 1, 1910; the deed being between the Wheeling Natural Gas Company, the Tri-State Gas Company and The Manufacturers Light & Heat Company, corporations organized and existing under the laws of the State of West Virginia, parties of the first part; The Manufacturers Light & Heat Company, a Pennsylvania corporation, party of the second part, and Hope Natural Gas Company, a West

Virginia corporation, party of the third part. Please ex-
623 amine that deed, and especially Schedule 3, mentioned in the deed, and state if it does not purport to transfer a number of gas purchase contracts theretofore owned by the Wheeling Natural Gas Company and the Tri-State Natural Gas Company?

Mr. Eagleson: The question is objected to, on the ground that the instrument speaks for itself, and upon the further ground that it would not be competent testimony at this time and in the manner offered. On the further ground that it is incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted, and take the answer.

Mr. Steptoe: In reply to the objection: we do not propose to offer the deed in evidence at this point, but are exhibiting it to the witness, in order that he may refresh his recollection and not be at the disadvantage of testifying from mere recollection.

A. This deed which you have handed me seems to show that these gas purchase contracts were included in the deed from the
624 Manufacturers Light & Heat Company to the Hope Natural Gas Company. I was under the impression that these contracts had been transferred under a separate assignment.

Mr. Eagleson: Now we ask that the answer be stricken out, for the reasons stated in the objection.

Mr. Steptoe:

Q. Having that deed before you, will you please tell us the counties in which are located the various leases and leaseholds transferred?—Simply, in a general way, without going into details.

Mr. Eagleson: The same objection.
The Commissioner: Let the objection be noted.

A. This paper which you have handed me shows that leases located in Harrison County, West Virginia, were transferred; also leases located in Lewis County, West Virginia; also leases in Marion County, West Virginia; also leases located in Upshur County, West Virginia; also leases located in Braxton, West Virginia; also
625 leases located in Gilmer County, West Virginia.

Mr. Eagleson: I move that the answer be stricken out, for the reasons stated.

Mr. Steptoe:

Q. Are the leases acquired by the Hope Company in that transaction included in the leasehold acreage of the Hope Company which you gave us at this hearing?

A. They undoubtedly are, in the earlier years. Whether or not the Hope Company is holding those leases as yet, I would be unable to say, but I presume that they are—some of them.

Q. There might be some changes by reason of the surrendering

of some of the leases or the expiration of the terms of some of them, that you did not care to renew?

A. That is correct.

Q. Is the property acquired in that transaction included in and as a part of the Hope Company's capital investment of $37,500,000, which you gave us on yesterday?

A. Any property that we still own is included.

Q. Now, since May 1, 1910, when the transfer of this property was contracted for, has the Wheeling Natural Gas Company held any property or engaged in the natural gas business in the counties of Harrison, Lewis, Upshur, Braxton, Gilmer and Marion, that you have mentioned?

626

A. I do not know.

Q. Do you know of their doing any business at the present time in any of those counties mentioned?

A. To the best of my recollection, they hold some property and are doing business in Harrison County, although I may be mistaken as to that. I don't recollect of any business in any of the other counties you mentioned. I am also under the impression that the Manufacturers' Light & Heat Company hold territory and are doing business in Marion County, although I may be mistaken as to that also, as I have no way of determining that, only as my memory serves me.

Q. The Wheeling Natural Gas Company and the Tri-State Natural Gas Company and the Manufacturers Light and Heat Company of West Virginia were all owned and controlled by the parent company, the Manufacturers Light and Heat Company of Pennsylvania, while you were general manager, were they not?

A. They were, during the earlier years. Later the properties were all merged into the property of the Manufacturers Light & Heat Company of Pennsylvania.

Q. That merger or taking over of the physical properties was along about May, 1915, was it not?

627

A. I believe that was about the time. I can't remember the date.

Q. Now, while you were general manager, from the year 1910 on, did the Manufacturers Light & Heat Company, of Pennsylvania, or any of its subsidiaries, hold any property or conduct any operations, or make any gas purchases, in Harrison, Marion, Lewis, Upshur, Braxton and Calhoun Counties, West Virginia, excepting possibly some territory held in the northern part of Marion County?

A. To the best of my recollection, during the time I was general manager of the Manufacturers Light & Heat Company, the company held leases and drilled wells in Marion County, West Virginia. It is also my recollection that they held some leases in Harrison County, West Virginia, although I am not clear on this point. I do not recollect of their holding territory or operating in the other counties which you have mentioned.

Q. How about Doddridge County?

A. We were operating in Doddridge County.

Q. On and after May 1, 1910?

A. Yes, sir.

Q. Will you refer to the map put in evidence as Pennsylvania Exhibit No. 15, and tell us how near to the town of Weston,
628 the county seat of Lewis County, West Virginia, your nearest transmission or discharge line ran, approximating it upon the scale of the map?

A. An examination of the map discloses that the nearest discharge line to the City of Weston, West Virginia, is the discharge line leading from what is known as Weston station, located about three miles from Weston, as nearly as I can estimate the distance on the map.

Q. Has the Hope Company territory and production in the immediate vicinity of that town?

A. I am inclined to think that the Hope Company has territory and production reasonably close to Weston, West Virginia.

Q. The Hope Company has large holdings in Lewis County, hasn't it?

A. They hold considerable territory in Lewis County, West Virginia.

Q. What is the nearest discharge line to the town of Salem, in Harrison County, West Virginia? That town does not appear to be upon your map, but is located about a mile from the border line between Doddridge County and Harrison County, and about fifteen miles west of Clarksburg?

A. An examination of the map which I have before me shows that the Hope Company has a discharge line passing—from one of its stations—passing within a distance of approximately one mile from Salem, West Virginia.

629 Q. What is the nearest discharge line to the town of Shinnston, Harrison County?

A. I am unable to state that.

Q. Is that shown on your map?

A. No.

Q. Since that town does not appear upon your map, I will say that it is located on the West Fork River, approximately three or four miles from the border line between Marion and Harrison Counties.

A. I am unable to locate the town of Shinnston. I could not say how close we have a line there.

Q. How far is it from your transmission lines going to and through Peora station, due eastward to the West Fork River?

A. There is a river shown on the map which I presume is the West Fork River, although I am not sure of it. The distance from Peora station to that river I would estimate at about between two and three miles.

Q. Please give us the distance between your nearest transmission line and the town of Fairmont, in Marion County?

A. About ten miles, as near as I can estimate it, from the map which I have before me.

630 Q. I believe you have already stated that there already exists an emergency connection between the Hope Natural Gas Company and the Monongahela Valley Traction Company's distributing system—the latter company furnishing Fairmont?

A. That is in accordance with the information which I have.

Q. Now, what is your nearest line to the City of Morgantown?—the distance between the two.

A. Judging from the map, I would estimate that to be also about ten miles, from the nearest discharge line from a compressing station.

Q. Has the Hope Natural Gas Company leases, operated and unoperated, in each of the counties in which those towns are respectively located?

A. They have.

Q. You referred, on direct examination, to sales made to local distributing companies, in West Virginia, and arrangements made for those sales by contracts or correspondence. With what local companies have you contracts?

A. We have a contract with the Light, Fuel & Power Company supplying Gassaway and Sutton, West Virginia. To the best of my recollection, that is the only company with which we have a written contract, signed and executed by the officers of both companies.

Q. What is the arrangement for supplying gas to the other local companies?

631 A. The arrangement with the Clarksburg Light & Heat Company was done by correspondence—by verbal arrangement and correspondence. And this is true also of the other utility companies to which we are supplying gas in West Virginia.

Q. Can you produce the contract between the Hope Company and the Light, Fuel & Power Company?

A. I can.

Q. Will you please do so?

A. I will.

Q. And when was the arrangement made with the Clarksburg Light & Heat Company?

A. The last arrangement was made with them about—I think it was in September or October of the year 1919.

Q. What arrangement existed prior to that time, if you know?

A. Verbal, or an arrangement by letter.

Q. What was the arrangement?

A. Do you refer to the arrangement made last year?

Q. Yes.

A. The arrangement was to the effect that the Hope Company would sell to the Clarksburg Light & Heat Company such surplus gas as the Hope Company might have, up to the requirements of the Clarksburg Light & Heat Company, after the consumers and customers connected to the lines of the Hope Company were supplied. When I say customers, I refer to the other contracts which

632 the Hope Company had and which it was obligated to fulfil. When speaking of consumers, I am referring to those connected directly to the lines of the Hope Company, and such other obligations as it might have in West Virginia.

Q. The contract obligations you refer to are the contracts with the Peoples Natural Gas Company and other purchasing companies mentioned in the several contracts in writing that you offered in evidence on your examination in chief?

A. It referred to those contracts and also to any other contracts hich we might have in the state of West Virginia, which we were bligated to fulfil.

Q. Was the prior arrangement between the Hope Company and ie Clarksburg Light & Heat Company substantially the same?

A. It was.

Q. And that was true with all prior arrangements for the sale nd delivery of gas by the Hope Company to the Clarksburg Light & leat Company, namely, that it was the surplus after fulfilling the bligations then existing, which the Hope Company had?

A. That is my information. I am not familiar with any arrange-ents that might have existed between the companies previous to uly 1, 1918. My information leads me to believe that the same ondition existed.

33 Q. To your knowledge, there has never been a formal contract in writing between the Hope Company and the Clarksburg Light & Heat Company?

A. Not to my knowledge—any more than the correspondence hich I have referred to.

Q. What is the term of the present arrangement, made in Septem-r or October, 1919?

A. There was no definite term named. My recollection is that it as to be subject to termination at any time by either company on irty days' notice.

Q. Now, are the arrangements under which you are supplying gas the other local utilities in West Virginia of the same character as e arrangement made with the Clarksburg Light & Heat Company, September or October, 1919?

A. In a general way, to the best of my knowledge, they are, with e possible exception of the Monongahela Valley Traction Com-ny; which, as I stated, was merely an emergency connection, and as not to be used by either company unless in case of an emer-ncy, such as a broken line or something of that character.

Q. Is that arrangement in force for any particular length of time?

A. It is not.

Q. Terminable by either party at will?

A. It is.

34 Q. Have you any official connection with the Clarksburg Light & Heat Company, Mr. Sullivan?

A. I have not.

Q. Do you know whether or not the Standard Oil Company of ew Jersey is interested in the Clarksburg Light & Heat Company stockholder?

A. I have understood that they are, although I do not know that my own knowledge; but it is my general understanding that they e.

Q. To what extent, or percentage of the stock?

A. I have understood that it was in the neighborhood of 50 per nt. It might be 51 per cent. I am unable to state that definitely

Q. Is it your understanding that the Standard Oil Company of ew Jersey holds the controlling interest, or a majority of the stock?

Mr. Eagleson: Objected to as not proper cross examination, and it is not the proper way to prove that fact, if it be a fact; and for the further reason that it is incompetent, immaterial and irrelevant.

The Commissioner: Note the objection.

A. I do not know what their interests are—how much?

635 Mr. Steptoe:

Q. You stated that the Hope Company was owned by the Standard Oil Company. What Standard Oil Company, do you mean?

A. It is my understanding that it is the Standard Oil Company of New Jersey.

Q. It is that same company, the Standard Oil Company of New Jersey, that holds 51 per cent of the Reserve, and the entire capital stock of the Peoples Natural Gas Company?

A. My information as to the amount of stock that the Standard Oil Company owns in any of those companies is limited merely to what I have heard, but in all instances, whatever the quantity of stock they may own in a company, I am referring to the Standard Oil Company of New Jersey. I am not pretending to say what their interests may be in any of those companies.

Q. The particular Standard Oil Company which you had in mind in your testimony in chief?

A. That is the company, yes, sir.

Q. How long has there been a connection between the lines of the Hope Company and the distributing system of the Clarksburg Light & Heat Company?

A. I am unable to state that, but it has existed for some few years. Just when that connection was made I do not know.

636 Q. Its transmission lines are in close proximity to that city, are they not?

A. The map which I have before me would indicate that the nearest transmission is distant about three miles, I would say, from the City of Clarksburg.

Q. The Hope Company has one or more compressor stations in the immediate vicinity, has it not?

A. In the vicinity—distant some few miles from the city.

Q. As a matter of fact, the chief office of the Hope Company in West Virginia is in that city, and its West Virginia management is conducted from that point, is it not?

A. It is.

Q. The local offices, and the superintendent, and all of the field management are conducted from that point?

A. The superintendent is located at Clarksburg, West Virginia, and the instructions which he gives to his men through the various districts emanate from that point.

Q. Has your company production and leases in Harrison County to a considerable amount?

A. We have.

Q. As a matter of fact, it has leases and production and lines on all sides of Clarksburg?

A. The lines of the company are located through that general district surrounding Clarksburg.

Q. Do you know whether the officers or board of directors of the Clarksburg Light & Heat Company are in any way identified with, or the same personnel as the board of directors of the Hope
637 Company?

A. Mr. Corrin, the general manager of the Reserve Gas Company, is a member of the board of directors of the Clarksburg Light & Heat Company. I believe that Mr. John B. Tonkin, vice president and general manager of the Peoples Company, is also a director of that company, although I am not sure of that fact. I can ascertain that, though, if you wish.

Q. You do know that all of the meetings of the board of directors of the Clarksburg Light & Heat Company are held in Pittsburgh, in the offices of the Hope Company, do you not?

A. I do not know that all of the meetings of the Clarksburg Light & Heat Company are held in Pittsburgh, in the offices of the Hope Company. I do know that some of them are.

Q. Now, how long has the gas territory of Harrison County been leased or taken up, speaking now in general terms?

A. To the best of my recollection, territory in Harrison County has been leased for oil and gas purposes, extending over a period of probably twenty-five years; maybe not quite so long, maybe longer. Of course, leasing has been going on continuously, you might say, up until the present time—property being leased in Harrison County.

Q. That is, that county and Marion County, lying in the northern part of West Virginia, are the localities earliest developed, or
638 developed in the earliest period of the gas industry in West Virginia, are they not?

A. I am unable to say as to that, but my belief is that they were among some of the earlier counties which were developed.

Q. In a general way, the development commenced in the northern part of the state, and has proceeded southwardly?

A. That has been the general direction of development.

Q. Is there any additional or available territory that you know of, in Harrison or Marion Counties?

A. There is not, although that does not mean that the territory is all leased. There may be territory there, and probably is, which will be productive of gas, or which will not be productive of gas—no one knows as to that.

Q. Why would you say that that territory is not, or has not, been taken up, either by your company or some other company?

A. So far as our company is concerned, we have been carrying about as much territory as we thought we ought to carry, or could afford to carry. And any unleased territory that we know about, we might consider it as being rather unfavorable for the production of oil or gas. However, that doesn't mean anything; some other person might look at it in an entirely different light.

Q. Well, is there any considerable block of loose territory?

639 A. I don't know of any. I don't know what is leased or is not leased.

Q. As a matter of fact, in view of the shortage of your company, if you knew of any considerable territory that was promising, your company or some other company would have taken it up?

A. If we knew of any considerable territory that we considered as being promising, we would certainly take it up. I can't speak for the other companies.

Q. If there is to be any future discovery of fields of any size or importance, it must be toward the southerly end of West Virginia, if in West Virginia at all, must it not?

A. I couldn't say as to that. We thought the likelihood of a gas field of any size being located or discovered close to Pittsburgh was almost out of the question, and still last year there was a very considerable pool of gas developed at McKeesport, close to Pittsburgh. There is room in certain sections of West Virginia; there might be a very considerable gas development, even in the northern parts of it. It might be that gas would be found in deeper sands, which have not been reached as yet, and geologists are inclined to believe that this will be the case.

640 Q. Taking, for example, the specific territory or county of Harrison; would you say that there is anything more than scattering farms through the county that could be acquired for oil or gas development—especially gas?

A. My general information leads me to believe that a very considerable portion of Harrison County is under lease, by either some company or individuals at the present time. Of course, leaseholds are usually made for a term of years, and those are expiring almost constantly. In some cases, they are being renewed by the companies or individuals that hold them, and in other cases they are not.

Q. In a general way, do you know about the gas field in Harrison county in the early stages?

A. I do not, only from general information. I know that gas has been produced in Harrison County in very considerable quantities for a good many years past.

Q. Do you know how that field in Harrison and Lewis Counties of West Virginia compares with other gas fields, with reference to production and quantity?

A. My general information has been that the wells in those counties, or in certain portions of the counties, have been rather prolific of gas,—that they have been very good producing wells, rather large, in fact.

Q. How would they compare with other fields?

A. Very favorably with any of the fields that I know anything about, in the eastern part of the country.

Q. Both in regard to quantity and staying qualities?

641 A. Very favorably as to quantity; perhaps not quite so favorably as to staying qualities. Because as a general proposition, in any territory where gas wells produce in large quantities, the tendency is to exhaust the supply quicker than it would be exhausted if those wells were producing in smaller quan-

ties. In other words, the life of a field would extend over a longer eriod of years where the wells were rather small than where they ere large.

Q. And that territory has been very considerably drawn upon?

A. It has.

Q. Do you know the approximate rock pressure of the wells first rilled in that section?

A. I do not.

Q. You do not know how much the decline in rock pressure has een, do you?

A. I do not, from memory. I have no doubt I could ascertain he pressure of certain wells drilled by our company in Harrison ounty, and learn what the rock pressure of those wells was, but I o not remember that.

Q. Would you be prepared to say that that decline has been very reat?

A. My information leads me to believe that the decline has been ery considerable.

Q. I believe on yesterday you fixed the approximate rock pressure of the present time at less than 100 pounds, as an aver-
42 age?

A. I believe I have an average rock pressure of certain ells in Harrison County yesterday, and I really forget now whether t was a little less than 100 pounds or a little over 100 pounds, but know it was in that neighborhood.

Q. Why was that average pressure ascertained by your company?

A. At the wells.

Q. I say why?

A. Why?

Q. Yes.

A. In order to give the company a knowledge of what the pressure as in the field.

Q. Was that done as a basis for ascertaining, as far as you could, he quantity taken out and quantity remaining in the field?

A. It was for that purpose, in order to make estimates as to the robable—or, as to the decline in the field and the probable quanity of gas still remaining which could be obtained from the field hrough our wells.

Q. Are most of the holdings of the Hope Company in Harrison County operated?

A. My impression is that they are fairly drilled up. I have no doubt that there are many places where we will drill additional wells in Harrison County.

Q. The unoperated acreage of the Hope Company, as a
643 general statement, lies in what section of West Virginia?

A. Do you want me to name all the counties?

Q. You may state it in a general way.

A. I will give you the counties that have the most unoperated acreage?

Q. Yes.

A. The Hope Natural Gas Company holds considerable unoperated

acreage in Calhoun County, West Virginia, also in Gilmer County, West Virginia, also in Harrison County, West Virginia, also in Lewis County, West Virginia, also in Ritchie County, West Virginia. The counties named are three counties in which the larger blocks are located, exceeding 40,000 acres in each of those counties. We also hold considerable acreage in other counties which I have not named; this being taken from the statement showing the unoperated acreage as of December 31, 1919.

Q. I do not believe you have answered just what I sought to elicit. I wish to ascertain where the greatest percentage of operations of your company have been conducted; or, to put it in another way, in which of the counties where the Hope Company is operating is the Hope most drilled up? What counties have been operated and drilled to the greatest extent?

A. All that I can give you on that is the operated acreage
644 carried on the books of the company in the various counties.

Q. Very well, suppose you, during the noon recess, have a statement made showing the operated and the unoperated acreages of your company in the various counties.

A. I have that statement right here before me now, if I can get it separated so that I can get the names of the counties.

Q. Of course, the greatest decline in rock pressure has appeared in those counties where the greatest amount of operating has been done? Is that not correct?

A. No, I could not say that that is correct. That might be the case.

Q. Very well; take by way of comparison the average rock pressure of Harrison County and that of Gilmer County. In which county has the pressure declined greatest?

A. My impression is that it has declined more in Harrison County than it has in Gilmer County, up to this time.

Q. And, as a general statement, it would be correct to say that the greatest decline would be where the greatest amount of operation has taken place, would it not?

A. No, I don't think that it would. In my opinion, the greatest decline would take place in the territory from which the larger amount of gas was taken out. That might occur through comparatively few wells, or through many wells. The operations
645 would be much greater in a county where a large number of wells were drilled than where only a comparatively few wells had been drilled, and still the decline might be greater where the few wells had been drilled, depending upon the porosity of the rock and the manner in which the gas had been taken out of the field.

Q. Substantially you have the same idea I sought to express. By "operations," I meant not the number of wells perforating the sand, but the extent of the development or gas taken out. In the latter event, it would be true that the rock pressure would decline most where the greatest amount of gas was taken out, whether by a few wells or a large number, would it not?

A. That would probably be the case, only that would be also governed by the size of the pool which the gas was being taken from.

Q. And in a general way, that is the explanation of the rock pressure in the northern counties, say Harrison County, having declined to a greater extent than the pressure in the southerly counties, such as Gilmer?

A. There is no doubt but what in those counties where operations have continued over a long period of years, and the gas has been taken from the fields, that the decline in those counties would
646 be greater than the decline in the newer counties, which have only been operated for comparatively short times and from which small quantities of gas—comparatively small quantities of gas—have been taken.

Q. Is it not also correct to say that where a field is operated to any extent, the decline in rock pressure is general throughout that field?

A. That varies considerably in different fields, depending on the character of the sands from which the gas is taken.

Q. Well, let us take, as an example, the county of Harrison again: Is the gas produced and marketed from that county as a general rule from any particular sand?

A. My general information leads me to believe that it is produced from different sands, possibly two or more.

Q. It being about time to adjourn for the noon hour, I will ask you, Mr. Sullivan, if you can, to let me have after lunch a statement showing the number of domestic consumers and the number of industrial consumers of the Hope Natural Gas Company, from the year 1910, to date, excluding from the industrial consumption the gas furnished or sold for field service and for compressor stations and other operations; and excluding gas sold in the field to other operators for drilling purposes.

Here a recess was taken until 1.30 o'clock, p. m.

647 Saturday Afternoon, June 12th, 1920.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed pursuant to adjournment.

T. O. SULLIVAN resumes the stand.

Cross-examination (continued).

Mr. Steptoe:

Q. Have you the data requested by me just before the noon recess, Mr. Sullivan?

A. I have, as nearly as I can get it.

Q. Please give me the data as you have it.

A. The number of domestic consumers supplied by the Hope Company in West Virginia at the end of the year 1910 was 12,627; at the end of 1911, 12,923; at the end of the year 1912, 13,475; at the end of 1913, 14,114; at the end of 1914, 14,653; at the end of 1915,

14,907; at the end of 1916, 15,476; at the end of 1917, 16,503; at the end of 1918, 16,640; at the end of 1919, 17,326.

The number of industrial consumers supplied by the Hope Company in West Virginia, commencing with the year 1910: At the end of 1910, 72; at the end of 1911, 80; at the end of 1912, 80; at the end of 1913, 119; at the end of 1914, 122; at the end of 1915, 129; at the end of 1916, 118; at the end of 1917, 117; at the end
648 of 1918, 117; at the end of 1919, 115. This is with the consumers and contractors using gas for drilling and operating purposes in the field excluded, and also the accounts or number of points where gas is supplied to the Hope Natural Gas Company for drilling operations in the field, and operation of pump stations, and so forth, also excluded.

Q. There are included in your figures for domestic consumers, those consumers who were taken over along with such local utilities as were acquired, are there not?

A. The consumers on the lines of those companies which were acquired by the Hope Natural Gas Company prior to the end of the year 1919 are included in the number of consumers each year given you.

Q. You have produced, at my request, a contract in writing, dated November 22, 1911, between Hope Natural Gas Company of the first part, and The Light, Fuel and Power Company of West Virginia, of the second part, both being West Virginia corporations; is this the contract you referred to in your prior examination under which the Hope Company is now furnishing gas to the Light, Fuel and Power Company?

A. It is.

(The contract just identified, marked as West Virginia Exhibit No. 2.)

649 Mr. Steptoe: We desire now to offer in evidence West Virginia Exhibit No. 2; here agreeing that a copy may be made and substituted by the stenographer for the original, and the original returned to the witness.

Mr. Eagleson: To which offer the complainant States have no objection whatever.

Mr. Steptoe:

Q. Diverting to the matter of rock pressure: Assuming that the production in a given field is from a certain sand, for example the Gordon sand, is not the decline in rock pressure in the wells drilled accompanied by a corresponding decrease in the unoperated leases? Or, to express it another way: Does not the decline in rock pressure in that field affect the unoperated territory in the same field?

A. It probably would, under certain conditions that might exist.

Q. Under ordinary conditions, wouldn't you find practically the same rock pressure in drilling a certain lease that has existed, and does exist, in operated territory adjoining, providing only it is the same sand?

A. Not always. It depends on how closely the wells are drilled on the adjoining property and on the nature of the sand, its
650 porosity or hardness. In some instances, wells will be affected for some considerable distance, and others for a much lesser distance. The only way to determine definitely what effect the drilling of wells has on adjacent territory is by actual gauge of wells drilled, to determine what the effect has been.

Q. I understand that in as large a business as the natural gas business there are always variations——

A. A great many of them.

Q. But, speaking as a general rule, is it not the constant tendency of the rock pressure to equalize itself throughout a fairly well operated field?

A. It is, where the wells are drilled close enough together to cause that condition to exist.

Q. So that in a territory located in that field, has the gas decreased whether it is operated or not?

A. That is the case under the conditions that I cited,—if the rock is sufficiently porous so that the gas from one well takes the gas from what might be called unoperated territory, then the pressure under that territory declines. If it is not sufficiently porous so that the gas is taken from under the unoperated territory, then it is not affected.

Q. Then is it not entirely possible, if not a frequent occurrence, for a leasehold held within a developed territory, but without operation on that particular leasehold, to become practically valueless, by being held too long?

651 A. It is impossible to determine that until after a well is drilled on it. It might have been valueless, it might have been dry territory before any wells are drilled. There is no way I know of determining whether gas, or production, will be obtained on a certain leasehold without drilling it.

Q. But, as a practical proposition, the attempt to hold or reserve territory within a well developed field is dangerous from the standpoint I have mentioned, is it not?

A. As a practical proposition, I would say it is advisable for a gas company which is operating in territory where other companies are conducting operations to drill up that territory and get their share of the gas as soon as it can do so. The chances of its being interfered with and taken by other companies are very great.

Q. In referring to the taking by other companies, you mean withdrawal of the gas to operations on the adjoining lands?

A. I do, where they are drilled in close proximity to the lands of the other holders in that vicinity.

Q. You mentioned securities held by the Hope Natural Gas Company in other companies to the extent of $3,141,010; in what companies are those securities held?

Mr. Eagleson: The complainants object to this question,
652 on the ground that it is too indefinite and does not determine whether it comes within the scope of the issues raised by the Bill and Answer; and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer.

A. The securities to which I referred in my direct testimony as being owned by the Hope Natural Gas Company are in the Citizens Telephone Company, The Connecting Gas Company, the Reserve Gas Company, and the River Gas Company.

Mr. Steptoe:

Q. What is that Citizens Telephone Company? Where does it operate?

A. I don't know.

Q. What amount of stock of The Connecting Gas Company, Reserve Company and River Company, respectively, is held?

A. Citizens Telephone Company, $10; Connecting Gas Company, $237,500; Reserve Gas Company, $2,887,500; River Gas Company, $16,000.

Q. Will you name for us some of the principal industries or industrial consumers in West Virginia furnished directly by the Hope Company, and where they are located?

653 A. Water Works Station at Parkersburg, West Virginia; the Vitrolite Company of Parkersburg, West Virginia; the Standard Oil Company at Parkersburg, West Virginia; Parkersburg Silk Mill, Parkersburg, West Virginia; Standard Milk Bottling Manufacturing Company, Parkersburg, West Virginia; Parkersburg Machine Company, Parkersburg, West Virginia; Brown Tumbler Company, Parkersburg, West Virginia; Parkersburg Iron and Steel Company, Parkersburg, West Virginia; the Baltimore and Ohio River Shops of the Baltimore & Ohio Railroad Company, at Parkersburg, West Virginia; Peerless Milling Company, Parkersburg, West Virginia; United States Tile Company, Parkersburg, West Virginia; J. J. Crotty & Company, Parkersburg, West Virginia; Kesselman & Company, Parkersburg, West Virginia; General Porcelain Company, Parkersburg, West Virginia; Acme Fishing Tool Company, Parkersburg, West Virginia; J. W. Dudley Sons Company, Parkersburg, West Virginia; Parkersburg Rig & Reel Company, Parkersburg, West Virginia; Parkersburg & Marietta Sand Company, Parkersburg, West Virginia; United States Custom House, Parkersburg, West Virginia.

West Virginia Veneer and Package Company, Williamstown, West Virginia; Fenton Art Glass Company, Williamstown, West Virginia.

Penn Window Glass Company, Pennsboro, West Virginia; Premier Window Glass Company, Pennsboro, West Virginia.

654 Weston Glass Company, situated near Weston, West Virginia; Eureka Pipe Line Company, at different points throughout the field in West Virginia; Independent Glass Company, Sistersville, West Virginia; Sistersville Electric Light & Power Company, Sistersville, West Virginia; the Consolidated Ice Company, Sistersville, West Virginia; United States Post Office, Sistersville, West Virginia; City Water Works, Sistersville, West Virginia; Ohio Valley Refining Company, St. Marys, West Virginia; Western Glass Company, St. Marys, West Virginia; City Water Works, St. Marys,

West Virginia; County Court House, St. Marys, West Virginia; Duquesne Glass Company, Paden City, West Virginia; Paul Wissmach Glass Company, Paden City; Paden City Glass Company, Paden City, West Virginia; Vulcan Iron and Steel Company, Paden City, West Virginia; and Paden City Pottery Company, Paden City, West Virginia. There are numerous other smaller consumers scattered throughout the field, in different districts, which are being supplied,—In the city of Mannington we supply gas to the Bowers Pottery Company; Charles Phillips Tool Company; Mannington Art Glass Company; Mannington School, on Clarksburg Street; the Marion Window Glass Company; Boor and Davis Ice Plant; and the City of Mannington Water Works and Crematory; and there
655 are numerous other smaller customers scattered throughout the field, plants of industrial consumers.

Q. The ones you have given are the principal ones?

A. Those are the principal ones.

Q. With regard to the industrial consumers, you have mentioned as located at Parkersburg, did not that industrial service come to the Hope Company as a part of its acquisition of the Mountain State Gas Company's territory and consumers?

A. I believe that part of it did. I also believe that some of it has been added since the Hope Company acquired the plant at Parkersburg.

Q. Is the same situation true with reference to Sistersville?

A. It is, if that was a part of the property which was acquired from the Mountain State Gas Company, and I am under the impression that it was.

Q. Is the same true with reference to St. Marys and Williamstown?

A. That is true in regard to any of the localities where consumers were being supplied at the time that the Mountain State property was taken over by the Hope Company.

Q. Well, do you know whether St. Marys, Sisterville and Williamstown were points being furnished by the Mountain State?

A. I do not positively know that.

Q. Do you know whether Pennsboro was upon the service
656 lines of the Mountain State?

A. They were not. I know that for the reason that the Hope Natural Gas Company does not supply gas to the domestic consumers in Pennsboro, only to two glass plants there.

Q. What is your information with reference to the service of the industrial companies at Paden City? Is that industrial service a part of the Mountain State?

A. I don't know.

Q. Now, with regard to this industrial service, is the service of gas to industrial consumers wholly undesirable from the standpoint of the gas companies?

Mr. Eagleson: We object to the form of that question.

The Commissioner: Note the objection, and let the witness answer.

A. No, sir.

Mr. Steptoe:

Q. Is not the service and supply of gas to industrial consumers easily accomplished, and cheaply?

Mr. Eagleson: We object to the form of that question, be-
657 cause it is too indefinite; it carries an assumption, and is irrelevant, immaterial and incompetent.

The Commissioner: Note the objection; the witness may answer.

A. I don't understand just what is meant by the question.

(Question repeated.)

A. That all depends upon the location of this consumption; if it is located at a considerable distance from the main lines of the company, and requires the installation of long lines in order to reach it, then it would be neither cheaply nor easily served.

Mr. Steptoe:

Q. No, I meant in the same community. Is it not true that one of the difficulties of domestic service is taking care of the peak load?

A. It is.

Q. Is there any peak load in the service of gas to manufacturers or for industrial purposes?

A. Yes, there is; not so pronounced, however, as in the domestic business.

Q. Doesn't that feature make it easier to supply gas to in-
dustrial consumers than to supply to domestic consumers,
658 from the standpoint of the peak load?

A. It does up to the limit of your gas supply. The industrial demand is usually more uniform and the consumption is more regular over the entire year than it is with the domestic consumption. Therefore, if a company had a sufficient amount of gas to meet that demand, the peak load point would not be so high.

Q. If an operating company had its choice between serving industries and serving domestic consumers, would it not be preferable to furnish the industries, providing the prices were the same?

A. In my judgment it would.

Q. You would have a more or less steady call on your lines all the year around?

A. We would have a steadier demand for gas, and could sell practically all of our supply all of the time.

Q. And is it not also true that there would be less expense, in that you would have fewer connections, fewer meters, and fewer consumers?

A. That is probably true, depending on the size and the amount of gas that the companies would require and which the company had to sell.

Q. Now, the Hope Company, as well as the other gas companies, try to supply the industrials whenever they have a surplus for that purpose, does it not?

659 Mr. Eagleston: What other gas companies do you refer to, Mr. Steptoe?

Mr. Steptoe: I will add to the question:

Q. (con.). —I refer now to the operating and producing companies in West Virginia.

A. That is the custom of the Hope Company and, as far as I know, is the custom of other companies, where they have a surplus supply of gas, more than is needed for the requirements of their domestic consumers.

Q. And that is also true, as far as you know, with regard to the Peoples Natural Gas Company, the Fayette County Gas Company and the Manufacturers Light and Heat Company, and the Ohio Cities Gas Company, is it not?

A. As far as my knowledge goes, that is true as to the Peoples Natural Gas Company, the Manufacturers Light and Heat Company and the Fayette County Gas Company; but in so far as it refers,—so far as the question refers to the Ohio Cities Gas Company, I have no knowledge on that subject.

Q. Is the service to industrial consumers advisable or desirable from the standpoint of the company,—gas company?

A. At the present time, and under the existing conditions, in my opinion it is advisable for the gas companies to supply industrial service, and it is desirable that they should do so, providing
660 the consumers can adjust their demands so as to use the surplus gas which the companies may have, that is not required for domestic consumption.

Q. Why is that desirable from the standpoint of the gas company?

A. Because, as I stated in answer to a question a short time ago, in my judgment it is desirable and advisable for the gas companies to find a market for the gas which they have in the fields as early as they possibly can, inasmuch as there is no known way of conserving and saving the gas for future use by domestic consumers.

Q. In comparison with the service to domestic consumers, is the industrial service more or less profitable?

A. I am unable to answer that question, I don't know. At the same price, however, my judgment is that it would be at least equally profitable, if not more so, than the domestic business.

Q. Well, I will put it this way: If no gas were sold at any time to industrial consumers, would the Hope Company be able to supply domestic consumers at the present rates, or as cheaply?

A. They would not.

Q. Please explain that.

A. Because they would have surplus gas at certain seasons of the year, for which they would not have a market, without doing
661 exactly what they did do years ago,—build lines into new territory, and perhaps other States, in order to *to* find a market for their surplus gas.

Q. Then really the domestic consumer gets a benefit from the marketing of gas for industrial purposes out of the surplus in this

respect: That you are enabled to give a lower rate for domestic service by reason of the income and return received from the industrial service?

A. That is probably the case. Of course, if that gas is not being sold for industrial purposes, then we would have to take the domestic business alone and determine what rate it would be necessary to charge in order to earn a return on the investments of the company, and probably the condition you stated in your question would be the case, the rate would be higher.

Q. Are the reasons you have given for your own company the same reasons that urge the other companies to furnish industrial service out of their surplus?

A. I assume that they are, although I am unable to say what the reasons were which influenced the other companies to take that action.

Q. Have you ever estimated the cost of transportation of the gas per mile, or per any given distance?

A. No, I have not

662 Q. Have not estimates been made by the companies, either in your department or in some other department?

A. I know of no estimates having been made to determine the cost per mile of transporting gas, as there are so many different elements that would enter into that that I don't know how such estimates could be made.

Q. Is there any loss in volume or heat value of the gas by reason of transportation?

A. We generally assume that there is a loss in volume, caused by reason of leakage in lines. I do not know that there is any loss in heat units by reason of transportation.

Q. Is there any loss through friction in the passage of the gas through the lines?

A. I don't think that there is any actual loss of gas by reason of friction. It is merely a loss in pressure which occurs by reason of friction. There may be some little loss in transporting gas by reason of condensation.

Q. Is that the condensation at the pump stations?

A. No, the condensation occurs practically throughout the length of the line. The moisture in the gas actually condenses, and perhaps there is a small loss occasioned by reason of that.

Q. That is by reason of the pressure at which the gas is contained?

A. No, by reason of the condensation of the fluid which

663 comes out of the gas,—water moisture, something of that kind.

Q. Have estimates been made by your company of that loss for any given distance or distances?

A. I know of no such estimates.

Q. Have you ever seen estimates or calculations of the loss in transportation?

A. Yes, I have seen a good many figures of that character, bearing on losses from different causes,—by reason of leakage and condensation, and so forth, but I have no recollection of what they

were. In my opinion, they do not establish anything definitely at all.

Q. Are you able to give us *no* estimate of that loss, say of, transportation for a distance of one hundred miles?

A. No, sir, I have no estimate of that kind at all.

Q. Not even between limits?

A. No, no limits.

Q. Would you say that the farther the gas is transported, the greater the loss from the causes mentioned?

A. I would say that the loss depended almost entirely upon whether a line was tight or whether there was leakage in the line.

Q. Assuming that the condition of the line be uniform throughout, would you then say that the greater the distance the greater the loss in transportation?

664 A. That would depend entirely on what the condition of the line was. If it was leaking the whole entire length of the line, I would say that the greater the distance was the more the leakage would be; on the other hand, if it was not leaking at all, I don't think it would make any difference.

Q. If it was not leaking at all, you believe it would deliver the same amount that was put into the line at the beginning?

A. I believe that it would eventually lose a small quantity that might be lost by reason of condensation—providing the line was an absolutely tight line.

Q. Well, as a matter of fact, there has not yet been constructed an absolutely tight line from start to finish?

A. No, I have known of no lines that were absolutely tight. However, I do know of one line where it was constructed a distance of about—there was something over a hundred miles in length, and the leakage out of the line over a period of twenty-four hours was less than 25,000 feet of gas, with 300 pounds pressure on the line.

Q. That line was what length?

A. Over a hundred miles in length, I can't give the exact length of mileage. Now, I say that I know that—I know that simply from statements that were made to me by the people that constructed the line and tested it. I might say further on that subject, that

665 the test was made by pumping air into the line up to a pressure of 300 pounds, then shutting the line in and allowing it to stand for twenty-four hours and noting the drop in pressure, then pumping in sufficient air at the end of twenty-four hours to bring it back up to the 300 pounds originally, and it required less than 25,000 feet of gas to bring the line up to 325 pounds pressure. That would not necessarily mean that there was even 25,000 feet of leakage in that line in twenty-four hours, as the temperature conditions would affect it to some extent, either expand or contract the air in the line; but it could not exceed over the 25,000 feet anyway. It might have been less than that, if the variation in temperature conditions were taken into consideration.

Q. While we are speaking of what others say on the subject: If Mr. Joseph Guffey, of the Pittsburgh and West Virginia Gas Company, testified in a recent case that the cost per mile of transportation

was one mill, or five cents a hundred miles, would you be prepared to disagree with him?

A. I would not.

Q. Would you consider that a fair estimate?

A. I have no views on that matter, I don't know whether it is a fair estimate or not.

666 Q. The gas territory of the Hope Company is practically all held under leases, is it not?

A. Practically all of it, I think.

Q. And is that the customary form of lease, which leases both oil and gas?

A. It is. In many instances it leases both the oil and gas; in some cases it covers either one or the other only.

Q. But in the great majority of cases it covers both oil and gas?

A. It does.

Q. And your company is engaged in oil operations, and has been for some years?

A. We are producing some oil. Our principal business is the gas business; but in drilling for gas we have sometimes encountered oil in some particular wells. We are producing that oil.

Q. And isn't your company also engaged in the manufacture of gasoline?

A. We are.

Q. Where are those gasoline manufacturing plants located?

A. In the State of West Virginia.

Q. Are they generally at or near the compressor stations?

A. They are at or near the compressor stations, as a rule.

Q. Can you give us a statement, approximately, of the number of gasoline manufacturing stations your company has?

A. I can furnish that; I would have to look it up.

667 Q. Is your largest gasoline plant at Hastings Station?

A. It is.

Q. I wish you would describe to us briefly the way in which your gas is used at that station in the process of manufacturing gasoline.

A. I know very little about that process, for the reason that I have never been to those gasoline plants—to more than three or four of those gasoline plants, and only once or twice at that. About the only thing I do know about it is that the gas is allowed to flow through a body of oil. This oil absorbs the gasoline in the gas, and then that oil is treated in a still, and the gasoline taken out of the oil.

Q. Does all of the gas passing through the Hastings compressor station go through that process?

A. The principal part of it does. There may be a little that does not. I am not positive as to that. It may all go through.

Q. Does that same thing take place at the other compressor stations through which your gas is fed?

A. It does at those points where the gasoline stations are installed.

Q. Well, I wanted to ascertain if practically all of the gas of the company, at one station or another, did not go through that process?

668 A. A very large percentage of it does.

Q. Could you be more definite than "a very large percentage"?

A. Why, I would say that approximately ninety or ninety-five per cent of the gas handled by the company goes through the gasoline treating process.

Q. In your examination in chief you testified at considerable length, and with considerable detail, as to the discovery, development and operation of gas fields and their decline. In order to be brief on the subject, I direct your attention to Paragraph III of the Answer of the State of West Virginia in the case of Pennsylvania against West Virginia, and will ask you to read beginning at the second paragraph on page 3 down to the second paragraph on page 4, and tell us if that is not a fair condensed general statement of what has always happened in the past and what can be expected to happen in the future with reference to natural gas fields?

In order to get the matter upon this record, as to the precise portion of the Answer to which I refer, I read it as follows:

"Natural gas (hereinafter called gas) is produced by the drilling of wells into gas containing strata or sands in the earth. The known fields in and from which gas is derived are comparatively few and restricted in area. As the number of gas wells drilled in any field increases and the time during which the extraction of gas
669 therefrom lengthens, the volume of the gas and the natural rock pressure, upon which the output depends, gradually diminish not only in the individual wells, but also in the entire field. The constant tendency, therefore, is in the direction of depletion of the field and exhaustion of the gas supply therefrom. And while for a considerable period the aggregate quantity of gas produced from a specific field may be increased or maintained at substantial uniformity, this can only be accomplished by the drilling of new wells, the added extraction of gas from which still further accelerates the depletion of the field. For this reason it becomes necessary to sustain the output by exploration for new gas territory, and the development thereof when discovered. But even this extension of territory cannot be continued indefinitely, and the later discovered territories themselves are subjected to the same process of depletion and to the exhaustion of their gas. And so it occurs ultimately that the supply of gas, once adequate to the needs of the population dependent thereon, becomes insufficient for the service of all, and the uses of gas, or the extent of its distribution and consumption, must be correspondingly curtailed. The foregoing was the experience of the States of Pennsylvania, Ohio and Indiana, where the extensive development and utilization of their own gas, and manifest tendency thereof to exhaustion, preceded the commencement of the transportation of West Virginia gas to other States, hereinafter mentioned. And this experience of Pennsylvania, Ohio and Indiana, now in course of duplication in West Virginia, was well known to the gas companies hereinafter mentioned, before and at the time of the commencement of their business; and it was

equally known to the people of those States for whose consumption the gas from West Virginia was and is so transported, since that gas was and is furnished to them in aid of, or substitution for, the failing or exhausted gas of their own States."

Mr. Young: The question is objected to, as incompetent, irrelevant and immaterial, and not proper cross examination; on the further ground that the question covers several propositions which are not supported by any facts in evidence in the case, and which compels the witness to assert facts of a very general character, and
671 the assumptions are not supported by the evidence and cannot be supported by any facts that could have possibly come to his attention.

The Commissioner: Note the objection, and let the witness answer.

A. I would agree with that portion of the statement on page 3 of the answer if the words in the ninth and tenth lines of the second paragraph, as follows: "but also in the entire field," were stricken out; also, on page 4 of the Answer, if the words on the 17th line, "must be correspondingly curtailed" and all of the balance of the paragraph were stricken out.

Mr. Steptoe:

Q. What exception have you to the statement of the Answer which we have just read, touching the prior experience in the States of Pennsylvania, Ohio and Indiana and the exhaustion of the gas there?

Mr. Young: We object to the question, on the same grounds as stated in the objection to the preceding question.
672 The Commissioner: Note the objection, and take the answer.

A. I don't know that the statements made in the Answer are correct.

Mr. Steptoe:

Q. You mean that you don't know?
A. I do not.
Q. Are you prepared to say that they are not correct?
A. I mean, I don't know.
Q. Do you know whether or not the statement touching the knowledge of these conditions by the gas companies at the time they started the operations in West Virginia is true?

Mr. Young: Objected to, on the same grounds as stated previously.

The Commissioner: Note the objection, and take the answer.

A. I do not.

Mr. Steptoe:

Q. You mean by that, you don't know whether it is true or not?
A. I don't know.
673 Q. With reference to the fact of a shortage in the gas supply upon domestic consumers in the States of Pennsylvania and Ohio, have you any reason to think that the inconvenience and suffering occasioned to the consumers in those States would be any different from the inconvenience and suffering caused to consumers in West Virginia by a like shortage?
A. I have not, if the same conditions existed in West Virginia.
Q. What about the cost of remodeling the houses for the substitution of other fuel? Would the cost, as estimated by you for Pennsylvania, be any less in West Virginia?
A. I believe it would be somewhat less in West Virginia, for the reason that many of the houses were in existence at the time that natural gas was first introduced into the communities, and the growth of many of those towns has not been so very rapid, so that there would not be such a large number of houses constructed since natural gas was introduced; but wherever the conditions were the same, and the houses needed reconstruction, then, in my judgment, the cost would be practically the same in West Virginia as it is in Ohio and in Pennsylvania.
Q. That would be true in the individual instances you have in mind?
674 A. In individual instances, I would say that there would be no difference; as a whole, there would not be nearly as much reconstruction to do in West Virginia as there would be in the other States, because the number of consumers is very much greater in the States of Ohio and Pennsylvania. It is my belief that the percentage of houses that would have to be reconstructed in proportion to the population would be greater in Ohio and in Pennsylvania than it would in West Virginia.
Q. In case there are one or more communities in West Virginia that have grown up since the development of the gas industry, and have obtained their growth since then, there would be a very large percentage of remodeling?
A. The same condition would exist in West Virginia then as would exist in a similar town in Pennsylvania or in Ohio.
Q. It would depend upon the growth and development of the city since the use of gas became general?
A. That would have an influence, in my opinion, on the conditions existing.
Q. Take the specific example of the city of Clarksburg, which we will assume for the present as having practically quadrupled since year 1900: What would you say would be the comparative percentage of remodeling there as against towns you have in mind in Pennsylvania?
A. In my opinion, there would be in the city of Clarksburg a large number of houses which might require remodeling to some extent in order to use fuel other than gas. I am under

the impression that there are a good many houses there that are adapted only for the burning of natural gas, and whatever that number is, they would have to be remodeled in order to use other fuel; and I would say that the cost of doing that would be as great in Clarksburg as it would be in other States, any other States.

Q. And the same would be true in regard to any other town.—Fairmont or Morgantown,—in case their development has been since the use of gas became general?

A. In my opinion the same conditions would exist in any town in West Virginia where the conditions were similar to those in the other States.

Q. Did I understand you to say on direct examination that you knew of no other gas fields available to your company?

A. I rather think that I did make that statement. I believe that to be a fact, whether I made the statement or not, I don't recollect definitely.

Q. I believe you also stated that the Hope Company had an existing shortage last winter?

A. I did.

Q. And that you anticipated a shortage for the coming winter?

A. That is a fact.

Q. Will that shortage, in your judgment, continue in fu-
676 ture years in the absence of the discovery of other fields or other sources of supply than you now foresee?

A. In my judgment, it will.

Q. Will the shortage increase?

A. The amount of available gas will undoubtedly decrease if new sources of supply are not discovered or made available.

Q. Assuming that there are no other fields discovered, then this shortage may be expected to become greater and greater each year?

A. It may be.

Q. Eventually then, the Hope Company will not be able to fulfil its existing contracts, will it?

A. That might become the case.

Q. Wouldn't it necessarily become the case, under the circumstances mentioned?

A. No, for the reason that, as I remember those contracts, the Hope Company is only obligated to supply such gas as it may have, and I know of no reason why the Hope Company could not continue to supply such gas as it may have. While it might not be able to supply sufficient to meet the requirements of the consumers connected to its lines, it can furnish such a supply of gas as it may have.

Q. There will then be a decrease to the point where all of your supply will be required by those companies, or certain of
677 them, with such exceptions as are named in the contract, with reference to consumers, domestic consumers of the Hope Company along its line?

A. The supply is all required now, inasmuch as we were unable to give those companies last winter all of the gas that they needed.

Q. Do not certain of those contracts have priority over other contracts?

A. They do.

Q. For example, does not the contract for the supply of the East Ohio Gas Company take precedence over the contract and deliveries called for by the contract with the Fayette County Gas Company?

A. My recollection is that it does.

Q. Then, as your supply decreases to the point where the Hope Company has no more available gas supply than is called for by the contract with the East Ohio Company, there will be no supply for the Fayette County Gas Company, will there?

A. There would not, in accordance with the terms of those contracts, providing that the East Ohio Gas Company had a demand from its domestic consumers at all times sufficient to take the entire amount of gas—surplus gas—which the Hope Company might have after its own consumers were taken care of.

Q. Assuming the conditions you mentioned to exist, the
678 Fayette County Gas Company would receive no supply under its contract, would it?

A. As I understand the contracts, it would not, under a condition of that kind. However, I am not an attorney, and I don't feel that I would care to place an interpretation on the terms of that contract.

Q. Assuming further that we are correct in the construction of those contracts, and that by reason of the demand of the East Ohio Gas Company taking the total available supply of the Hope Company, and there would therefore be no supply for the Fayette County Gas Company, what is to become of the consumers of the Fayette County Gas Company?

Mr. Eagleson: We object to that question, as it is based on an assumption, and is purely speculative, and calls for prophesy.

The Commissioner: Note the objection.

A. I don't know.

Mr. Steptoe:

Q. In your direct examination you speculated somewhat upon what would happen if your company was called on suddenly to supply some of the cities of West Virginia during the
679 winter season. Let me ask you if there is any physical obstacle to your making a connection with the line of some local utility which may be prepared and willing to contract for and take gas on the same basis upon which you are furnishing gas now to the Fayette County Gas Company,—Take, for example, the city of Morgantown?

A. There is no physical difficulty in making a connection of this kind between the lines of the two companies, other than to bring them both to a point where they meet; but unless this connection was made on a line where the pressure on the lines of the Hope Company was greater than it was on the lines of the Morgantown company, then the gas from the lines of the Morgantown company would flow into the lines of the Hope Company. If the pressure on the lines of the Hope Company was greater, and any large quantity of

gas were taken out of or diverted from those lines, it would have th effect of rendering the power in our compressing stations useless an of no benefit for the purposes for which they were intended to b used when our plant was constructed. I think that answers th question.

Q. If the connection was made to the transmission line leading Uniontown and Connellsville, would not the only result be to dive to the lines of the Morgantown utility the supply which otherwi would go to Uniontown?

680 A. That would depend entirely upon the pressure on th lines of the Morgantown company.

Q. Wouldn't that pressure in the lines of the Morgantown com pany be regulated or reduced to the proper point by the installatio of appliances for that purpose?

A. I know of no appliances that can be installed other than a com pressing station that will cause gas to flow from one line into anothe where the pressure on the receiving line is greater than it is on th delivering line.

Q. Then, if I understand you, there are two conditions unde which it would be practicable: One, that the lines of the local utilit carry a pressure lower than the lines of the Hope Company throu which the connection is made; and the other is the installation o compressor which would bring about the same relative pressures?

A. That is correct.

Q. And if either of those two methods is adopted, then the onl result, and the only way in which the Hope Company is affected, i by the diversion of that much of its supply which otherwise woul go to Uniontown and Connellsville and delivered to the Fayett County Gas Company?

A. I would be unable to answer that question, for the reason tha I stated before,—I am not an attorney, and I don't know wha

681 liabilities might be attached to the Hope Company for supply ing gas to the Fayette County Gas Company under our con tract with them.

Q. The only objection you see is that it would violate the term of your contract with the Fayette County Gas Company?

A. Undoubtedly the gas from the lines supplying the Fayett County Gas Company could be delivered to the Morgantown com pany, providing the necessary lines and appliances were installe for the purpose of conveying and taking the gas.

Q. And if the Hope Company was given a sufficient length of time say by notice or arrangement, or required during the summer time that connection could be made with the Morgantown utility withou disarranging the Hope Company's lines or its operations?

Mr. Eagleson: We object to that question, because it is incomplete not containing all the necessary and very material elements tha would have to be considered in such a contemplated change, as to th re-adjustment of physical equipment, the financing of the project and the rates to be obtained thereon, and so forth; and for the fur ther reason that it is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection, and let the witness answer.

682 A. Such a connection could be made, but I am not prepared to say what the effect of that would be on the operation of the Hope Company, and neither do I know what its effect would be in relation to the contract which we have with the Fayette County Gas Company for supplying them with gas.

Mr. Steptoe:

Q. I am not interrogating you, Mr. Sullivan, with regard to the legal situation, but solely with regard to that portion which comes under your knowledge and jurisdiction as a manager of the operations. If the matter of reducing the pressure in the local utility's lines were required to be taken care of by the local utility, and all that was asked of the Hope Company was the making of the connection, could there be any further consequence to the Hope Company in its practical operation than the reducing of the supply which otherwise would go to the Fayette County Gas Company?

A. Yes, there might be a very considerable difference to the Hope Company in making this connection, but, in order to know what that difference would be, it would be necessary to have all of the facts mentioned as to what was required and desired by the Morgantown company. A diversion of a portion of that gas might result in very serious loss to the Hope Company,—A diversion of any of it might result in a very serious loss to the Hope Company. As far as the physical connection between the lines is concerned,

683 that could be made unquestionably, but as to the effect it would have on the operations of the Hope Company, I would have to have more data than you have given me, in order to determine what that would be.

Q. This supply to be furnished would be a supply on the same basis on which you are now supplying the Fayette County Gas Company. Does that enable you to answer the question?

A. The supply of this company that you refer to would be on the same basis as that,—Well, that same basis would not be a satisfactory arrangement to the Hope Company, I can say that much.

Q. That dissatisfaction would arise from the fact of its prior contract with the Fayettte County Gas Company, is that what you refer to?

A. No. We have made contracts in the past which we would not make under any circumstances today, the conditions and circumstances surrounding those contracts being so much different. It would have to be on an entirely different basis than some of the contracts are based on.

Q. Do you have in mind the rates charged the Fayette County Gas Company?

A. I have several matters in mind in connection with that contract.

Q. Right here, let me ask you to give me as briefly as you can: About what is the construction cost per mile of pipe line?

684 A. That varies in accordance to the size of the pipe line, the character of country through which it is being laid. Without more definite specifications, I am unable to answer your question.

Q. Can you give me the average cost of construction per mile of a 10-inch pipe line in West Virginia?

A. I cannot.

Q. Can you approximate it?

A. I cannot offhand. However, I have in mind a certain line which we built in West Virginia last year, upon which I made an estimate of cost at, as I recollect it, about $18,000 per mile, but I also recollect that when the line was completed it exceeded my estimate by a considerable amount

Q. That cost today is, of course, very considerably more than it has been in prior years?

A. It is. In fact, I might say, doubled.

Mr. Young:

Q. Mr. Sullivan, you didn't state the diameter of the line.

A. 10-inch line.

Mr. Steptoe:

Q. You stated on direct examination that you had estimated the amount which would be required to fulfil the industrial demand in West Virginia, if the full supply to those industries was required to be furnished, under the statute involved in this
685 case. Can you tell me what amount you figured, in making that estimate, for the industrials?

A. I believe I stated it would require between sixty and seventy-five million feet of gas a day.

Q. What industrials did you have in mind in making that estimate?

A. I had in mind the industries connected to our own lines and other industries reasonably close to those lines,—for instance, the industries in Morgantown, West Virginia. The industries at other points, reasonably close to our lines.

Q. You mentioned in your direct examination the Whitaker-Gloeschner Company.

A. I mentioned them as one of the industries located in West Virginia.

Q. Was that company included in your estimate?

A. It was not.

Q. You mentioned the Owens Bottle Company; was that included in that estimate?

A. Yes, sir.

Q. And the Versalli Chemical Company?

A. It was.

Q. What amount did you estimate as the demand of the Owens Bottle Company?

A. I don't recollect at this time just what that amount was for them, I would have to look up the data on that.

686 Q. Would you have to also look up your estimate of the Versalli Chemical Company?

A. I would on practically all the companies, I am unable to keep those things in mind specifically as supplied to each company, I know my totals pretty well.

Q. What did you estimate for the local distributing companies' demands?

A. How do you mean?

Q. The demand of the local distributing companies in West Virginia?

A. Which the Hope Company are supplying?

Q. Yes, sir, the amount that it would be required to supply.

A. That it would be required to supply under the law?

Q. Yes.

A. I can't give you those figures from memory either.

Q. Did you make any estimate for the amounts to be supplied to local distributing companies under your construction of the statute, Mr. Sullivan?

A. I am unable to say just what I included in my estimates, inasmuch as I don't have the data before me.

Q. Do you recall whether you made any estimate for the local and industrial consumers which the Hope Company is now furnishing directly?

A. I did.

Q. Do you know that amount?

A. I don't remember the figures that I used in my estimate.

687 I do know the total amount of gas sold to the Hope domestic and industrial consumers in the year 1919, and I assume that I used the same figures in my estimate so far as the domestic consumers are concerned, and added to them, in the case of industrial consumers, the amount which I had reason to believe they would use if they could get all the gas they desired at all times.

Q. Do I understand that you estimate for all of the present and prospective consumers, taking into consideration your estimate on that basis?

A. I estimated for the present consumers and such prospective consumers as I knew of who might reasonably be expected to apply to the Hope Company for gas. I did not include in that estimate prospective consumers in so far as it would apply to new mills or factories which might be installed.

Q. Did you estimate the amounts which might be required by industrial consumers on the basis of what they would take if they could get all they wanted?

A. I did.

Q. And you also proceeded on the theory that the whole supply would be taken or required to be furnished by your company?

A. Of those consumers that I considered in making my estimate, yes. I did not, however, take into consideration all of the industrial enterprises located in the State of West Virginia.

Q. You were also proceeding upon the theory that the several industrial companies considered in your estimate would use natural gas for all purposes?

688

A. I did.

Q. And the same way with the domestic consumers?

A. Yes, sir. In fact, as far as the domestic consumers are concerned, I figured their requirements at practically what they had been using.

Q. In the past?

A. In the past.

The Commissioner: We will now adjourn and, according to the stipulation heretofore entered into, re-convene on June 28th, 1920, the said stipulation providing that there will be continuous sessions for the two weeks following June 28th. Mr. Sullivan will be examined on re-direct at that time, if counsel for the complainants desire to have further examination on re-direct. It is understood, all parties agreeing thereto, that all notices of such re-convening on the abovementioned date are waived, as heretofore stipulated.

Adjourned until Monday, June 28th, 1920, at 10.00 o'clock, a. m.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of June 28th-July 2d, 1920, Inclusive.

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389 Monday, June 28, 1920.

And now, Monday, June 28, 1920, the hour of 10 o'clock, A. M. having arrived, parties met pursuant to adjournment.

Present: The Commissioner, Levi Cooke, Esq.; for the Commonwealth of Pennsylvania, A. Leo Weil, Esq.; for the State of Ohio, Freeman T. Eagleson, Esq.; for the State of West Virginia, Attorney General Edward T. England, Philip R. Steptoe, Esq., and W. S. John, Esq., and Fred O. Blue, Esq.

Without taking any testimony, a recess was taken until 1:30 o'clock, P. M.

390 Monday Afternoon, June 28, 1920.

And now, the hour of 1:30 o'clock, P. M., having arrived, hearing resumed pursuant to adjournment.

T. O. SULLIVAN recalled.

Mr. Weil:

Q. Mr. Sullivan, I understood you to call our attention to certain inaccuracies in your testimony, which you wanted an opportunity to correct, about which you have made investigations since testifying; and I want to have you make whatever corrections you think proper,

so as to make your testimony conform to the facts as you now learn them to be. First, I call your attention to the fact that you made a statement that the lines of the Hope Natural Gas Company delivering gas to the East Ohio Natural Gas Company and the Peoples Natural Gas Company, ended a short distance over the state line in which those companies were doing business. I wish you would state what the facts are, with reference to that situation.

691 A. I find that while those lines were originally built by the Hope Company to the points I described, they were later charged back against the respective companies. I was not aware of this having been done at the time that I testified. Therefore, the connection between the lines of the Hope Company and the other companies, to which it is delivering gas, is at the state line, or as nearly to the state line, as we can determine.

Q. When you say the state lines, you mean that the deliveries are made at the state line on the West Virginia or the Ohio side?

A. I mean that the connection between the lines of the companies is made at the state line between the states. The measurement of the gas, in the case of the Ohio Company, is made on the West Virginia side of the river, and in the case of the Peoples Company, it is made in West Virginia at, I believe, three different points, and one point in Pennsylvania.

Q. Now you stated in your examination that the gas delivered to the Peoples Company through the pipe lines entering the State of Pennsylvania, in the southwest corner of Greene County, was measured at Brave Station. Have you investigated that, and what do you find the fact to be, with reference to that statement?

692 A. I have investigated it, and I find that the gas delivered to the Peoples Company through that line is measured at a place called Glover, in the State of West Virginia, a few miles south of the state line. I was aware of this fact at the time I testified, but simply was mistaken in testifying as to that.

Q. You also stated in your examination that the gas delivered to the East Ohio Company through the lines crossing the river near Clarington was measured in the State of Ohio. Have you investigated that further, and what are the facts with reference to that?

A. I have, and I find that the gas delivered to the East Ohio Company, through the lines crossing the Ohio River near Clarington, Ohio, is measured in the State of West Virginia. I never knew this until since I testified I looked the matter up. I was always under the impression that that measuring station was located in Ohio.

Q. Well, you have investigated it, and the facts that you state now you know to be the situation?

A. That is the situation, according to investigations that I made, and the best information that I can obtain.

Q. As general manager of the Hope Company, how long has it been since you have been over all of the lines of the com-

693 pany?

A. I have never been over all the lines of the company.

Q. These lines that you said were laid at these points, as stated in your original examination, were they not at the time laid under your personal direction?

A. They were—some of them were. Not the lines across the river at Clarington. I think the other lines crossing the river near Moundsville were laid under my direction, and also the lines connecting the Peoples Company and Hope Company were laid under my direction.

Q. And that was some years ago, before you became general manager of the Hope Company?

A. It was.

Q. And the testimony you gave at the last hearing upon these subjects was based upon your recollection of those facts, was it not?

A. Yes, sir. I have no knowledge of those lines having been charged back to the different companies after they were originally constructed.

Q. And you knew you had constructed them for the Hope Company, and built them to the points that you stated in your original examination?

A. Yes, sir. I also testified that the lines of the Hope Company delivering gas to the River Gas Company ended in the State
694 of Ohio. From the best information that I can obtain since testifying, I find that I was mistaken in this, and that the lines of this company also end at the state line, and connect with the lines of the River Gas Company at that point, the same as the lines of the other companies connect—at the state line.

Q. Now, on pages 414, 419, 427, 433, 474, 511 and 585, the East Ohio Natural Gas Company is named. Do you not mean by that the East Ohio Gas Company?

A. I do.

Q. The East Ohio Gas Company.

A. Yes, sir; I think, however, that I did mention it as the East Ohio Natural Gas Company, but I referred to the East Ohio Gas Company in all cases.

Q. The real name of the company is the East Ohio Gas Company?

A. It is.

Q. And not the East Ohio Natural Gas Company?

A. No, sir.

Q. And wherever you say East Ohio Natural Gas Company you mean by that the East Ohio Gas Company?

A. I do.

695 Q. On page 424, of your testimony, you stated, "A. I believe about 49 per cent, according to the best information I have." That is the beginning of the statement, and then you say: "The Standard interests own 51 per cent and the other interests own 49 per cent of the Reserve Gas Company." Do you not mean by that that the Standard interests own 50 per cent and one additional share, instead of 51 per cent of the stock?

A. I am now informed that that is the case. I did not know that, however, when I testified; I simply knew that it was in the neighborhood of 49 per cent to one company and 51 per cent to the other company. I am now informed that the Standard Oil Company owns 50 per cent, plus one share, of the Reserve Gas Company, and the Union Natural Gas Corporation owns 50 per cent, less one share.

Q. On page 529 of the typewritten copy (and all of these pages which I have given you refer to the typewritten copy of the testi-

mony) you state—referring to your previous testimony of deliveries by the Hope to the Peoples Company: "Those are the only two points that it delivers gas to the Peoples Company." What do you find the facts to be, with reference to this statement?

696 A. I find that there are four points where gas is delivered to the Peoples Company. In fact, there are five points where gas is measured to the Peoples Company, but some of that gas is delivered into the same line in the State of West Virginia that the gas passing through Glover station is. In other words, it is a connection into the same line,—measuring gas from wells along that line, before it enters the State of Pennsylvania. There are two other points besides the two principal points that I testified to, where there are small quantities of gas delivered to the Peoples Gas Company through lines crossing the state line between the states and monnecting into the Peoples lines in the State of Pennsylvania; the ownership of those lines—the division in the ownership of those lines—being made at the state line, the same as in the other cases.

Q. On page 442, you were asked what communities the Reserve Gas Company supplies, and you answered; "It supplies a scattered number of consumers through the State of West Virginia, and sells its gas to the Union Natural Gas Company, at Canton, Ohio."

A. At Canton, Ohio?

Q. Yes.

697 A. Well, that is wrong.

Q. I am reading now from the record. Now, is that what you said, as to the name of the place—Canton, Ohio, and what are the facts with reference to the communities that are served by the Reserve Company?

A. If I said Canton, Ohio, I named the wrong place. That gas is sold to the Union Natural Gas Corporation, at a point called Sugar Grove, Ohio. The Reserve Company does sell gas to scattered consumers in the State of West Virginia; there are some one or two small towns that they supply, Wilsonburg, I believe, being the principal one of those towns.

Q. Does it sell gas to the Hope Natural Gas Company?

A. It does.

Q. As well as to the Union Natural Gas Corporation?

A. It does. The Reserve Gas Company sells three-fifths of the gas it produces to the Hope Natural Gas Company, and two-fifths to the Union Natural Gas Corporation, at Sugar Grove, Ohio. The deliveries to the Hope Company are for re-sale by the Hope Company to the Northwestern Ohio Natural Gas Company, for Toledo, at Sugar Grove, Ohio, and partly in the fields of the Reserve Gas Company, for delivery to the general system of the Hope Natural Gas Company in West Virginia.

698 Q. On page 540, you say; "The Reserve Gas Company has sold gas to the Ohio in that section—or sold gas to the Hope Natural Gas Company in that section," the whole answer being, when you were asked, "Where are they connected?"—referring to the connections between the Hope and the Reserve—and you said, "There are connections between the two companies out in the field. While I do not know just exactly where those connections are, my belief

is—my understanding is that they are in Doddridge County, West Virginia. The Reserve Gas Company has sold gas to the Ohio Company in that section—or sold gas to the Hope Natural Gas Company in that section."

A. By the latter part of that answer I meant to correct the part that referred to the Ohio Company—sold gas to the Ohio Company in that section—there being no Ohio Company in that section to sell gas to, and I simply used the wrong term there. I meant to say to the Hope Natural Gas Company in that section; I meant to correct the former part of that statement.

Q. In other words, what you intended to say was that they sold gas to the Hope Natural Gas Company?

A. In that section, yes, sir.

Q. In that section.

699 A. Yes, sir.

Q. And they don't sell any gas in that section to the Ohio Company?

A. No, there is no Ohio Company in that section, that I know of.

Q. On page 610, I think the mistake perhaps is that of the stenographer, where you say that "Gas is delivered into the lines of the Connecting Gas Company, and transported by them and delivered to the Northwestern Oil Natural Gas Company at Sugar Grove, Ohio." You meant by that, and I suppose what you said was, the Northwestern Ohio Natural Gas Company?

A. I meant to say the Northwestern Ohio Natural Gas Company. I may have used the wrong word there.

Q. My attention is called by Mr. Steptoe to this statement, on page 610—and I want to ask you if that is what you intended to say—after giving the amount of gas sales to the Hope Company and to the Northwestern Ohio Natural Gas Company, you continue; "This gas is transported out of the State of Pennsylvania through the lines of the Reserve Gas Company, and consists of gas purchased from the Reserve Gas Company by the Hope Company." Did you intend to say "out of the State of Pennsylvania," or is that correctly stated?

700 A. It is not correct. I meant to say, "is transported out of the State of West Virginia through the lines of the Reserve Gas Company."

Q. Are there any further corrections of your testimony, Mr. Sullivan, which you have observed, and to which I have not called your attention, that you want at this time to make? If so, please state what they are.

A. In testifying in regard to the horsepower of the various compressing stations, I believe that I stated that they range from about 00 horsepower to something over 17,000 horsepower. Since looking the matter up, I find that they range from about 60 horsepower to 22,025 horsepower; the amount of the horsepower in Hastings Station being 22,025, and at one of the smaller stations, Seven Pines, for instance, it is 60 horsepower. I believe that I called attention to my inability to give the horsepower in Hastings Station at the time I testified, and asked to correct it later.

Q. Is there anything further?
A. I know of nothing further now.

Mr. Steptoe:

Q. You spoke of the gas delivered at Sugar Grove awhile ago by the Reserve Gas Company. As a matter of fact, doesn't
701 the Reserve Gas Company cease to transport at the state line, at the Ohio River, and thenceforward it goes through the lines of the Connecting Company?

A. That is correct. The Reserve Gas Company's line connects with the lines of the Connecting Gas Company at the Ohio River, and the Connecting Company transports that gas to Sugar Grove, Ohio, where it is delivered to the other companies, at that point.

Q. And what are those other companies?

A. The Northwestern Ohio Natural Gas Company and the Union Natural Gas Corporation.

(Pennsylvania Exhibit No. 15 shown witness.)

Q. Will you consult your map a moment, filed as Pennsylvania Exhibit No. 15? I call your attention to the fact that according to the map there is no connection between certain lines of the Reserve Gas Company, shown in blue, and situate in Harrison County, West Virginia, with the main system of the Reserve Gas Company originating in Lewis County. Is there any connection between the gas territory and production of the Reserve Gas Company, in Harrison County, and the Reserve's system of pipe lines originating in Lewis County?

702 A. The map doesn't show any connection between the lines of the Reserve Company in Harrison County and those in Lewis County, West Virginia, but the map is made as of December 31, 1917, and I understand that there is now a connection between those two fields; although I don't make that as a positive statement, without looking it up.

Q. Do you know whether or not that connection has been there for a long time, a considerable number of years?

A. According to my information, it has not been there for a long time; it has been put in since this map was made, December 31, 1917.

Q. Prior to the making of this map, what became of the gas production of the Reserve Gas Company in Harrison County? Where was it marketed?

A. I am not familiar with what disposition was made of that gas prior to the connection between those lines; but my general knowledge is that that gas was marketed to the Hope Natural Gas Company.

Q. And disposed of by the Hope Company through its system?

A. Yes, sir.

Q. As a matter of fact, Mr. Sullivan, this map not only does not show the additions or transmission lines since December 31,
703 1917, but does not show any of your distributing lines or suction lines, does it?

A. It does not show any of the additions since December 31, 1917, nd neither does it show any of the distributing lines, but it does ome of the suction lines. That is, our system is built in such a way hat the discharge line leading from one station is a suction line rom another station. For instance, taking the lines leading from Harrison County, Lewis County, Doddridge County, and part of Ritchie County. Those lines are all constructed with a view to sending gas up to Hastings Station, and also they are discharge lines rom stations located in the southern end of the chain. They are uction lines leading into Hastings Station. In other words, the ocal stations distributed around through the fields, take the gas rom the wells and use it up to a certain pressure, and transport it hrough the discharge lines to the Hastings line, where it is again aken up and compressed and delivered into the main delivery system of the Hope Company.

Q. That is not confined to Hastings Station, but that is the general rule of the system?

A. There are about three points where that condition exists. At Hastings station, we have both the high and low stage
04 compressors. The low stage compressors are for the purpose of taking the gas from the local fields, which are directly onnected into that station, and which reduce the pressure of the ocal fields to a low point,—one pound, or possibly below that, at imes. The high stage compressors are to re-compress the gas from he discharge lines from the other stations. Now that same condition exists at Wright Station, located in Marion County. We have oth high and low stage compressors at that point, and they operate ractically under the same conditions as the Hastings Station perates under. Then again we have both high and low stage compressors at Craig Station, located in Ritchie County, West Virginia. The gas is delivered from the southern field to that point, and recompressed there and sent out through the lines leading to Parkersburg, West Virginia. At Wright Station, in Marion County, West Virginia, the gas is recompressed there and sent out to the lines of he Manufacturers Light & Heat Company and the Peoples Natural Gas Company. At Hastings Station, that gas is recompressed and elivered to the lines of the East Ohio Gas Company.

Q. Those lines take in some gas from those stations, do they not? For example, from Craig Station on to Schultz Station, are
05 there not suction lines leading in to the main transmission lines?

A. No, not to the best of my knowledge. The discharge line from Graig Station connects into the suction at Schultz Station, when it s provided, so that it can be by-passed around that station. The econd line and the other lines leading south from Schultz Station re suction lines proper for Schultz Station. These lines are connected together—paralleling each other on the map, are connected ogether, so that the double line for some distance south of Schultz tation can be used as a discharge line from Graig Station. To give ou some idea how the plant is constructed, I might say that it is omewhat similar to a railroad system. Switches are provided for assing trains at certain points, and the same thing is provided in a

natural gas system,—connections put in so that the gas can be by-passed from one point to another. Take the case of a railroad, sometimes a double track is built; trains going in one direction go out one track, and in the opposite direction on the other track, but at certain points switches or connections are provided, so that those trains can be switched over in case of emer-
706 gencies. The same thing is true in a natural gas system; certain provision is made for switching the gas through certain lines. But the most efficient way to operate it is the way in which it is designed, just the same as it is with the railroad: the most efficient operation is the way in which the plant is designed; but other provision is made whereby it can be utilized, not so efficiently, but to some advantage in case of emergency.

Q. The precise matter I sought to elicit was how the production along the route through Ritchie and Wood Counties was taken up. That, as I understand it, is through the other lines leading into Schultz station from the south.

A. As a general proposition, it is. Practically all of the gas that we handle goes through some compressing station. There may be some few wells scattered along the line here and there that feed into the line direct, against whatever pressure may be maintained on this line; it being the intention always to get those wells onto the suction to some station as soon as it is feasible to do so.

Q. So that from Schultz Station on, you manage to take care of any gas production you may have along the route?

A. If there are any wells along the route that are not connected to the suction to Schultz Station, then they necessarily feed
707 direct in to the transmission lines leading to Parkersburg.

Q. Now, do those wells have to feed into the transmission lines against the full pressure of that line?

A. They have to feed in against whatever pressure may be maintained on the line.

Q. With reference to the suction lines not shown on your map, are there many of those?

A. A great many.

Q. How do they range in size of pipe?

A. From 8 inches down to 2 inches.

Q. And what are the sizes of the connections made for distributing along the lines?

Mr. Weil: This question is objected to, as not being intelligible to the Court or to the witness, without the question indicating what counsel means by distributing lines; it being already in evidence that there are distributing systems in each one of these communities, which distributing system supplies the consumers in those communities; that there are transmission lines, and in-take lines; and the question should indicate to the witness just what distributing lines the question is directed to.

708 (Question withdrawn.)

Q. What are the sizes of the lines whereby the Hope Company connects with and delivers gas to the several local utilities in West Virginia, to which it sells gas, as described in your prior examina-

tion? I don't care for a statement in detail, but a general statement as to either the average size or the range of sizes.

A. The connection between the lines of the Hope Natural Gas Company and the Manufacturers Light & Heat Company at Morgan station——

Q. If I may interrupt you, Mr. Sullivan, I referred to local utilities.

A. The connection between the lines of the Hope Natural Gas Company and the company that supplies Burnsville, Sutton and Gassaway, and possibly some other towns,—I think the Burnsville Light, Fuel & Power Company—at or near Burnsville, West Virginia, is a three-inch connection at that point. There are several miles of three-inch pipe in the line leading to the towns supplied by this company; and my information is that it increases to a four-inch line as it gets nearer to the towns of Sutton and Gassaway.

That is the only local utility that I remember of now, with whom we have any contracts. We may have a connection with one or two others, where we are selling them gas without any regular contracts.

Q. Well, to take two or three—what is the size of the connection with the Clarksburg Light & Heat Company?

A. I can't tell you, I don't know.

Q. Do you happen to know the size of the connection which you stated to be for emergency service with the Monongahela Valley Traction Company, at Fairmont?

A. I do not, from memory, although I have a sketch showing that some place.

Q. Each of those instances would be in lines of the size of at least three inches or greater, would they not?

A. Yes, sir; I think that they are larger than that. My impression is that the connection with the company at Fairmont is a six-inch connection, and I believe it is as large as that to the Clarksburg Light & Heat Company—it may be an eight-inch connection.

Q. Where your distributing lines connect with your transmission system, for the service of several towns—for example, of Mannington—What would be the size of the connection there? And give us a general statement as to the size of such connections.

A. My recollection of the connections at Mannington is that there are two-6-inch connections connecting to the distributing lines in the City of Mannington.

Q. Now, then, with reference generally to the suction lines and the distributing connections not shown on your map: was it, or is it, feasible or practicable to show those lines on the map?

A. It is not, on a map of anywhere near this size. In fact, if you were to attempt to show all of those connections and all of the various lines, it would require a map fully as large as one side of this room, or larger.

Q. And as a matter of fact, those various suction lines and distributing lines in number far exceed the lines shown on the map of the transmission system?

A. I don't just understand what you mean by "far exceed."

Q. Are there more of those lines in the aggregate than of th lines laid down in red on your map?

Mr. Weil: Is this question intended to include various distribu ing lines laid down in various towns and cities?

Mr. Steptoe: No.

A. I don't understand what the question means.

711 Mr. Steptoe:

Q. I want to know if the number of your suction lines and th number of connections for distribution to the local utilities and t the towns which you serve directly in West Virginia, none of whic are shown on this map, would exceed the number of lines which yo have shown on the map?

A. I would be unable to answer that question without checking i up. I don't know.

Q. There are, as you have already said, a great number of them

A. There are a great many suction lines, and of course we hav distributing lines in all of the towns where we supply gas; but as t how they would compare with the lines that are shown on the map, am unable to say.

Q. Does the Hope Natural Gas Company transport any gas excep that owned by it?

A. It does not, to my knowledge.

Q. Has it ever transported any gas other than its own?

A. I have no knowledge of its ever having done so.

Q. During your regime as general manager of the Manufacturers Light & Heat Company, did that company ever transport any ga except that owned by it?

712 A. It did, for a very short time, at one time.

Q. Where?

A. It transported some gas for the Hope Natural Gas Company from West Virginia, and delivered it to the Peoples Natural Ga Company in Pennsylvania. This was done for a short period o time, while the Peoples Company were constructing a line of thei own.

Q. Do you recall the year of that?

A. I do not; I can't remember what year that was.

Q. Well, about how many years ago, as nearly as you can ap proximate it?

A. I would say about five or six years ago.

Q. I understood you to say that was a mere temporary arrange ment?

A. A temporary arrangement, yes, sir.

Q. Does the Hope Company ever exchange gas in this sense: the purchase of gas in the field and the delivery at another point along the line of an equal amount of gas?

A. It does not, to my knowledge.

Q. Nor ever has?

A. I am unable to say that it never has. It never has, as far as I know anything about it.

Q. There are, however, certain exchanges between the companies, are there not—the larger companies?

713 A. I have no knowledge of any exchanges, except in case of emergencies. I have known of cases where one company helped the other out, in case of a broken line, or something of that sort. I know of no cases where it was a permanent arrangement of that kind.

Q. The instance you mention on direct examination, of an exchange between the Hope and the Reserve, for the benefit of Parkersburg, was an emergency such as you mention?

A. It was. In fact, that was not an exchange of gas, that was a connection between the lines of the two companies. One reason for making that connection was that the Hope Company had a well located at such a long distance from its pipe line system that it did not feel justified in laying a line to that well. Therefore, they made an arrangement to sell their gas to the Reserve Gas Company, and at the same time they made an arrangement to buy gas from the Reserve Gas Company for Parkersburg on cold days.

Q. The amounts were not the same?

A. The amounts were not the same, only to this extent, that the Hope Company was not to take any more gas from the lines of the Reserve Company than they delivered to the Reserve Company. But they were both, the transactions—one was the case where

714 the Hope Company sold gas, and the other was a case where it bought gas from the Reserve Gas Company.

Q. Are there similar transactions between other companies?

A. I know of no similar transaction to that, no.

Q. Do you happen to know about an exchange of gas between the Hope Company and the Hazel Atlas Glass Company, of Clarksburg, or rather the Comet Oil & Gas Company?

A. I do not.

Q. Which produces for the Hazel Atlas?

A. I do not.

Q. You don't know that the Comet Company delivers gas to the Hope Company near Grafton, and that the Hope Company delivers in return an equal amount of gas at the Hazel Atlas plant at Clarksburg?

A. I do not know of any such arrangement. I think it may be quite possible that we have a gas purchase contract with that company, although I am not sure of that. I do know that we have a contract to sell them gas in the vicinity of Clarksburg.

Q. That is, to the Hazel Atlas Glass Company?

A. I am unable to say whether that contract is directly with the Hazel Atlas Glass Company or the Comet Gas—Comet, whatever the name of that company is.

715 Q. But your company does deliver directly to the Hazel Atlas Glass Company's plant, at or near Clarksburg?

A. Not in Clarksburg. We may sell them some gas outside of Clarksburg.

Q. The condition you mentioned about the Hope Company and

the Manufacturers Light & Heat Company transporting no gas except their own, is common to all of the larger companies, is it not?

A. It is. I know of no companies that transport gas for others. Ordinarily, it is not a practical thing to do.

Mr. Weil:

Q. Mr. Sullivan, we have been calling, in the cross examination and in your testimony, these lines extending out to the wells, or which take the gas from the wells into the transmission lines, leading to the compressing stations, suction lines. That term has been used frequently. Isn't the proper phrase or name in the trade for those lines, in-take lines?

A. Yes, sir, I think that is the proper phrase.

Q. Is there any suction applied to those lines?

A. There is not.

716 Q. The compressing stations, or any other stations installed by the companies, exert no suction whatever upon those in-take lines, do they?

A. They do not.

Q. When the gas passes through these in-take lines to the compressor station, the gas is there compressed, so as to move by its own pressure, thus compressed, through the transmission lines?

A. That is correct. The compressing station is simply for the purpose of reducing the pressure in the lines leading to the wells, so as to permit the gas from the wells to flow freely to the compressing station against as low a pressure as can be maintained in the line. But there is no suction exerted on the lines.

Q. Now, Mr. Sullivan, these in-take lines, as to which you have been examined as to the number and so forth, consist of lines, in the first instance, that are connected with each well, do they not? Each well has a line connected to it, to take the gas from that well?

A. It has.

Q. And some of these well lines are run into and connected with the larger lines into which other wells are connected or run, and thus the gas is transmitted to the compressor station?

717 A. Yes, sir.

Q. That constitutes the system, does it not?

A. It does. Each well has a line leading from the well. In some instances, if there is only one well, this line might extend entirely to the compressor station, but if there are a number of wells in that locality, they would no doubt be connected into a larger main line that runs centrally through the territory, so as to take the gas from a number of wells. They are all, however, a part of the in-take system, taking the gas from the wells to the compressor stations.

Q. Now, you were asked about a contract which you described between the Peoples Natural Gas Company and the Manufacturers Light & Heat Company, when you were general manager of the Manufacturers Light & Heat Company, which counsel denominated a contract for the transportation of gas. Isn't it the fact that what that contract consisted of was that the Peoples Natural Gas Company

ran into the lines of the Manufacturers Light & Heat Company a certain quantity of gas, and the Manufacturers Light & Heat Company, at the point at which the delivery was made to the Peoples company, delivered a like number of feet, or the same quan-
718 tity, to the Peoples Natural Gas Company; and the identical gas thus delivered to the Manufacturers Light & Heat Company was not transported, but it was simply an exchange of the same quantity, was it not?

(Question withdrawn.)

Q. You stated in your examination, in reply to counsel for the defendant, that during the time you were general manager of the Manufacturers Light & Heat Company, an agreement was made between the Manufacturers Company and the Peoples Natural Gas Company, by which the Peoples Natural Gas Company delivered to the Manufacturers Company, at some place in West Virginia——

A. The Peoples Company did not deliver any gas to the Manufacturers Light & Heat Company in West Virginia.

Q. Well, then, I misunderstood your answer. Will you state just what that arrangement was then?

A. There was no contract at all covering that matter. In fact, my recollection now is that there was merely a verbal arrangement between Mr. Pew, who was in charge of the Peoples, and the Hope Company's at that time—the arrangement was that the Hope Company would deliver a certain quantity of gas to the Manufacturers Company in West Virginia; in fact, sell them this gas in West
719 Virginia, and in return, that the Manufacturers Light & Heat Company would deliver an equal amount of gas to the Peoples Natural Gas Company in Pennsylvania, selling the gas to the Peoples Company at a certain price; the difference between the two prices, as I recollect, being about five cents per thousand cubic feet. Now, that was a mere temporary arrangement during the time that the Peoples Company were engaged in constructing a line, so as to supply some territory or business that they were unable to take care of, until they got their line constructed.

Q. Then this was not a contract of transportation at all?

A. It wasn't a contract at all of any kind. It was rather——

Q. Well, I know, but it wasn't an agreement. I say "contract"—mean, verbal contract as well as written. It was not an agreement or arrangement for transportation whatever then, was it?

A. Not for transportation. It was an arrangement to buy and sell at a difference in the two prices, presumed to be sufficient to cover the transportation between the points.

720 Q. And was, as you say, a temporary arrangement made for the accommodation of the Peoples Company?

A. It was. Now, I say that it may be possible that there was a letter on that passed between Mr. Pew and myself. I am unable to state that definitely, but I know that we considered it just merely a temporary matter at the time—a matter of accommodation more than anything else.

Q. And about how long did it continue, if you can recollect?

A. Oh, I think it was about two months, maybe less than that. I don't think it was any more than that. It was a comparatively short time anyway.

Here an adjournment was taken until Tuesday, June 29, 1920, at 10 o'clock, A. M.

721 Tuesday, June 29, 1920.

And now, Tuesday, June 29, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed, pursuant to adjournment.

JOHN B. CORRIN, a witness produced on behalf of Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Corrin, how long have you been in the natural gas business; and, briefly, give your various experiences?

A. I first was directly connected with the natural gas business in February, 1902, when I started to work for the Hope Natural Gas Company. I started in as the assistant treasurer, after which I became assistant superintendent, afterwards assistant manager and vice president. I also——

Q. That was of the Hope?

A. That is the Hope. I also am manager of the Reserve Gas Company; vice president and manager of the Connecting Gas Company; vice president and manager of the River Gas Company. Also
722 a vice president of the Clarksburg Light & Heat Company. Prior to my employment by these companies, I was connected with the South Penn Oil Company for about twelve years.

Q. In what capacity there?

A. In a clerical capacity, especially looking after their operations and leases and titles.

Q. How long did you say you were with them?

A. Since about—from about 1890 until 1902.

Q. You have been in the oil and natural gas business about thirty years?

A. About thirty years is correct.

Q. And beginning in 1892, with the Hope Company, you were actively interested in natural gas companies?

A. In 1902.

Q. In 1902, I should have said?

A. Yes, sir.

Q. You were actively interested then in natural gas companies?

A. Yes, sir.

Q. In their operation?

A. Yes, sir.

Q. And have been since, and you are now?

A. Yes, sir.

723 Q. Now, taking up your different companies, the companies with which you are interested, in order: You are general manager of the Reserve Natural Gas Company?

A. Yes, sir.

Q. Or is it just the Reserve Gas Company?

A. The Reserve Gas Company.

Q. Briefly state the amount of territory, number of wells, and a general description of the lines of the Reserve Company in West Virginia.

A. The Reserve Gas Company, up to the first of January, 1920, had approximately 750 wells, and approximately 56,000 acres of territory. This territory is located in Harrison, Lewis and Doddridge Counties. They have probably approximately 525 miles of pipe line. These lines are main lines running from the field to the Ohio state line. They have connecting lines connecting up the wells, and several low pressure plants; the general lines that make up a gas company. This gas is transported, the great bulk of it, into the State of Ohio.

(Pennsylvania Exhibit No. 15 shown witness.)

Q. Now, calling your attention to Pennsylvania Exhibit No. 15, are the lines of the Reserve Gas Company indicated upon that map, and if so, in what color?

724 A. Part of the lines are indicated in a green color; not all of them, though. The lines that are shown are part of the main transmission lines, together with some of the gathering lines, but the map is not complete, either for transmission lines or gathering lines.

Q. Were there lines constructed after the date when that map was prepared? I think you will observe that was prepared in 1917.

A. The main transmission lines and the main suction lines were laid after the date when this map was made, but the map does not purport to show the gathering lines that were placed in the ground before or after that date.

Q. What are the main transmission lines, extending from what points, and the sizes thereof?

A. The main transmission lines of the Reserve Gas Company are two 12-inch and one 16-inch, extending from a point called Dry Fork, in Lewis County, to a point in Pleasants County, called Schultz. From Schultz west to the Ohio state line, there are two 12-inch lines. Also, there are lines, a 10-inch, running from the compressor station, called Kennedy, to this Dry Fork, and also a 12-inch line from Camden compressing station, in Lewis County, to Dry Fork.

725 Q. To what points in Ohio or Pennsylvania do the lines of the Reserve Gas Company extend?

A. The lines of the Reserve Gas Company do not extend to Pennsylvania at all, but do extend to the line between the States of West Virginia and Ohio, which is low water mark on the Ohio side of the Ohio River.

Q. And at what points?

A. Well, it is called Boaz, or south of Marietta, probably four miles.

Q. Is that the only point?

A. Yes, sir.

Q. Now, give us in like manner the territory and number of wells and pipe lines of the Connecting Gas Company?

A. The Connecting Gas Company is not a producing company at all. It owns no territory and owns no wells. It is merely a transporting company, transporting gas produced by the Reserve Gas Company from the line between the states of Ohio and West Virginia, to two points in Ohio, called Sugar Grove and Wheeler, a distance, I would say, of—well, about 120 miles; in that vicinity, according to my recollection.

Q. And from what point in West Virginia? You gave us the point in Ohio, but from what point in West Virginia?

A. From the line dividing the two states; that is, low
726 water mark of the Ohio River, on the Ohio side of the river.

Q. And what is the size of its pipe lines?

A. Two 16-inch lines.

Q. Two 16-inch pipe lines?

A. Yes, sir.

Q. These two lines are parallel, and each extends about 60 miles—do they not?

A. Well, now, I can't give you the exact distance. I believe you are correst in saying 60 miles, approximately 60 miles. Fifty-eight miles I believe is the exact distance.

Q. And that is what you mean by 120 miles of pipe line?

A. Yes, sir.

Q. It is these two lines, parallel, covering about 60 miles?

A. Yes, sir.

Q. Now, then, give us the territory, wells and pipe lines, of the River Company?

A. The River Gas Company, I would say, approximately has about 4,000 acres of territory, and has very few wells——

Q. Now, just a moment. 4,000 acres of territory where?

A. In the State of Ohio, most of it in Washington County. They do not have many wells; in fact, I suppose four or five wells,
727 besides a few little oil wells. It is not primarily a producing company, but is a distributing company, obtaining its gas from gas it purchases in Ohio, and also gas it purchases from the Hope Natural Gas Company, which is transported to it across the Ohio River from West Virginia. Also, the River Gas Company purchases in certain localities more gas than that particular locality can take care of, and that gas is transported back by the River Gas Company into the State of West Virginia, at two or three points.

Q. What towns does it supply?

A. The River Gas Company?

Q. Yes.

A. Marietta, Matamoras and Newport are the principal towns.

Q. Give the states?

A. In the state of Ohio.

Q. They are all in the state of Ohio?

A. They are all in the state of Ohio. All its consumption is supplied in the state of Ohio.

Q. You say that it delivers gas in West Virginia. To whom does it deliver gas there?

A. To the Hope Natural Gas Company.

Q. At what points in West Virginia?

A. At a point near Sistersville, is one point.

Q. In Wetzel County?

728 A. No, sir, in Tyler County. To correct my memory, I would like to look at that. Near Friendly.

Q. What county?

A. That is in Washington County, Ohio. Pardon me. That is in Tyler County too, I believe, but that gas comes across the river from Matamoras in the state of Ohio.

Q. And the gas delivered at Sistersville, or near Sistersville, where does that come from?

A. Well, that comes from the field right directly across the river, in the State of Ohio.

Q. What is it called?

A. Well, we call that the Matamoras Field, too.

Q. Now, as I understand, the Clarksburg Light & Heat Company is a distributing company in the city of Clarksburg?

A. A distributing and producing company, both.

Q. But it has no general distribution system except right in that immediate locality?

A. That is all, Clarksburg and the immediate vicinity.

Q. What is the size of the pipe lines that the River Company has?

A. Well, they are just the ordinary distribution company lines, but they run from 6-inch down to 2-inch.

Q. Well, I mean, its lines where it transports gas and

729 delivers it to the Hope.

A. One of them is a 6-inch, I believe, and the other is a three.

Q. That extends from that Matamoras Field to that point near Sistersville, and the other——

A. Friendly. They also have a line at present across the river near Newport, that we are trying to transport gas now from the state of Ohio into the state of West Virginia.

Q. From what field in Ohio?

A. Well, it really has no field name at all. It is a little open field.

Q. To what point in West Virginia are you preparing to transport it?

A. Well, that would probably go to St. Mary's.

Q. St. Mary's, West Virginia?

A. Yes, sir.

Q. Give us the amount of gas production owned and purchased both, in West Virginia, say the last year, 1919, by the Reserve Company, the Connecting Company and the River Company. I am speaking now of gas produced or purchased in West Virginia.

A. The Reserve Gas Company, during the year 1919, produced

20,911,000,000 feet of gas. They purchased during the
730 same period, 1,267,000,000. The Connecting Gas Company, as I say, is not a producing company, and did not produce any gas in West Virginia. Neither did the River Gas Company produce any gas in West Virginia. All the gas that it secured from West Virginia was through purchase from the Hope Natural Gas Company.

Q. What is the number of consumers of the Reserve, Connecting, and River Companies in each state?

A. The Reserve Gas Company, the total number of consumers was 900. That is the number of consumers all in the State of West Virginia.

Q. All in West Virginia?

A. Yes, sir.

Q. Go ahead.

A. Now, as to the number of consumers of the River Gas Company, I will have to secure that and give it to you.

Q. What about the Connecting Company?

A. They have no consumers at all; it is merely a connecting company.

Q. None either in West Virginia or Ohio?

A. No, sir.

Q. Now the consumers of the Reserve Company in West Virginia—you say there are about 900?

731 A. Yes, sir.

Q. In a general way, who are they and what are they?

A. Well, I have figures showing that 521 are domestic consumers, 53 of them are industrial consumers, and 326 of them are free consumers.

Q. You mean by "free consumers," owners of land, and so forth, or towns that you are compelled to furnish gas to, under your contracts, either for franchises or for leases?

A. Yes, sir.

Q. I think Mr. Sullivan went over the relations between the Reserve Company and the Hope Company, and the deliveries from the Reserve Company to the Hope Company of gas?

A. I didn't hear his testimony.

Q. Well, does the Reserve Company have any such arrangements with the Hope Company, by which it delivers gas to the Hope Company?

A. It has an arrangement whereby it sells a portion of its gas to the Hope Company, either directly in the field, or by delivery to it, at a point called Wheeler, in Ohio.

Q. Where?

A. Wheeler.

732 Q. How much did it deliver to the Hope Company at Wheeler—did you say?

A. Wheeler.

Q. How much did it deliver to the Hope Company at Wheeler, last year, if you remember?

A. I can't tell you, but I can get it for you.

Q. Does the Reserve Company deliver gas to any other gas company?
A. Yes, sir, it delivers gas to the Union Natural Gas Corporation.
Q. Where?
A. At a point called Sugar Grove, in Ohio.
Q. How much did it deliver to the Union last year?
A. I will get those figures.
Q. And did it deliver to any other gas companies?
A. Yes, sir; to the River Gas Company. That is, I mean in this way: that part of the Hope's allotment of gas going through the lines of the Connecting Gas Company was taken by the Hope Natural Gas Company and sold to the River Gas Company.
Q. And you can get that quantity?
A. Yes, sir.

(Memorandum shown witness.)

733 Q. What towns does the River Gas Company supply with gas? I show you this memorandum, and that may refresh your recollection.
A. Marietta, Matamoras, Newport, Belpre, Stockport, Chester Hill, Amesville, Pennsville, Gravel Bank, Reno, and Fly.
Q. Can you give us, Mr. Corrin, the amount of gas supplied by the Reserve, in the first place, to the Industrial consumers, and the amount to domestic consumers, in each of these states?
A. The Reserve, you say?
Q. Yes. And by the River Gas Company also, in each state.
A. I will obtain these figures and supply them to you later.
Q. Mr. Corrin, did you take part in the organization of the Reserve Gas Company and the Connecting Gas Company, and do you know the purposes and intentions with which those companies were organized, and the purpose particularly for which they were organized, and the territory obtained and lines laid?
A. Yes, sir, I do.
Q. At that time, you were in the employ, as I understand, of the Hope Natural Gas Company?
A. Yes, sir.

734 Q. Now, you may state, in the first place, who owns the stock of the Reserve Natural Gas Company?
A. The Hope Natural Gas Company owns 50 per cent, plus one share. The Union Gas Corporation owns the balance of the stock.
Q. And who owns the capital of the Connecting?
A. The same ownership exactly.
Q. And who owns the capital of the River?
A. The Standard Oil Company of New Jersey.
Q. The Union Natural Gas Corporation supplies—just generally—what territory with gas?
A. Part of the central and northern part of Ohio.
Q. What large cities?
A. Well, I would say Sandusky, Lorain—There are a great many, probably fifty or sixty cities of that size in Ohio.

Q. Does it supply Toledo?

A. No, sir, the Northwestern Ohio Natural Gas Company supplies Toledo with gas which it secures from the Hope Natural Gas Company from the Connecting lines.

Q. Now, then, what was the purpose of the organization of the Reserve Company and Connecting Gas Company?

Mr. Steptoe: The question is objected to as improper, immaterial and irrelevant.

735 The Commissioner: Let the objection be noted and let the witness answer.

A. Well, we really ought to go back to the beginning, to tell the purpose of it. The South Penn Oil Company was the pioneer operator in West Virginia for oil. At that time West Virginia was a very unsettled country. There were very few towns in West Virginia, of any size at all, and when the South Penn Oil Company went in there, the primary object was to operate for and produce petroleum, but in its operations they got some dry holes, and they got a lot of gas wells, and the great problem was what to do with the gas wells; and some of the smaller operators abandoned those gas wells, but the South Penn Oil Company retained them and held them, and they endeavored to get a market for their gas around West Virginia, and formed a company called—the same owners, the owners of the South Penn—formed a company called the Flaggy Meadow Gas Company, and this company was organized to take over these gas wells and supply these small West Virginia towns, and also to supply the drilling wells and pumping wells. And along about, I will say, 1894—along there—they had accumulated quite a lot of wells
736 on quite a lot of territory; and then the same owners that owned the South Penn and Flaggy Meadow formed the Mountain State Gas Company. This Mountain State Gas Company, the purpose of it was to produce natural gas and supply it to some of the river towns, like Sistersville and Parkersburg, but they found that these gas wells were accumulating so fast, both from the South Penn and the Flaggy Meadow and the Mountain State, that they had to look for some other market, and the Hope Natural Gas Company looked to Ohio and Pennsylvania for a further market. But in the territory that the South Penn Oil Company had acquired, was a lot of territory in Harrison and Lewis Counties, very valuable territory, and at the time they were operating, there was another very heavy operator named T. N. Barnsdall, operating the same section there, and he had drilled quite a lot of territory for oil, and he had found gas, and this territory of Mr. Barnsdall's was interlocked in with the territory of the South Penn Oil Company. And the South Penn Oil Company kept this territory, and in 1898, the Hope Natural Gas Company was formed, and this same territory that the South Penn had was transferred to the Hope Natural Gas Company. I will say that this territory of the Hope interlocked with Mr
737 Barnsdall's territory, and they were both—Mr. Barnsdall had interests in Ohio, supplying gas to quite a number of towns, and so had the Hope Natural Gas Company, through its ownership

of the Northwestern Ohio Natural Gas Company, supplying Toledo; so it was decided to join the interests of the Standard Oil Company and the Barnsdall interests in Harrison and Lewis Counties, join their interests, and form this Reserve Company, and transport gas to Ohio, so that the Standard Oil Company interests would have a share of that gas out of this field, and be transported to Toledo, and the Barnsdall interests would have its share of the gas transported to Ohio, to supply the towns it was supplying and would afterwards secure. The Barnsdall interests were afterwards transferred to the Union Natural Gas Company.

Q. The Union Natural Gas Corporation?

A. The Union Natural Gas Corporation, yes, sir.

Q. Now, is that the end of that?

A. Well, you asked for the purpose of it. That is as near as I can give it to you.

Q. Now, what about the Connecting Gas Company?

A. Well, the Connecting Gas Company was formed by the same interests who formed the Reserve Gas Company, and was
738 intended to transport the gas from the Ohio River, or the division line between the State of Ohio and West Virginia, to these two points in Ohio, one of which is called Sugar Grove, where the Barnsdall interests, or the Union Gas Corporation, was to take its gas. The other point was at Wheeler, where the Standard Oil Company interest was to take its share of gas for transportation to Toledo.

Q. Now, you stated that this was the purpose of the organization. Was this purpose carried out, and has it been carried out since the organization, and in the operation of the companies from that time to the present?

A. It was, and is now.

Mr. Blue: Let the record show an objection to the last preceding two questions, for the reasons last assigned.

The Commissioner: Let the objection be noted.

Mr. Weil:

Q. Did the parties that were then interested in the Northwestern Ohio Natural Gas Company transfer their interest in that company to any other parties?

739 A. Yes, sir.

Q. To whom?

A. As I know it, the people who now own the Ohio Fuel Supply Company—George W. Crawford.

Q. It was transferred then to the Ohio Fuel Supply Company?

A. Yes, sir.

Q. That is the name of the company?

A. Yes, sir.

Q. Which is generally called the Crawford interests?

A. Yes, sir.

Q. I suppose you don't know who the parties are that own the Ohio Fuel Supply Company?

A. No, sir.

Q. When was that transfer made?
A. I can't give you the date.
Q. About—I don't care for the exact date.
A. Oh, I would say that was along about 1910 or 1911.
Q. About ten years ago then?
A. Yes, sir.
Q. And the gas supplied to the Ohio Fuel Supply Company by the Hope is by contract, which has already been introduced in evidence, as I understand, by Mr. Sullivan?
740 A. There is such a contract. I don't know whether it was introduced or not.
Q. I should have said the contract between the Hope and the Northwestern.
A. Yes, sir, that is the way the contract was made, the Hope and the Northwestern.
Q. That has already been introduced in evidence. How much money has the Reserve Gas Company spent in the State of West Virginia, in the development of its territory and the laying of its lines, and so forth?
A. I would like to get those figures and have them correct, which I will.
Q. What is its present investment?

Mr. Steptoe: Objected to.

(Q. (Continuing:) The present investment of the Reserve Gas Company in the State of West Virginia, in territory as well as in lines?

(Objection withdrawn.)

A. My recollection is that it is about $7,000,000, but I can get the figures exactly.
741 Q. And I think you said the connecting gas company has no lines?
A. What?
Q. The Connecting Gas Company, has it any lines in West Virginia?
A. No, sir.
Q. When you are getting those figures, can you also get us the figures of the amount of Money spent in West Virginia by the South Penn Oil Company, in the development of its gas territory?
A. We could get you a close estimate of it, exactly.
Q. Well, that is what I want.
A. We could get you a close estimate of it.
Q. You haven't got that now?
A. No, sir.
Q. You can get that?
A. Yes, sir.
Q. How many compressor stations has the Reserve Gas Company upon its lines?
A. Four.
Q. Where are they located?

A. One of them at Wilsonburg, in Harrison County, the extreme north end of the field. One near West Milford, on the West Fork River, Harrison County, probably four miles from the line
742 between Harrison and Lewis Counties. One that is called Kennedy Station, near the line between Harrison and Lewis Counties; this is located in Lewis County. And one at Camden, near the southern end of the Reserve field, in Lewis County.

Q. What is the capacity of those stations?

A. What do you mean by capacity?

Q. Horse power, compressing horse power.

A. I will get that and give it to you?

Q. In speaking of the——

A. I see our chief engineer has computed the horse power of those stations, and we can give them to you now.

Q. Go ahead.

A. Wilsonburg, 1895; the one near West Milford, 1500; Camden Station, 3200, and Kennedy, 7600.

Q. The Hope Natural Gas Company delivers gas to the East Ohio Natural Gas Company, does it not?

A. Yes, sir.

Q. At what point?

A. Two points. Through lines crossing the Ohio River at a point called Round Bottom, and another point called Clarendon.

Q. Do you know as to what interest owns the East Ohio
743 Natural Gas Company?

A. Yes, sir; the same interests own the East Ohio Natural Gas Company as own the Hope Natural Gas Company.

Q. And when was the East Ohio Natural Gas Comany organized?

A. I haven't got that date here, but I will get it for you.

Q. About when?

A. Well, somewhere about 1898, I would say.

Q. Was that organized as a part of the operations of the Hope Natural Gas Company?

Mr. Steptoe: Objected to, for the reasons already assigned.

The Commissioner: Let the objection be noted.

A. Yes, sir.

Q. For what purpose?

A. It was the outcome of the operations by the South Penn Oil Company and the Hope Natural Gas Company in West Virginia, in an endeavor by these interests to obtain an outlet for the gas that they have secured, and expected to secure in West Virginia, and that they could not secure a market for in West Virginia.

Q. And did the East Ohio Company afford such a market?

A. It did.

744 Q. What towns does it supply?

A. Well, Cleveland is the principal town; and Canton, and Akron, and there are probably thirty or forty other cities in Ohio.

Q. You have charge of the direct operations, as general manager of the Reserve and Connecting Companies, do you not?

A. Yes, sir.

Q. And are familiar with the operation of those lines?
A. Yes, sir.
Q. You are experienced as a natural gas man in the operation of gas lines?
A. Yes, sir.
Q. That has been your business, as I understand, for quite a number of years?
A. Yes, sir.
Q. What would be the effect upon the practical operation of the lines of the Reserve Natural Gas Company, if it were compelled from time to time, especially on the coldest days or periods of winter, to make connections with and supply other public utilities in the State of West Virginia than those with which it had contracts, and for which it had made provisions?

745 Mr. Blue: The State of West Virginia objects to the foregoing question, because it is improper, irrelevant and immaterial.
The Commissioner: Note the objection, and let the witness answer.

A. First, it would be very dangerous. I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and have some person or city, or otherwise, take gas off of the line before it reached your consumers. In addition, you could not retain any of your consumers yourself, because the service that would be rendered would be uncertain and undependable; and in fact, I don't believe that it would be practicable to maintain a gas company if that condition existed.
Q. From your knowledge of the demand for gas in the State of West Virginia at the present time by other public utilities, industrial consumers, domestic consumers, and others in the state of West Virginia, what do you say if their demands and requirements were first fully supplied, as to whether or not you could carry out your
746 contracts and transport the gas produced by you out of the State of West Virginia.

Mr. Blue: The State of West Virginia objects to the foregoing question, because improper, irrelevant and immaterial.
The Commissioner: Note the objection, and let the witness answer.

A. We certainly could not live up to our contracts, and in addition, it would practically make a whole lot of our equipment and lines a lot of junk, without value.
Q. Would the present requirements and demands of domestic, industrial and other consumers in the State of West Virginia, in the coldest periods of the year, be sufficient, practically to take all the gas produced and transported by your company and the other natural gas companies in the state?

Mr. Steptoe; The same objection.
The Commissioner: Note the objection.

A. I don't believe there would be very much left to go
47 through our lines out of the state, if all the demands were met.

Q. What is the variation in demand between the normal demand nd what is usually called "peak load"?

A. Well, it depends a great deal on whether you are speaking of lomestic or industrial.

Q. I am speaking of domestic.

A. Well, I would say myself it was about six to one.

Q. You mean by that, about 600 per cent?

A. Yes, sir.

Q. And in the industrial, what would you say it was?

A. Well, there isn't a very great deal of change in the industrial, I ouldn't say, from the peak demand. The question of weather may e—The question of business would enter into it more than the uestion of weather, with the industrial.

Q. Is it a part of your business to keep advised as to the general evelopments in the natural gas fields of West Virginia, Pennsylania and Ohio, and of the other states, that would be tributary to he business, the natural gas business, in those states?

A. Yes, sir.

Q. Now, what are the facts as to the knowledge of new fields or not, new gas fields?—whether or not there are any available
48 for supplying the consumption of natural gas in the present territory supplied with natural gas?

A. Well, I know that not only our own companies, the companies ith which I am identified, the Hope and the Reserve, but all other ompanies, are using extreme efforts to find new fields, and have been r the last five or ten years, especially the last five years—They ave used every effort, and I don't know of any real field in the last ve years that has been discovered that amounts to anything, outde of this McKeesport field,—by any of the companies, that mounted to anything. There has been a gradual decline in all of ie fields and all of the sands. In fact, I don't believe that hardly ny wells today are capable of producing—except in a small numer of cases, low pressure plants—but what the gas is required to be ecured by mechanical means. We have used every effort we can, ot only on the surface, but by deeper drilling; have gone to extreme epths in an endeavor to get gas at lower levels; and so far have not een very successful.

Q. Are the present fields sufficient to supply the demand for gas iat is now being supplied with natural gas, by the respective companies engaged in the business?

49 A. They are not—far from it.

Q. And what was the fact as to your own companies last ear, for example, in supplying the demand of your consumers?

A. We were not able to meet the demands of our consumers, or f the people with whom we had contracts.

Q. Was there a large shortage in that year?

A. There was.

Q. And what is the fact as to the coming year, from your knowl-

edge of the available gas supply, as to whether there will be a greater shortage or not?

A. I believe it will be 30 per cent worse next winter than it was last.

Q. That belief is formed, is it, from your knowledge of the fields and the gas supply, and so forth?

A. Yes, sir; and from my observation, and talking with other operators.

Q. Is there any way known to the trade, by which that can be corrected?

A. No, sir; you can't manufacture it at all. You have got to take what is left and put it to the best use possible.

Q. If your gas territory and wells are exhausted, so that you
750 cannot continue the business of supplying natural gas to consumers, what effect would that have upon the value of the plants?

A. The plants would have no value, only for junk purposes.

Q. And what is the estimated value for junk purposes, as compared with the value at which it is carried as an operating concern?

A. Well, in West Virginia plants in certain localities there is a lot of it that would not really pay to take it up at all—better leave it lying in the ground—because the value that you would get from the material that you would redeem would not pay for the cost of redeeming it.

Q. Now, taken as a whole, what is the general estimate of the trade as to the value of the junk or wreckage of the plant, after its gas is exhausted?

A. Well, a plant like the Hope Natural Gas Company plant, or the Reserve Gas Company plant, I don't believe its junk value is one-quarter, as a whole.

Q. Less than 25 per cent?

A. Yes, sir; less than 25 per cent.

Q. What would be the wreckage or junk value of the distributing plants, with which these various transportation or transmission lines are connected? What would they be worth?

A. I don't think they would have any value at all. I don't
751 believe it would ever pay to redeem it.

Q. It would not pay to take up the pipe, you mean?

A. No, sir, it wouldn't pay to take it up.

Q. What has been the practice of your companies of late, as to discouraging industrial consumption?

A. We certainly do not want industrial consumers; that is, any more permanent industrial consumers. There are times when we have a surplus of gas, by reason of competition, and by reason of our price, that we secure for our gas, that we want to sell industrial gas, and have to sell industrial gas. We couldn't live if we didn't sell industrial gas.

Q. Well, do you make contracts for industrial gas now for sale only out of the surplus, after supplying domestic consumers?

A. Yes, sir, it is only the surplus, and subject to shut-off at practically a moment's notice.

Q. What are the facts as to supplying it to those departments of the plant for which other fuel cannot be effectively used?

A. I just don't get your question.

Q. I say, what is the practice of your companies in not supplying it to industrial consumers, except for those units of the plant
752 where other fuel cannot be as effectively used or substituted?

A. We don't care to supply it where they can use other fuel.

Q. And that is the general practice, is it not?

A. Yes, sir.

Q. Of the trade generally, as well as of your companies?

A. Yes, sir.

Q. What proportion of the gas supplied by the natural gas companies at the present time in Pennsylvania is obtained from West Virginia, taking all the companies together?

A. I don't know what the percentage was, by any figures, but I would estimate that three-quarters of the gas used by domestic consumers in Pennsylvania and Ohio comes from West Virginia.

Q. At the present time?

A. Yes, sir.

Q. And how long has that condition existed?

A. Well, the percentage has gotten larger in Ohio probably in the last four years. It is getting larger all of the time.

Q. How about Pennsylvania?

A. I would say the same thing of Pennsylvania.

Q. Mr. Corrin, you have given us the capacity of your
753 various compressor stations, and referred to suction lines. I want to call your attention to that expression, and ask you if, as a matter of fact, the compressors, or the operation of a compressor station, really puts any suction upon the lines in a compressor station from the source of supply?

A. No, sir, not as yet. Two of our stations are double-stage, the Kennedy Station and the Camden Station. That is, the gas flows naturally from the wells up to the station to the first stage pumps, and goes through the first stage pumps to the second stage pumps, but there is no vacuum on any of our wells at the present time.

Q. As to those lines, the proper nomenclature ought to be in-take lines, ought it not?

A. Yes, sir.

Q. Instead of suction lines?

A. That is a much better word for it—in-take lines.

Q. As a matter of fact, the compressor stations, in the operation of the compressors, reduce the pressure on the in-take line, so that more gas can flow into that line, so as to go into the compressors for compression, and thereby transmission into the transmission line?

A. Yes, sir, that is the purpose.

754 Q. That is the principle upon which they are operated?

A. Yes, sir.

Q. And without the operation of these compressors, under the conditions that have existed for a considerable period, the gas could not have been transported the distance it was carried?

A. That is correct. And I would add that were it not for those compressors, there are thousands of wells in West Virginia today that would have been abandoned years ago. It permits the gas to come from the wells and go to market that otherwise would not have gone to market at all.

Q. That is due to the fact, is it not, that the reduction of pressure upon the in-take lines permits the wells to feed into the lines that otherwise could not feed into the lines against a transmission pressure?

A. Yes, sir.

Q. The population in the States of Ohio and Pennsylvania that is supplied with natural gas and uses it for domestic purposes,—are you familiar with the conditions under which the gas is thus consumed?

A. I believe I am.

Q. And will you tell us now, just as graphically as you can, what the effect would be upon those consumers, if from time to time
755 the operation of your lines was interfered with, as you have described by the supplying of gas to other utilities, or industrial consumers, on cold days, in West Virginia, under the provisions of this Act in controversy here?

Mr. Steptoe: West Virginia objects to the foregoing question, because improper, irrelevant and immaterial, and for the further reason that it suggests a construction of the statute which the statute does not bear.

The Commissioner: Note the objection and let the witness answer.

A. I can't imagine how it would be possible for us to retain our consumers at all, if they were going to be subject to that interrupted service; but I don't think that people would be annoyed by the interrupted service. Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. And the discomforts that people would undergo, I think they would not be annoyed by it and would put it out of their houses. And in addition, I do know there are
756 thousands of houses in this vicinity and other vicinities, that would have to be, as far as the flues are concerned, reconstructed before they could put other fuel in.

Q. What about those houses that were compelled to change the burning appliances simply?—that would not have to change the houses? Would there be a large number of those?

A. Oh, practically every house would have to have a change in appliances.

Q. Do you know what it would cost, in the first place? Of course, you can't tell what it would cost to reconstruct a house, because that depends on the house, but what would be the average cost of the installation of a new system of heating and the taking out of natural gas, if such estimates have been made by your people?

A. Well, I don't know what these estimates are. They have been made. But I do know, depending on the size of the house, it would

e a very great hardship on everybody, and a very expensive thing
o carry out. I don't know what their estimates have been, but I
now in my own home, which is an ordinary sized home of about
en rooms, it would cost me—I couldn't do it for less than four or five
undred dollars.

Q. At the time these companies were organized for the pur-
57 pose of disposing of this gas outside of the state of West Vir-
ginia, that had been developed as you have described, was
here any other way at that time of disposing of that gas?
A. No, sir, there was not. They had used every effort,—every
own that they could get in West Virginia was being supplied.
hey were supplying all the industries that there were to be sup-
lied, and these wells were being drilled continuously in a search
or oil, and were either being shut in or being abandoned, and that
as the only way they had to dispose of this gas—was to look for some
arket outside of the state, which they did.
Q. What would be the effect upon the field if operators not having
market for their gas had allowed the gas to escape from their wells?
A. Well, that was shown in a number of fields. I have in recol-
ction the old Garner field. There were not millions of feet of gas
ut millions of feet of gas blown into the air, because there was no
arket for the gas and no pipe line in there.
Q. When was that?

A. That was along in about 1891 or 1892. I know there
58 were billions of feet of gas blown into the air there that could
have been saved and transported, if there had been lines to
e market for gas. Another thing, I have known of three or four
illion foot wells being plugged, with a high rock pressure, because
ere was no use for the gas and no place for it.
Q. And the wells abandoned?
A. The wells abandoned and plugged.
Q. How far will the escaping gas from an open well affect other
lls in the same territory?
A. Well, I have known of a well—Let's see—five miles and a half
ay being affected by other wells; not blowing into the air, but be-
g used into other lines—Over five miles.
Q. For five miles.
A. Yes, sir.
Q. You have had the personal experience with that distance?
A. Yes, sir, I have, and watched the pressure.
Q. And I suppose it varies?
A. Yes, sir; it depends on the sand entirely, the nature of the
nd.
Q. What is the universal practice of the trade, the custom of the
trade, after gas wells have been drilled in, where that field
9 was tapped by other operators, as to finding a market and
using the gas from that field?
A. Well, I can answer that by our own methods. We divide our
lls into four classes: The strictly competitive wells, we have in-
uctions for our men to use all of the time. There are other wells,
the second class, that they don't turn on, or didn't use to turn on,

until they had used up the first wells. In other words, they use
most competitive wells most of the time, and it would just dep
on the location of them—the more competition the more they
used.

Q. What is the third class?

A. Well, the third class are those wells that are more reasona
protected, or inside wells, you might say. And the fourth c
wells are those that are absolutely protected from competition.
course, that classification don't amount to every much in the wi
months, because we have to use everything we have got anyw
and would like to use more.

Q. At the time that you were connected with the South Pe
Oil Company, the operations of the South Penn were inten
primarily for the development of oil, were they not?

A. Yes, sir, it was.

760 Q. It was not undertaken as a gas development prop
tion?

A. No, sir; at that time a gas well, when they struck it, was wo
than a dry hole, because it was harder to take care of, and t
didn't know what to do with it.

Q. And it was only after this gas had been developed in this w
by the South Penn Oil Company that it was found necessary to m
some provision for disposing of that gas?

A. Yes, sir.

Q. And did the South Penn Oil Company go to any considera
outlays or expenses in undertaking to find a means of disposing
this gas?

A. The South Penn Oil Company did not go to great expenditu
itself directly, but the people who owned the stock of the So
Penn Oil Company did, by reason of their organization of the Flag
Meadow Company, the Mountain State, the Hope and the ot
companies. And, I would also add, the East Ohio and the Peop
Gas Company.

Q. What was the understanding of the trade at that time in
development of oil and gas territory, as to its being necessary to t
out the gas, in order to obtain the oil from certain territory?

A. That was customary at the time, to blow the wells to get
pressure off and sand, so the wells would produce more
761 In fact, I have known of wells flowing as high as 20,000,0
feet of gas to get four or five barrels of oil.

Q. And that was the practice in those days?

A. That was the practice in those days.

Q. In those early days?

A. Yes, sir; it was.

Q. Wasn't that the practice generally throughout the whole
and gas development area of the country?

A. Yes, sir, it was.

Q. These companies which you have mentioned were, to a c
siderable extent, were they not, the pioneers that invested millio
and tens and hundreds of millions of dollars in finding markets
and the use of this gas that was being developed at that time in
State of West Virginia?

Mr. Steptoe: Objected to as leading.

The Commissioner: Note the objection and let the witness answer.

A. They certainly were the pioneers, there is no question about it; and if it hadn't been for these companies, or companies
762 similar to them, with a good backing of capital, why, I don't think that West Virginia would have been advanced to where it is today. In fact, I think they are responsible for the advancement of West Virginia twenty-five years. As a sample of that, when I first started to work for the South Penn Oil Company, over 90 per cent of the land, the titles to which were examined, had liens of some kind against it. Today there isn't one per cent, in the oil and gas counties.

Q. Mr. Corrin, in the testimony of Mr. Sullivan, we put in evidence a number of contracts, including the contract between the Hope and the Peoples, the Hope and the Northwestern, the Hope and the East Ohio, and other contracts. Before those contracts were made, did the Hope Company, and subsequently the Reserve, supply any of those companies with gas?

A. Yes, sir, they did. They did it under——

Q. And that was true as between substantially all of them?

A. Yes, sir. Part of them by verbal arrangement—and practically all of them.

Q. How long did that continue, if you can recollect, in a general way?

A. Well, I can't tell you, but there were one or two of them where it lasted for several years.

763 Q. Wasn't that true of all of the companies, except the Manufacturers Light & Heat Company and the Fayette Company?

A. It was. It was true of those companies where the ownership was, you might say, all in all with the producing company. In other words, it was a kind of a joint ownership between the East Ohio and the Hope and the Peoples and the River, and such companies as that—looked upon a good deal as doing business with brothers.

Q. Doing business with themselves, under another name?

A. Yes, sir.

Q. They were looked upon, were they not, as subsidiaries of the same general interest?

A. Yes, sir.

Q. And you say that condition continued for a number of years, until these contracts were finally made?

A. That is true.

Q. And was gas supplied in substantially as great a quantity prior to the making of the contracts as afterwards?

A. Well, I wouldn't say in as great quantities, but all the requirements that were necessary for the distributors.

Q. The fact is, is it not, that the demand for natural gas on all of these companies is continually increasing?

764 A. Yes, sir, it is. And as we all know, what broke our backs in the gas business was the war. We had accumulated a surplus of wells and a surplus of gas, and this war cut that surplus off, and got us back down to where we were prior.

Q. I wish you would go into that a little more fully, as to what you mean and how the war had that effect?

A. Well, prior to the war, we had to drill a certain number of wells every year, by reason of the demands of land owners, competition, and the requirements of leases, and we drilled many more wells than we had a market for the gas for; and the result was that when the war came on, we had a peak of gas. In fact, up to that time, the great question was how to get rid of our gas. And the war came on, and there was such a demand for the industrial competition that we turned every well we had into the line, and kept it in the line summer and winter, all of the time, supplying industries that helped on war material and in other ways. And we all know there are certain wells that require to be rested. We don't have a chance to rest those wells.

Q. You supplied that fuel to the industries that were engaged in manufacturing material for war purposes, such as munitions and other materials, under the orders of the National Fuel Administration, did you not?

765 A. We did, yes, sir.

Q. During that time, the Federal Government organized a Fuel Administration that undertook to control and regulate the oil and natural gas business, did it not?

A. Yes, sir, they did.

Q. Mr. Requa was the Director of that Department, I believe?

A. He was; and Mr. Gregory, under him, was the man that told us what to do.

Q. And you received your orders from that department?

A. Yes, sir, we did.

Q. As I understood your testimony, your orders were to supply all of these plants with all of the gas you could possibly give them?

A. Yes, sir.

Q. And you did that?

A. We did.

Q. Now, give us a little more fully than you have done, what the effect of that was, as an injury to your production?

A. Well, prior to the war, any good gas company could shut in a great many of its wells and rest its wells up.

Q. What do you mean by that?

A. Well, they should be shut in for a period. There are some wells—I think wells are a great deal like children—have dif-

766 ferent dispositions. Some of them you can treat one way and some another, and there are some wells that if you use them for too long a period, without rest, you practically ruin them. Other wells, the more you use them, why the better it is for them. And I think there were a lot of our wells that we used continuously too long, and while it didn't absolutely ruin our fields, it was a great detriment to the fields. If we had had a chance to rest those wells up during the three years that we did use them continuously, for a month or two at a time, it would have prolonged the life of those wells for a long period, I think.

Q. Since this time have you discovered any new fields, or have

you been able in any way to restore your old fields by proper operations?

A. No, sir, we have not, and I think we have done everything that any companies could do, to extend our fields and our production. As a sample of that, this Reserve Gas Company we speak of took up, on the advice of geologists, probably 75,000 acres in one of the adjoining counties, and we drilled four or five test wells, and we probably spent $300,000, and had to abandon the whole business, because we didn't find any production. That is a sample of what we have done in a number of cases with the other companies.

Q. That has been the practice, has it not, of substantially
767 all the large gas companies?

A. Yes, sir. We have spent, in addition, I would say at least $700,000 in this deep well propaganda, trying to get deeper gas.

Q. What do you mean by "deep well propaganda"?

A. Well, if I used the right word, what I mean is, we drilled wells to extreme depths, in the hope that we would find some sand that they hadn't discovered before.

Q. Some sand at a lower depth?

A. Some sand at a lower depth; yes, sir; having drilled wells to the depth of practically 7,600 feet under the surface, and we probably have drilled at least forty wells to a depth of over 4,200 feet in two different counties.

Q. How much do you say you have expended in that effort?

A. I would say at least $700,000.

Q. Did you get any return from it?

A. Nothing so far to justify the expenditure of the money. We have got some little gas, but nothing to amount to anything.

Q. Where was that money expended, in what fields?

A. The great bulk of it, in Marion, Harrison, Lewis and Gilmer Counties.

Q. In West Virginia?

A. West Virginia.

768 Q. Take the territory owned by the Hope Company and the Reserve Company, with which you are connected: Have they more than enough territory to protect their present operations, drilling operations; and if so, tell us just what the whole situation is.

A. Well, I would say that the Reserve, first, has probably 56,000 acres, and of that 56,000 acres there is probably 51,000 that has wells drilled on it. The other 4,000 acres is territory that it is questionable whether it would pay to drills wells on it. We are paying land owners the equivalent of gas well rental, which is as much as they would get if there was gas already on the farm, and if we would drill it would just make that many more holes in the ground and wouldn't add to the supply. The Hope Company probably has about 1,100,000 acres, the total, and I would say that of that 1,100.000 there is probably 400,000 that is drilled. The balance of 700,000 acres is scattered around through the territory, and it is questionable how good it is. One reason it is being held is that other companies have territory in the vicinity, and in the hope that maybe they will do a

little testing, if they get anything we will be in it. That ter-
769 ritory is being held like the Reserve territory, and we satisfy the land owners by paying them the equivalent of well royalties, and it prolongs the life of the field by protecting the drilled territory with this undrilled territory.

Q. Well, take the developed territory of the Hope Natural Gas Company: state whether or not that has been fully drilled?

A. You mean the drilled territory?

Q. The developed territory, territory that is developed.

A. Well, I would say it was reasonably drilled. There are chances for getting more wells on the tested territory, but it is questionable whether the ultimate amount of gas will be increased by so doing.

Q. And as to the undeveloped territory of the Hope Natural Gas Company, is that being gradually tested by the operations of the Hope and of the other companies?

A. Yes, sir, it is.

Q. How long has that testing process been going on?

A. Well, I don't want anybody to understand that this 700,000 acres of undrilled territory has been held by the company for a number of years in the past. That keeps changing from year to year. There may be a hundred thousand acres surrendered this year, and another hundred thousand acres taken up some place else
770 to replace that, and it keeps changing all of the time.

Q. What is the fact as to the company having its leasors and investigators out all of the time, picking up territory where you think there is any prospect of obtaining gas?

A. They certainly do, and not only that, but we have spent a great deal of money in employing geologists, to endeavor to extend our fields.

Q. Could you give us a rough estimate of about the amount of money you spend every year in those general investigations, both of leasers and investigators and geologists, and so forth, in your search for new fields and new territory?

A. Do you mean in considering the territory we surrender and replace each year?

Q. Yes.

Q. Well, probably $150,000 to $200,000 a year, at least.

Q. You mean, that amount is expended every year?

A. Yes, sir.

Q. And has been for how long?

A. Well, ever since I started to work, which has been a long while ago. I would say over twenty years.

Here a recess was taken until 1:30 o'clock, P. M.

71 Tuesday Afternoon, June 29, 1920.

And now, the hour of 1:30 o'clock, P. M., having arrived, hearing esumed pursuant to adjournment.

JOHN B. CORRIN resumes the stand.

Mr. Weil: Counsel have agreed that pending the production of cer-ain figures which are being prepared in accordance with the under-tanding this morning, that the cross examination may proceed, and hen the data is produced, we will put it in then, so as not to delay ie cross examination.

Cross-examination.

Mr. Steptoe:

Q. Mr. Corrin, what is your present position with the Hope Gas ompany?
A. I am assistant manager and a vice president.
Q. You have been general manager of the Reserve since some time in the year 1918?
?2 A. Yes, sir.
Q. Prior to that date, who was the general manager of the ope Company?
A. John G. Pew.
Q. And was he at the same time the general manager of the Hope mpany?
A. He was.
Q. How long have you been general manager and vice president of e Connecting Company and of the River Company?
A. Since about the middle of 1918.
Q. How long have you been general manager and vice president the Clarksburg Light & Heat Company?
A. At the same time. The only thing I am of the Clarksburg ght & Heat is a vice president. I haven't got any connection th the management at all.
Q. Had you been connected in any official capacity with the arksburg Light & Heat Company before 1918?
A. I believe that I was a director and maybe a vice president,— vill have to look and see.
Q. How many years?
A. My recollection is that I have been connected with the Clarks-rg Light & Heat in that way probably four years—That is my collection.
3 Q. In your testimony in chief, you referred to gas of the Reserve Company being transported into the State of Ohio, at Wheeler and Sugar Grove. Doesn't the line of the Reserve e Company stop at the state line, as you testified at another place?

A. Yes, sir, there is a line stops at the state line, between the State of Ohio and the State of West Virginia.

Q. As a matter of fact, you meant it was the gas of the Reserve Gas Company which went through the lines of the Connecting Company, and was delivered at Sugar Grove or Wheeler?

A. That is what I intended to say—What did I say?

Q. I understood you to refer to the Reserve Company transporting into Ohio and delivering at those points.

A. Well, I meant to say that it was the gas of the Reserve Gas Company that went to Sugar Grove and Wheeler, through the lines of the Reserve and Connecting Gas Company.

Q. And at those points there is a division or partition of the total gas, as between the Hope Natural Gas Company, on the one side, and the Union Natural Gas Corporation on the other?

A. You mean, at Wheeler and Sugar Grove?

Q. At one or the other of those two points.

A. That is where the division of the gas is made; yes, sir.

774 Q. That is, in proportion to the interests of those last two companies in the Reserve Gas Company?

A. No, sir, it has not, up to the present time, been proportioned as to the ownership. It has been taken by those two companies there, as the two stations that are out there can take it. You see, the Union Gas Corporation has a station at Sugar Grove, and the Northwestern has a station at Wheeler, and they both pump on those lines, and they take the gas, and it really is not proportioned between them; each station takes what they can get by pulling from those lines.

Q. But there is a division as between the Hope Company and the Union Natural Gas Corporation?

A. Well, there is a division in that way, that each station takes what it can get.

Q. You referred to Kennedy Station on your map, Pennsylvania Exhibit No. 15. Is Kennedy Station shown—Will you look and advise us?

(Pennsylvania Exhibit No. 15 shown witness.)

A. It is.

Q. Is it on this (handing copy of Pensylvania Exhibit No. 15 to witness)?

A. It is not on this. The name is omitted here on this

775 map; the station is shown here, but the name of it is omitted.

Q. By comparison it now appears that the name appears on the original Pennsylvania Exhibit No. 15 offered in evidence, but not upon the purported copy delivered to me. Is that correct?

A. That is correct. I would also add, as I said this morning, this is not a complete map to date, because this only shows three of the stations; it does not show the new station.

Q. And does not show any of the gathering lines or distributing lines?

A. It does not show very many of the gathering lines; it shows a few of the gathering lines.

Q. And none of the distributing lines?

A. No, sir.

Q. Any transportation charges made by the Connecting Gas Company?

A. Yes, sir.

Q. What are those charges?

A. Two and a fourth cents a thousand.

Q. For the entire distance?

A. Yes, sir.

Q. And how is that paid, and by whom?

776 A. Well, that is paid to the Reserve Gas Company.

Q. By whom?

A. Let me see—That is paid to the Connecting Gas Company by the Reserve—That is right; to the Connecting by the Reserve.

Q. You spoke something of some surplus gas occasionally had by the River Gas Company, which was sold to the Hope Company. How is that delivered and to what points?

A. Well, let me explain: The River Gas Company's consumption—distribution—is spread along the Ohio River for quite a distance. Marietta is the principal source of distribution, and up the river is Matamoras. That really has no connection with Marietta at all; the lines are not connected. Now, there is a certain amount of gas being produced in the vicinity of Matamoras, more than sufficient to supply Matamoras. The surplus gas, above what is necessary to supply Matamoras—that is, the vicinity there—is sent back over the river into West Virginia, and that supplies Sistersville and some of the towns in the vicinity of Sistersville with gas.

Q. Are those connections made at the state line like the other connections?

A. The lines are owned by the Hope Gas Company over to the low water mark on the line between Ohio and West Virginia.

777 Q. And if I correctly understand you, there is no pipe line connected from the Matamoras field to the residue of the River Gas Company system?

A. You mean to Marietta?

Q. Yes.

A. No, sir.

Q. And for that reason it is more convenient to sell it to the Hope Company across the river line?

A. Well, it is the way it has always been done. Now, there has been some reason for it, and probably is—better to lay lines than down below.

Q. Do the records of your company show the amount of gas so sent across the river, or sold to the Hope Company, during the calendar year 1919?

A. I can't tell you how far back that gas was measured. It is being measured now, and has been for some time past, but how far back I can't tell you. I will be very glad to give you as far back as I can.

Q. Approximately how many years?

A. I don't believe it is a question of years; it is a question of months.

Q. A question of months?

A. Yes. It is a peculiar arrangement. The Hope Ga
778 Company supplies the River Gas Company with the gas i needs, on a percentage basis. The amount of gas that th River Gas Company sells there, that is, taking the amount it pro duces and buys,—and that is the way it arrives at the amount th River pays the Hope. That is the reason the gas has never bee measured going across the river until comparatively recently.

Q. And your recollection is that that was commenced in the cours of the last year?

A. Oh, no. No, that gas has been going over to the river fo years, but it has not been measured only during the last few months— I mean, measured at the river. I don't want you to misunderstand me, that gas has only been going back into West Virginia for a fe months; it has been going back there for years. It has only bee the last few months we have been measuring the gas at the river, t see what amount is going back into West Virginia.

Q. You could give it then only for the period that you have measured?

A. Yes, sir, absolutely.

Q. How does the amount of it compare with the amount delivered by the Hope Company to the River Gas Company?

A. Well, I cannot tell you. I will say there is about a
779 million feet a day going over the river from Ohio to West Virginia. I can say that as an average, without going back. Now, as to the amount, we can arrive at that and let you have the amount that the Hope delivers to the River at that point, if you wish that. We could arrive quite readily at the amount of gas that has gone back into West Virginia from this Matamoras Field by taking what we have produced and what we have purchased, and deduct from that the amount sold at Matamoras, and the balance would be the amount that went back over the river. You can arrive at that very easily.

Q. Could you approximate now the year in which the production in the Matamoras field commenced to be used?

A. You mean, went back into West Virginia?

Q. Yes, sir.

A. Why, I would say it would be quite a number of years back. I can't tell you how far, but we could determine that for you.

Q. You referred to the early conditions, when the South Penn Oil Company was operating in West Virginia. How about the holdings of the South Penn Oil Company at the time of the organization of the Flaggy Meadow Gas Company and the Mountain State
780 Company,—were they extensive?

A. The holdings of the South Penn?

Q. Yes.

A. They were.

Q. Approximately, what number of counties—Or, you might mention the counties in which their chief holdings were?

A. Well, there was Monongalia, Harrison, Marion, Lewis, Doddridge, Wetzel, Marshall, Tyler; they were the principal counties.

Q. Did they have any holdings in Pleasants and Ritchie?

A. They may have had a few in Pleasants and Ritchie, but they were not so important as the others. They were comparatively few, as compared with the others.

Q. And did I understand you to say that the Flaggy Meadow Gas Company and the Mountain State Gas Company were organized with a view to taking care of the gas discovered by the South Penn, and making local service?

A. That was particular to the Flaggy Meadow. The Flaggy Meadow was really organized to take care directly of the gas that the South Penn Oil Company discovered in its operations for oil. And for years, all they supplied was the small towns they could reach, where there was a chance to get consumption, and also sup-
781 plied the drilling wells and pumping wells of the South Penn and other operators in through the different fields.

Q. Were both of those companies owned by the South Penn or by the Standard Oil Company of New Jersey?

A. They were.

Q. Which one?

A. Both of them.

Q. Well, were they owned by the South Penn or the Standard?

A. Well, now, I can't tell you that. I think—My recollection is—in fact, I am only guessing nok—that the Flaggy Meadow was is—in fact, I am only guessing now—that the Flaggy Meadow was New Jersey. That is my recollection.

Q. What pipe line system did the Flaggy Meadow have?

A. Well, they had a system covering, I would estimate, possibly 75 miles of lines, all through their fields where they were operating for oil; and also they had the town of Mannington,—they supplied Mannington and Downs, but most of their lines were scattered through the field to supply drilling wells and pumping wells, both of their own company and other operators.

Q. Didn't they have a line extending, say, from Mannington southwardly into Harrison County, at or near Wilsonburg?

782 A. Well, now, it is possible they had, but I can't tell you without going back twenty years.

Q. Do you know or recall the size of that line?

A. No, I do not. I might just add there,—Most of their lines were either two or three inch lines, as a rule they were two and three inch lines.

Q. Are those lines in use today?

A. A great many of them.

Q. You said the Hope Natural Gas Company took over the Flaggy Meadow, or did you say so?

A. It did; I didn't say so, but it did.

Q. And it took over all of its pipe line systems, of course, as part of it?

A. Pipe lines, yes, sir, and wells.

Q. What about the Mountain State Gas Company,—where did its pipe lines run?

A. The Mountain State Gas Company and the River Gas Company

had territory jointly in West Virginia. That territory was along Wetzel and Tyler, and I believe some in Pleasants County. It supplied the towns of Sistersville and Parkersville with gas. And I think in 1910, the Hope Natural Gas Company purchased the
783 Mountain State Gas Company—Let me see. I am getting a little ahead. Before that, the Mountain State Gas Company took over from the River Gas Company all of the territory holdings of the River Gas Company in West Virginia. Then in 1910, the Hope Natural Gas Company purchased from the Mountain State Gas Company all of its holdings.

Q. Where were the pipe lines and pipe line system of the Mountain State located?

A. Well, it took in the towns of Sistersville, St. Mary's and Parkersburg, and lines extending from those towns back into the fields where they had some wells, and I believe in Tyler and Pleasants, and possibly Ritchie and Wetzel Counties.

Q. Are any of those lines shown on your map, Pennsylvania Exhibit No. 15?

A. I wouldn't be surprised if some of these lines shown here into Sistersville were old Mountain State lines. I wouldn't be positive about that, but I wouldn't be surprised if some of them were old Mountain State lines, one or two of them.

Q. What about the line from Parkersburg to Schultz Station?

A. My recollection is, that is an old Mountain State line.

Q. How about the line from Williamstown over to the
784 Parkersburg line, and then paralleling the Parkersburg line to Schultz Station?

A. I would have to see whether that is a Mountain State, but probably it was.

Q. And the line from Schultz Station to St. Mary's, and along the river from St. Mary's.

A. I don't know, but I would assume, without looking, that that was a Mountain State line.

Q. How about the lines extending from Schultz Station southeastwardly through Ritchie County—two of them?

A. If you want to know about those lines, I can very easily find out where they were, whether they were Mountain State lines.

Q. Then I will be obliged if you will make that investigation.

A. Will you make a memorandum, or let me know, which lines you want?

Q. There were, of course, a number of gathering lines and distributing lines involved in the systems of the Mountain State and the Flaggy Meadow which are not shown on this map?

A. Oh, yes; yes, sir, a lot of them. I would also add that the Mountain State Gas Company had some lines in Harrison County, and in the vicinity of Clarksburg too.

785 Q. As a matter of fact, the Mountain State Gas Company, in so far as concerned its business in Harrison, Lewis, and Doddridge Counties, merged with a local company known as the Westport Oil and Gas Company, did it not?

A. That is true.

Q. And following that transaction, the Mountain State Gas Company did no further business in those three counties?

A. No; I believe that is correct.

Q. I wish you would refer now to your map, Pennsylvania Exhibit No. 15, and tell us the date or year, as near as you can remember, when these various transmission lines were completed,—commencing with the line extending from Hastings Station to Round Bottom?

A. My recollection is that that line was completed in 1902 and 1903.

Q. I observe that there are from Hastings to Brinkmier two lines. Were both of them completed as early as 1902?

A. To be sure of those, I would like you to make a memorandum of those, and let me give you the dates they were completed. We can very easily do it, and they will be accurate.

786 Q. How did the Hope Natural Gas Company take over the gas territory theretofore held by the South Penn—that is to say, the portions that the Flaggy Meadow and the Mountain State did not use?

A. It took the territory,—It took the gas right in those leases by paying one-half the amount of money that the South Penn Oil Company had in each one of those lines. That was the consideration. Then the agreement was that the Hope Gas Company was to stand one-half of the expense in the future for rentals and the cost of paying those rentals. Then there was a working agreement between the two companies, by which any gas well that the South Penn might drill or lease, was to become the property of the Hope Natural Gas Company, by the Hope Natural Gas Company paying the cost of that well; and the same way, if the Hope Company should drill an oil well on any of those leases, on which the Hope owned the gas right, that the South Penn Oil Company should take that oil well and become the owner of that, by paying the cost of that oil well; that is, on this territory that the gas right was transferred by the South Penn to the Hope.

Q. Is that arrangement yet in effect?

787 A. No, sir; only as to those leases which were years ago transferred in that manner. If any leases came under that transfer at that time, wherein the South Penn owned the leasehold rights, and the Hope owned the leasehold gas rights, why, that agreement still is in force, but it is not in force as to any new territory that has been acquired since.

Q. As a matter of fact, the Hope and Reserve Companies both produce oil on their own account?

A. They do.

Q. The larger portion of the territory taken over from the South Penn proved to be gas territory, did it not?

A. No. No, I won't say that. There was some very valuable territory taken over, but there was a whole lot of territory which did not prove productive, which was taken over by the Hope from the South Penn.

Q. I rather meant to say that the percentage of gas territory among the leases was greater than the percentage of oil territory—in acreage?

A. Yes, sir.
Q. That was correct?
A. Yes, sir—because gas is more generally found than oil is.

Q. What became of the Flaggy Meadow Gas Company and
788 the Mountain State Gas Company, after the properties of the two were taken over by the Hope Company?

A. It is my understanding—I am not positive about it, but my understanding is the charters were surrendered. I may be wrong on that, but I know they ceased to do business, anyway.

Q. In your testimony touching the danger to the consumers, where the gas supply is furnished irregularly and interruptedly, you do not mean to confine those dangers to the consumers in Ohio and Pennsylvania, do you?

A. Oh, no, no.

Q. There would be equally as much danger to any consumer in West Virginia, who received the same character of service?

A. Depending on where they were located; but there is more danger in Ohio and Pennsylvania, because there are so many more consumers.

Q. It is a matter then of percentage?
A. And location.

Q. With reference to the cost of reconstruction, is there not as great loss to West Virginia consumers in reconstructing houses as to the others?

A. I would say yes, proportionate to their means, that is.

Q. Did I understand you to say that approximately three-
789 fourths of the domestic consumption of gas in the State of Pennsylvania comes from the State of West Virginia?

A. I would so consider it for all companies. Now, I may be wrong, but that would be my estimate of it.

Q. What percentage of the gas consumed in Pennsylvania for industrial purposes comes from West Virginia?

A. Well, I would say probably the same percentage.

Q. What about the industrial consumption of gas in West Virginia, what proportion of that is gas transported from West Virginia?

A. Transported from West Virginia?
Q. Yes.
A. You mean, which is used in West Virginia?
Q. No, in Ohio, for industrial purposes?

A. I don't believe there is a great deal of gas used for industrial purposes in Ohio that is transported from West Virginia. I think the bulk of the gas that is used in Ohio is used for domestic purposes.

Q. Is there much of the Ohio gas used for industrial consumption in Ohio?

A. I don't think there is a great deal of gas used today in Ohio for industrial purposes. There is some of it, but not as much as
790 there was in the past, by any means.

Q. In some of the testimony, reference was made to the fact that some of the gas delivered by the Reserve Gas Company

ltimately was transported to the State of Indiana. Is that your nderstanding?

A. Yes, sir, it is.

Q. Was not all that gas used in Indiana for industrial purposes?

A. It may be. I have no knowledge—We have no knowledge of hat use the gas is put to, after the Union Gas Corporation takes hat gas at Wheeler. It becomes their property then, and they trans- ort it into Indiana, and what they do with it, I can't say.

Q. What is the course of transportation of the gas delivered to he Union Natural Gas Corporation?

A. What is that question, please?

Q. What is the course of transportation to Indiana of this gas elivered to the Union Gas Corporation?

A. The direction, you mean?

Q. Yes, how does it go, through what line?

A. Through the lines of—I believe they call it the Logan Natural as, which is a subsidiary of the Union Natural Gas Corporation.

Q. To what towns in Indiana?

A. I believe it goes to Muncie, and Richmond,—that is, 91 part of it does. The bulk of it goes to Dayton, in Ohio.

Q. Did I understand you to say that there is never any uction exerted upon the gas wells by the well lines, by reason of com- ressors?

A. I don't think you will find that we have a well with a vacuum n the well. There is, you might say,—in the suction, it is just educing the pressure at the station end of the line, so that the gas rom the well can flow more freely. I don't think we have a well own there with a vacuum on it.

Q. That is the theory and principle on which you install your ompressors, I understand. But I want to know if, in your ex- erience as a gas man, you have ever found any suction exerted on he wells?

A. Why, there certainly is a suction on wells lots of times. Right n this state here, the great bulk of the wells have suction on them,— n fact, lots of them have a vacuum on them, right in this state, but don't know of any in West Virginia—I mean, of our wells. There night be some in some other companies.

Q. Is it possible, by means of these compressor stations, to create a vacuum, and use that vacuum to extract gas from the well?

92 A. Yes, sir.

Q. Below atmospheric pressure?

A. Yes, sir.

Q. That can be done by any compressor station, can it?

A. Properly equipped, yes, sir—properly equipped and properly ocated.

Q. Do I understand you to say that none of the wells of the Hope ompany—or none of the compressor stations of the Hope or Re- erve Companies, have ever at any time extracted gas by suction rom the wells to which the stations are connected?

A. You mean, if we ever had a vacuum on any of our wells?

Q. I think that is the same thing.

A. There may have been cases, but I don't recollect any. There

were one or two cases right out from Clarksburg, there near the old Fair Grounds, that was very close to it, and that is the closest that I recollect of having any.

Q. What do you mean by vacuum? See if we mean the same thing.

A. Well, I mean the pressure is below atmospheric.

Q. And the effect of that would be to draw the gas up out of the well?

A. Exactly.

793 Q. Will the gas business eventually arrive at the point where that suction will have to be exercised,—or, as you call it, a vacuum used?

A. I believe it will, and I believe it is to the good of everybody concerned. It is the proper thing to do. If you don't do that, there will be a whole lot of wells abandoned that should not be abandoned; and if you put a vacuum on it, it may prolong the life of the well for a great many years. It will be a great advantage to the farmers, to the gas companies and to the consumers.

Q. Do you know of any companies that are now using vacuums on their wells?

A. Only by hearsay, and that is—I believe the West Virginia Central,—by hearsay there; I believe they call themselves West Virginia Central or Western Maryland,—whatever their name is; they supply Cumberland and Keyser. I understood they were using vacuums.

Q. Any other companies?

A. Not that I know of. There may be, but to my knowledge.

Q. You referred awhile ago to some cases, as I understood, in Pennsylvania?

A. Yes, sir. The Peoples Gas Company is one of them in

794 Pennsylvania,—I think practically all of the companies operating in this state.

Q. Eventually, you think it will come to that pass in West Virginia likewise?

A. I certainly do. If it doesn't, why there is going to be a lot of good gas wasted that will never be gotten out of the ground. That is the only way to get it.

Q. Where is this Garner gas field located, that you referred to in your direct testimony?

A. In the Meade District and Liberty District, Marshall, and Proctor, Wetzel.

Q. How long ago was it that the wells drilled for oil there struck the gas which was allowed to flow openly?

A. Well, it was, as I recollect, in the years from about 1901 up to about 1904, along that period,—probably later than that. Let me see—No, I don't mean that; I mean 1902 to along 1906. That was the worst period.

Mr. Weil:

Q. You mean, 1902 or 1892?

A. 1892, that is what I am trying to say—1892 to 1896; that is right.

Mr. Steptoe:

Q. No such situation as that has occurred in the course of the last two decades, has it?

A. No, I don't know that there has been an awful lot of gas blown in the air because there were not lines in the vicinity to take care of it. In fact, I believe there has been more gas blown in the air than went into pipe lines in West Virginia.

Q. Was your company at fault in that?

A. The South Penn was, yes.

Q. How many gas wells were turned over to the Hope Company from the South Penn Oil Company, at the inception of the former company?

A. I think I have a memorandum of some of those here (referring to memorandum). I see here, in April, 1899, they acquired eleven wells; April 1, 1902, they acquired 29 wells; April 1, 1902, they acquired of the Flaggy Meadow Gas Company 145 wells; in December, 1902, they acquired from the Parker Oil Company, the stock in which company was owned by the same people as own the Hope Gas Company stock, 20 wells; then from 1902 to 1907, from various purchases from South Penn, the Hope acquired from the South Penn 241 wells; from 1908 to 1910, through various purchases from the South Penn, it acquired 80 more. I see here a note, in April, 1910, by purchase from the South Penn, it acquired 97 wells. I could go on with a whole lot more purchases of wells, but that is about the way they acquired their wells.

Q. My question referred to the number taken over at the inception of the Hope Company, but your answer is satisfactory. In your statement that the South Penn Oil Company, the Hope Company and the Reserve Company, were the Pioneers in West Virginia, you did not mean to say that they were the first producers and marketers of gas in West Virginia, did you?

A. No. I think what I said was that I considered the South Penn Oil Company was the first large pioneer in West Virginia in the producing of oil and the development of West Virginia for oil. And the Hope Gas Company and the Mountain State and Flaggy Meadow were outgrowths from the South Penn Oil Company.

Q. Then you referred to the South Penn Oil Company?

A. To a great extent, and their accumulating these gas wells.

Q. As a matter of fact, other companies were developing, producing and marketing gas in West Virginia, at the time and before the Hope and Reserve were organized, were they not?

A. I don't know of any to any great extent. I think that the Hope probably was the first large gas company that ever went into the gas business extensively in West Virginia. There were other companies operating there, but in a small way, before that.

Q. There were smaller gas companies prior to that time, but the Hope was the earliest among the larger holders?

A. Yes, sir, it was. It was an outgrowth of this accumulated gas that the South Penn had acquired by its operations.

Q. When was your shortage in supply manifest in the business of the Hope Natural Gas Company?

A. Well, I would say about four years ago—three to four years ago.

Q. Then you mean about the year 1916, or 1917?

A. Along about 1916 or 1917.

Q. Prior to that time, was there no shortage?

A. Well, there were shortages, but local conditions made those shortages,—I mean, on account of not having sufficient pipe line—something of that kind.

Q. Not due to shortage of supply available?

A. No, sir.

Q. How about the Reserve Gas Company? When did this
800 shortage in supply first become manifest?

A. Well, I would say about four years ago.

Q. About the same time?

A. Yes.

Q. Was that before or after the Fuel Administration called on the companies?

A. Well, it was after that—after they had control of them, that the shortage was manifest.

Q. Then we may say that no shortages became manifest with either the Hope or the Reserve Companies, prior to the Fuel Administration calling upon them?

A. Let us make it prior to the war, and I will agree with you—except on account of local conditions, as I say, in the matter of lines, and so forth.

Q. Where was this 75,000 acres experimental territory taken up by the Reserve Gas Company—what county?

A. Barbour?

Q. Has it been surrendered?

A. Every acre has been surrendered that the Reserve had.

Q. Were you present during the taking of the testimony of Mr. Quay?

A. Part of the time.

Q. Do you agree with his suggestions about ultimately
801 confining the use of gas for domestic purposes to lighting and cooking?

A. Well, now, I don't know what he said, but my own ideas are,—if I had the power to do it, nobody would use any gas today in the winter time, except for cooking, lighting and limited heating.

Q. What do you mean by limited heating?

A. Such things as bedrooms and grates for emergency heat—not for general furnace use at all.

Q. Then you would advocate the substitution of other fuel for the heating of the house, other than the kitchen, we will say?

A. In the winter time, by all means.

Q. Now, by winter, do you just mean the three winter months, or a half year?

A. No, sir; I think that from—If I had the power, I would allow gas to be burned in any furnace from the first of December to first of May.

Q. Or in any rooms through grates or——

A. No, I say I would allow gas to be used for bedrooms and hrooms and limited amounts in grates in living rooms, but not in naces.

Q. Then how would you equip the house for heating other than the places mentioned?

A. Well, that is up to them to do,—that wouldn't be my trouble. There is just a limited amount of gas left, and we ve to all realize that. We can use it up in two or three years, or can extend it over a period of ten or fifteen years, and it is just to the people what they are going to do with it.

Q. As far as the gas companies are concerned, if they get their ce, it isn't very material to them, is it?

A. Oh, yes,—We want our jobs to extend over ten years.

Q. You spoke of using gas for lighting purposes; is that done very gely in the better class houses?

A. Well, that depends on what you mean by the better class uses; but there is a lot of gas used for lighting purposes in a great ny of these smaller towns, used for street lighting.

Q. Well, to be specific, do the better class householders use gas for hting purposes—lighting the house?

A. Well, they do in a great many towns where they don't have ctricity. Right here in Pittsburgh, I suppose the majority of the uses are lighted by electricity—better class houses.

Q. Where electric lighting is available, is it not more preferable and more generally used, because of the inconvenience of using gas for lighting purposes?

A. I believe you are correct; yes, sir.

Q. The cracking of the globes, due to variation in service—varian in pressure—and the inconvenience of having to light it by tches, leakages, and so forth, make electric light preferable, does not?

A. It does, to those who can afford it; but there are a great many ople who cannot afford it, and who do use gas for lighting purses.

Q. Then it resolves itself into this: that gas could be used for oking purpose and to a limited degree in heating other portions of e dwelling house?

A. In the winter time, yes sir. I might say, including one of the eatest conveniences, that is, gas for hot water heating.

Q. Could you approximate the percentage of the West Virginia taken into Pennsylvania—not the percentage, but the amount of st Virginia gas that is taken into Pennsylvania, during the spring, mmer and fall months, that is used for industrial purposes in nnsylvania?

A. No; but I do believe that the majority of the gas brought into

Pennsylvania from West Virginia in the summer months is
804 used for industrial purposes. There is no question about it.

Q. Well, could you approximate the percentage of the amount brought in during those periods that is used for industrial purposes?

A. No; I would be merely guessing, that is all.

Q. Well, could you say whether it is 50 per cent or more?

A. Well, you mean, with all of the companies?—Some companies——

Q. You might answer either or both ways.

A. Well, if I give you an answer, it would be merely a guess, that is all. I would say—speaking strictly of summer gas now, from May until September, inclusive, I would not be surprised if 60 per cent of the gas is used for industrial purposes. I mean, nearly all of these gas companies have gas of their own in the state, which they distribute. Like the Peoples Gas Company, they have a certain amount of gas in their own state; so has the Philadelphia, and I suppose probably 50 or 60 per cent of their gas in the summer time is used for industrial purposes. Now, part of that is their own production, and part is from West Virginia.

Q. You are especially experienced in the matter of leases
805 and rentals, royalties, are you not, Mr. Corrin?

A. I know something about them.

Q. Well, you have been connected with those departments for many years, have you not, in your company and others. What is the customary delay rental in leases?

Mr. Weil: This is objected to as not cross-examination, the witness not having been interrogated on the subject at all. And if the answer is taken upon this and similar questions, the attorneys for the States of Pennsylvania and Ohio will reserve the right to cross-examine the witness upon any of these questions that are thus developed.

The Commissioner: Let the objection be noted and let the witness answer.

A. The customary amount is a dollar an acre a year, except where there are operations on the adjoining farm, where we believe there might a claim for drainage, where we pay rental, which is usually $300 a year on the tract.

806 Mr. Steptoe:

Q. And what is the customary royalty on gas wells?

A. Paid by our company, $300 a year for each well.

Q. Are not the delay rental and royalty figures you have given the maximum?

A. No; they are the maximum and the minimum both that we pay. That is the amount that we pay under all of our leases, that we take ourselves.

Q. In other words, those payments are practically fixed?

A. By us, yes, sir.

Q. Do the other operating companies fix those amounts either at the amounts fixed by your company or thereabouts?
A. Do they have fixed amounts, do you mean?

Mr. Weil: This whole line of investigation, without making objections thereto separately—that is to each question—is objected to, for the same reason as those heretofore given, as not being cross-examination; and the same reservation of right.
The Commissioner: Let the objection be noted and the answer taken.

807 A. As far as I am familiar, and I believe it is customary with all of the larger companies, to have a specified amount for delay rentals, and also a specified stated amount for gas well royalties. I believe in different companies these amounts differ,—and also depending a great deal on the character of the territory.

Mr. Steptoe:

Q. But some well royalty is paid, irrespective of whether the well is a small or large producer of gas?
A. As far as our company is concerned, yes, sir. Also, that amount is continued, unless some separate arrangement is made, after the volume and pressure of the well have declined.
Q. Is it not true in very many of the older leases held by your company, the gas well royalty ranges anywhere from $100 to $150 and $200?
A. Not a great many of them. There were a few, and nearly all of them we voluntarily raised, but those leases were not taken by our company; they were taken by so-called scouters, and purchased by our company.
Q. And those delay rentals and royalty payments are what the land owners receive for their gas, outside of some cases where
808 a bonus is paid when the lease is taken?
A. In nearly all cases, a bonus is paid, and in addition to that, they receive—which is the worst yet—this free gas.
Q. In referring to the benefits conferred upon the farmers by the developments of the gas companies, did you mean to say that the indebtedness against the farmers has been paid out of the perquisites that they received in the rentals and royalties you have just mentioned?
A. We think it had a whole lot to do with it, and in addition, the benefits that they received by selling timber and other local materials, and the work which they obtained from the gas and oil companies. It has had a very material effect.
Q. Well, now, Mr. Corrin, from your knowledge of the West Virginia territory where the chief developments were, do you not recall that the chief benefits, chief money received by the farmers, and the occasion of clearing the titles you have referred to, was largely due to coal operations?
A. No, I won't agree with you—not largely. It may have been

of assistance, but not altogether. I believe that these oil and
809 gas companies have put in at least sixty to seventy-five million dollars in rental money alone in West Virginia, and most of it is still there—in the last twenty years.

Q. Does either the Hope Natural Gas Company or the Reserve Gas Company transport or carry any gas other than that owned by the company?

A. Not to my knowledge. There have been one or two cases where we have bought gas—that is, I mean the Reserve Gas Company bought some gas from the Hope Gas Company, from a well down in Doddridge County. The Hope hadn't any lines anywhere near it, and there was very strong competition, and the Hope didn't have very much territory around it; and connection was made into the Reserve line, and the Reserve bought that gas. Then arrangements were made that a tap should be made on the Reserve lines, and the Hope was privileged to take from the Reserve a certain amount of gas not exceeding the amount of that well that the Hope put into the Reserve lines. But I would say there was hardly any of that gas taken out by the Hope under that contract at all. It was a straight sale of gas and purchase.

810 Q. More in the nature of an exchange of gas?

A. Well, I wouldn't say it was an exchange of gas. It was a sale and purchase, which was merely to save the waste of gas.

Q. Are similar sales and purchases made between the Hope Company and any of the other companies?

A. I knew of one—I think, of the Comet Oil and Gas Company, over in Harrison County; they had some isolated gas and hadn't any lines in there, and they wanted to sell that gas and buy some from the Hope Company. I think that was done a couple of years ago. Those are the two cases that I can recollect.

Q. Are you correct as to the Comet Oil and Gas Company being in Harrison County?

A. Well, Harrison or Taylor; it is very close to the line between the two counties. It may be in Taylor.

Q. Has the Comet Oil and Gas Company any lines in Harrison County?

A. My recollection is that they have. As I understand it, the Comet is owned practically by the same people as the Hazel Atlas Glass Company, and I believe one of the two companies has some lines in Harrison County, near Clarksburg.

811 Q. The fact is, that the amount taken from the Hope Company in Harrison County goes direct to the glass plant of the Hazel Atlas Glass Company, does it not?

A. Well, now, I can't tell that without looking at that. I know that they were privileged to purchase a certain amount of gas at a higher price—a certain amount not to exceed the amount that we bought from them over in Taylor or Harrison County, whichever it is.

Q. As a matter of fact, it is about the only industrial consumer at or near Clarksburg that gets gas from the Hope Natural Gas Company, directly or indirectly, is it not?

A. I don't believe the Hope Gas Company has any right to sell gas in Clarksburg; I don't think they have any franchise in Clarksburg.

Q. You know of no other industrial consumer that gets gas from them?

A. Yes, there is. There is the National Carbon Works. The Hope Company supplies gas to the National Carbon Works, out near the Dresselli; and then I think there are one or two others like that.

Q. You referred to the holdings of the Clarksburg Light & Heat Company, as being territory in the immediate vicinity of Clarksburg. Do you know of any other territory it has?

812 A. Yes, it has some territory down in Doddridge County, down near Big Isaac or Jarvisville. They have a small compressor station down there.

Q. What becomes of that gas?

A. That gas, I believe, is pumped to Clarksburg.

Q. When was that compressor station put in?

A. I believe this last winter.

Q. Prior to that time, that production on the edge of Doddridge County was not transported to Clarksburg, was it?

A. Part of it was, yes, sir. They had a line there all the time down to that field.

Q. Didn't that production go to Weston?

A. Part of it did, and part to Clarksburg. They had for years a line down in that section.

Q. That territory was a part of the Mountain State holdings turned over to the Clarksburg Light & Heat Company at the time of the merger, was it not?

A. I believe that is correct.

Q. As a matter of fact, that company has acquired no territory——

A. The Clarksburg Light & Heat?

Q. —in the last decade or so, has it?

813 A. Well, they have, in the last two years. They have acquired a considerable amount over there, I understand, in Simpson district and Elk, Harrison, and over in there, I understand that they acquired quite a bit of territory.

Q. What interest, if any, has the Hope, the Reserve or Standard Oil Company of New Jersey, in that concern?

A. The Clarksburg Light & Heat?

Q. Yes, sir.

A. I can't tell you, but I believe the Standard Oil Company of New Jersey has about 51 per cent. I can't tell you whether that is the exact proportion, but I believe it is 51 per cent.

Q. It is a slight majority?

A. Yes, sir, they have a majority of the stock.

Q. It is the only local utility in Clarksburg that you know of, is it not?

A. Well, now, there was another company or two in there, small ones, independent. I have heard of them drilling wells inside of the corporate limits; I don't know what they amounted to. I believe Mr. Lownes has a well or two.

Q. When you return to present certain figures called for in your

direct examination, will you give us the figures to show the following, from the year 1910 to 1919, inclusive:

814 The total acreage of the Reserve Company, developed and undeveloped; the number of wells; the amount of gas produced annually, and the amount purchased annually by the Reserve Gas Company; and the amounts of gas disposed of at the state line to or through the agency of the Connecting Gas Company, to the other companies you have mentioned——

A. Well, that is not disposed of at the state line; it is disposed of over in Ohio, between Wheeler and Sugar Grove. Is that what you mean?

Q. Yes. In other words, the amount disposed of as you testified in chief, to the Union Natural Gas Corporation, the River Gas Company and the Northwestern Ohio Natural Gas Company; also, the gas disposed of by the Reserve Gas Company in the State of West Virginia to its domestic consumers, to its industrial consumers, and the amount used in field service, including the amounts used to run their compressor stations and other field operations?

A. Yes, sir.

Q. Do you know the acreage of gas territory that was turned over by the Flaggy Meadow Gas Company to the Hope Natural Gas Company?

A. I think I have that. (Referring to memorandum.) I believe, before I give you those figures, I believe I recollect
815 that the Flaggy Meadow Gas Company was like a gas division of the South Penn Oil Company. My recollection is, when they drilled a gas well, there was no territory transferred to the Mountain State Gas Company, merely the well itself. And the Mountain State did not carry very much territory, it merely had the wells, and the South Penn Oil Company still retained the leasehold gas rights in those same leases. That is my recollection, and I believe that is correct.

Mr. Weil:

Q. He was asking about the Flaggy Meadow.

A. The Flaggy Meadow is what I am speaking of.

Q. You said Mountain State.

A. Well, Flaggy Meadow is what I mean. That was really the gas division of the South Penn Oil Company. It was a separate corporation, but it was really a division of the same company.

Mr. Steptoe:

Q. So that the statement of acreage——

A. I have that right here, if you wish it. It was 145 wells, 34,046 acres, transferred by the Flaggy Meadow Gas Company to the
816 Hope Natural Gas Company, in Doddridge, Harrison, Lewis, Wetzel, Monongalia, Marshall, Pleasants, Ritchie, Taylor, Tyler, Marion and Wood Counties.

Q. Irrespective of the formal transfer, however, the Flaggy

Meadow was the beneficiary, or had the right to take the gas from any well drilled by the South Penn. Is that the situation?

A. No. I think it was merely voluntary on the South Penn Oil Company's part when they transferred a well to the Flaggy Meadow. I never saw or don't believe there was any working agreement between the Flaggy Meadow and the South Penn. I think it was looked upon as a division of gas of the same company.

Q. Both being owned and controlled by the same people?

A. Yes, sir.

Q. And was really the marketing or gas end of the South Penn?

A. Yes, sir.

Q. Was the Flaggy Meadow Gas Company a West Virginia corporation?

A. Yes, sir. There is the charter right up there (indicating),—The first charter of any gas company in West Virginia that I know of.

Q. The Mountain State was likewise a West Virginia cor-
817 poration?

A. Yes, sir, it was.

Q. Will you state whether the Hope Natural Gas Company and the Reserve Gas Company are West Virginia corporations?

A. Each and both of them are, yes, sir.

Redirect examination.

Mr. Weil:

Q. You stated in your cross examination, Mr. Corrin, that the gas delivered by the Hope Company to the Union Gas Corporation and to the Northwestern Ohio Natural Gas Company was delivered at Sugar Grove and Wheeler Station, and counsel asked you if the lines of the Hope did not end at the state line and the gas transported from there through the Connecting Gas Company—through the lines of the Connecting Gas Company, and you answered that such was the case. Where was that gas measured?

A. The Hope Gas Company hasn't anything to do with delivering gas to the Union Gas Corporation. The word "Hope" is used there—If I used the words "Hope Natural Gas Company," I used them incorrectly.

818 Q. I mean, the Reserve, I should have said the Reserve Gas Company instead of the Hope.

A. The gas that the Reserve Gas Company transports through the lines of the Connecting Gas Company is measured to the Northwestern Ohio Natural Gas Company with the amount of the Hope Gas Company at Wheeler Station, in Ohio; the gas that the Reserve Gas Company delivers through the lines of the Connecting Gas Company, for the benefit of the Union Natural Gas Corporation is measured at Sugar Grove, Ohio.

Q. The Reserve Company has no measuring stations at the State line then?

A. No, sir, none at all.

Q. The Connecting Company receiving, as I believe you testified—2¼ cents, was it?

A. Yes, sir.

Q. —per thousand, for the transportation?

A. That is correct.

Q. Of that gas from that point at the state line to Wheeler and Sugar Grove Stations, respectively?

A. That is correct.

Q. You have given us the acreage held by several of these companies, one company being over a million acres, other companies large quantities—I forget the exact amounts, nor is it material now—and you have stated that these companies paid a dollar an acre for the delay in the operation of leases, and after the leases were operated, $300 per year gas rental on each well; and you estimated that the amount paid—roughly estimated the amount paid to the land owners in West Virginia was from fifty million to sixty million dollars. You mean, as to these companies about which you have been testifying, without regard to all the other operators in the state, do you not?

819

A. Yes, sir. What I mean is, those amounts of money were paid by the South Penn Oil Company, the Hope Natural Gas Company and the companies that I have been connected with.

Q. Now, from your general knowledge of the business and the amount of acreage held by all the other gas companies in the State of West Virginia with which the Standard Oil Company is in no way associated, or in which they have no interest whatever, or in any of its affiliated companies, what would you estimate would be the payments made by them during the same period?

A. Well, I would say at least an equal amount that the Standard Oil Company has paid, running over a hundred million dollars in rentals alone.

Q. Can you give us the names of some of the larger companies that are operating in the State of West Virginia—I mean gas companies—with which the Standard interests are in no way affiliated?

820

A. The Philadelphia Company or otherwise the Pittsburgh & West Virginia; the Carnegie Natural Gas Company; the United Fuel Gas Company; the Manufacturers Light & Heat Company; the West Virginia Central; The Fayette County Gas Company, and numerous smaller companies.

Q. Those companies that you have named are all very large companies, are they not?

A. Yes, sir, they are large companies and have operated to a large extent.

Q. You spoke of leases taken by scalpers and purchased by your company. What do you mean by that?

A. Well, I mean, that some of them are natives and some are professional traders; they will find out where large companies are taking territory, and they will follow on the track of them and grab up maybe one farmer or two or three——

Q. That is, get a lease upon the territory?

A. Yes, sir, leases, and then they will come to these larger com-

panies and endeavor to sell these leases to the larger companies at a higher price than they paid for them. And they very often
821 take these leases on terms that the larger companies would not take them, sometimes at a smaller and sometimes at a larger rental and royalties than the larger companies do.

Q. The bonuses paid for leases, what prices do those range from——

A. From 25 cents an acre—I have known of leases up to $100 and $150 a month.

Q. A bonus?

A. A bonus.

Q. That, of course, has nothing to do with the rental for delay or the gas rental on each well?

A. No, sir, that is hand money.

Q. That is paid for the lease?

A. Yes, sir.

Q. After there have been operations which show that any section is prospective gas territory, what is the fact as to it being the custom, under those circumstances, to pay these bonuses for the leases?

A. The land owner is just like anybody else, he soon gets wise to the value of it and how badly it is wanted, and correspondingly he raises his price.

Q. And these bonuses are paid wherever the leases have been developed or are reasonably prospective as gas territory?

A. Yes, sir.

822 Q. Isn't there active competition between the respective gas companies whenever the field becomes prospective as gas territory?

A. There certainly has been strong competition, and we feel the competition is stronger today than it ever was. There is a greater demand for gas territory now than there ever has been, and a greater endeavor by these different gas companies to get it—even reasonably good territory.

Q. Just as soon as there is development anywhere within a county, in a particular district, how do they go about it, to get these leases, the different companies, and how is this competition exercised?

A. Each company generally retains a corps of men. If there is a well drilled, each company tries to get its men in there as quickly as it can, and tries to get leases as quickly as it can, bidding one against the other, as to money consideration or bonus, and also terms.

Q. And has that competition continued ever since the development of oil and gas business in the State of West Virginia?

A. Yes, and I believe it always will continue.

Q. I believe you said that the competition is stronger than
23 it ever was?

A. I believe so.

Q. In addition to these advantages which you stated to counsel on cross examination, accrue to the State of West Virginia from this development, what do you have to say about the taxes, and so forth, assessed by the public authorities upon the oil and gas companies operating in that state?

Mr. Steptoe: Just a moment. Without entering a formal objection, it is suggested that counsel has taken full advantage of his suggestion of cross examining his own witness. A reasonable amount of it will be allowed without objection, but an objection will be made if this line of direct examination under the guise of cross examination is continued.

A. We think we certainly do pay our share of it, and sometimes we think more than our share. And it seems as though it is getting worse all the time.

An adjournment was here taken until Wednesday, June 30, 1920, at 10 o'clock, A. M.

824 Wednesday, June 30, 1920.

And now, Wednesday, June 30, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed pursuant to adjournment.

JOHN B. CORRIN recalled.

NOTE.—By consent of the Commissioner, and agreement of counsel, the witness is withdrawn, to be recalled later for redirect examination.

H. A. WALLACE, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Where do you live, Mr. Wallace?
A. Charleston, West Virginia.
Q. With what gas company are you connected, and in what capacity?
825 A. The United Fuel Gas Company and Cabin Creek Gas Company.
Q. In what capacity?
A. General manager of the United Fuel Gas Company and president of the Cabin Creek Gas Company.
Q. How long have you occupied those respective positions?
A. About four years.
Q. Prior to that time, did you have any experience in the oil and gas business?
A. I have had possibly thirty years' experience in the oil and gas business.
Q. State the various capacities.
A. In roustabout work, pumping, cleaning out, working on drilling wells, rig building, tank setting, in charge of oil properties, and in charge of gas properties.
Q. You have been through every department then from the prac-

tical operation of a lease up to the management of large oil and gas properties?

A. I have.

Q. By whom were you employed prior to the time that you accepted employment with the United Fuel Gas Company?

A. The Hope Natural Gas Company.

Q. How long were you with them?

A. From the year 1899 until some time during the year
926 1912.

Q. And what were you doing for them? What was your position with them?

A. At the time of my employment, I was roustabout, the beginning of my employment with that company; and later field foreman, supervising the work; laying pipe line, cleaning out wells, drilling wells, and compressor station work, and so forth. And later, division superintendent for that company, which position I held at the time I left.

Q. How long were you division superintendent?

A. I couldn't state exactly—several years, though.

Q. And did you have charge of the operations of the Hope Company, as division superintendent, in a certain section of West Virginia?

A. I did.

Q. What portions of West Virginia, or was it all of West Virginia, as division superintendent?

A. A certain portion of it. At times I was looking after all of it, during the absence of the other division superintendents.

Q. When you went with the United Fuel Gas Company, what were its operations at that time? How far had it gone with its operations?

927 A. They were drilling numerous wells, laying lines, and delivering gas to different markets.

Q. Do you know how long they had been in operation at the time you went with them?

A. As I understand, the company was incorporated in 1903, but until the year 1909, was principally engaged in acquiring leases and drilling wells and testing out their properties, and investing a large amount of money, considerably over a million dollars, before they attempted to deliver gas to any place. In other words, they had no revenue of any kind during those six years.

Q. Then in 1909 they began doing what?

A. They began marketing their gas.

Q. What year was it you went with them?

A. In 1912.

Q. Now, in 1912 then, at the time that you went in their employment, they were engaged in drilling and operating for gas, and in piping that gas to certain markets?

A. Yes, sir. The large transportation lines, the greater part of them, had been already completed at that time and were in operation.

Q. You spoke about the Cabin Creek Company. What is that?

A. The Cabin Creek Gas Company owns approximately 8,005

acres in the Cabin Creek district, Kanawha County, and have
828 a considerable amount of gas territory, as well as very valuable oil properties.

Q. Is the stock of that company owned by the United Fuel Gas Company or not? What is the fact?

A. The United Fuel Gas Company are part owners in the Cabin Creek Gas Company.

Q. Does it own a controlling interest in the Cabin Creek Gas Company?

A. It does.

Q. Now, then, will you give us the gas territory and number of wells of the United Fuel Gas Company? Before doing that, let me ask you if you have had prepared a map showing the lines and territory of your company?

A. I have.

Q. Will you let me have a copy of that, please?

A. Yes, sir.

Q. You have several copies, have you?

A. Yes, sir. You have all that I have of that kind. There is a larger map similar to that.

(Map marked Pennsylvania Exhibit No. 22.)
(Pennsylvania Exhibit No. 22 shown witness.)

Q. I show you this map, which I have had marked for the
829 purpose of identification Pennsylvania Exhibit No. 22. Now, showing you that map, does that correctly show the location of the gas territory of the United Fuel Gas Company, the location of its lines in the field, its transmission lines in Ohio, Kentucky and West Virginia, and the various points which it supplies with gas?

A. It does.

Q. Have you carefully examined this map?

A. I have.

Q. And you know, from your own knowledge of the territory and the lines and points, and so forth, that it correctly represents what I have asked?

A. It does.

Mr. Weil: I offer in evidence Pennsylvania Exhibit No. 22, and will now interrogate the witness with reference to that, and the facts represented by it.

Q. Now, then, how much gas territory does the United Fuel Gas Company carry? You can use that memorandum that you have, if you want to.

A. The total acreage, operated and unoperated, is 806,785.53 acres.

830 Q. Now, give us in a general way the location.

A. This acreage is located in Roane County, West Virginia; Jackson County, West Virginia; Kanawha County, West Virginia, Clay County, West Virginia; Lincoln County, West Virginia; Boone County, West Virginia; Putnam County, West Virginia; Logan County, West Virginia; Wayne County, West Virginia;

Mingo County, West Virginia; Martin County, Kentucky. There is some other scattered acreage in Kentucky that I couldn't give you just the location of,—scattered acreage in Martin County.

Q. The acreage in Kentucky is what is called the "Kermit Field," is it not?

A. Yes, sir.

Q. How much of this acreage do you estimate is developed or operated?

A. The operated acreage in West Virginia is 62,336.6 acres.

Q. And how much of the acreage do you estimate is developed?

A. Well, that would be it, that would constitute the developed acreage.

Q. That is the developed acreage?

A. Yes, sir.

Q. And how much in Kentucky?

A. In Kentucky, 4,304.1 acres.

Q. That is developed?

31 A. That is developed.

Q. Now, Mr. Wallace, how many wells—gas wells?

A. 673 gas wells.

Q. How many of those are in West Virginia?

A. 606 wells in West Virginia, gas wells.

Q. And are the rest of them in Kentucky?

A. Kentucky.

Q. How many are there of the rest?

A. 67. Pardon me just a moment. I believe I have got that wrong. There are 626 wells in West Virginia.

Q. And how many in Kentucky?

A. Forty-seven in Kentucky.

Q. You have none in Ohio.

A. None in Ohio.

Q. Now, will you give us the general routes and the length and sizes of your main transmission lines?

A. Our main transmission line, leading from the Roane County field, beginning at Roxalana, in Roane County, West Virginia, extending to Portsmouth, Ohio, consisting of 10-inch, 14-inch and 16-inch pipe, approximately 125 miles in length. This line is known as our line "A". We also have——

Q. Just a moment, before you get to another line. That line crosses the Big Sandy River, does it not, at Kenova?

32 A. It does.

Q. And runs through Kentucky, up to a point above Ashland, where it divides and crosses the river into Ohio, at some place above Chinnville, and continues on to Portsmouth, on the other side of—The other branch continues on to Portsmouth, on the other side, on the Kentucky side of the Ohio River; while the branch continues up to Wheelersburg, Sciotoville, New Boston, to Portsmouth, on the opposite side, the Ohio side of the Ohio River? Is that the fact?

A. It is.

Q. And this is shown here on the map?

A. It is.

Q. Now, then, to what points is this line particularly designed to transport gas, up to what points? Or, transportation to what points is this line used for?

A. Coal Grove, Ohio, Irontown, Ohio, Wheelersburg, Ohio, Scioto-ville, New Boston and Portsmouth, all in the state of Ohio.

Q. Now, what about those towns in Kentucky—that is, Catletts-burg and Ashland, and so on?

A. We have the main line on the opposite side of the river in Kentucky supplying Catlettsburg and Ashland, Russell, Chinnville, in Greenup County, and Boyd County, Kentucky.

833 Q. What towns in West Virginia does this line supply?

A. Kenova, Ceredo, Huntington, Barboursville, Ona, Cul-loden, Hurricane, Nitro, Poca, Sissonville, Clendenin, and other smaller places.

Q. The United Fuel Gas Company produces its gas then in the Roane County field from its own gas territory, and through its own gas wells, and transports this gas through this line supplying these various cities and towns in West Virginia, Ohio and Kentucky, as you have described. Now state whether it does that in its own name directly, as a producing, operating, transporting and supplying com-pany?

A. It does supply all these various places in its own name and with its own gas, transported through these lines. Also, in addi-tion to the river crossing previously spoken of, there is another one at Huntington, supplying Corryville, Bradrick, Proctorville and Chesapeake, in Lawrence County, Ohio.

Q. That crosses the Ohio River there at Huntington?

A. It does.

Q. And is there another crossing, or two crossings, near Kenova?

834 A. There are two crossings. One of them has been pre-viously referred to, and there is another additional crossing at Chinnville, from Greenup County, Kentucky, into Law-rence County, Ohio.

Q. In addition to that Chinnville crossing, there are two lines that cross the Big Sandy at Kenova, and above, are there not?

A. Yes, sir, one line crossing near Huntington, that has been previously referred to——

Q. No, I mean right there, just above Kenova.

A. There is a line leading across the point at Coal Grove from Boyd County, Kentucky, into Lawrence County, Ohio; a line cross-ing near Chinnville from Greenup County, Kentucky, into Law-rence County, Ohio; the line crossing again from Greenup County into Ohio near New Boston, Ohio.

Q. Now, at Portsmouth, Ohio, do you supply the town of Ports-mouth direct, in the name of the United Fuel Gas Company, or do you supply some local company there that has the distributing system?

A. We supply the local company at Portsmouth, at the city limits, with gas.

Q. What is the name of that company, do you remember?

A. The Portsmouth Gas Company.

Q. And at all the other towns that you have described, the United Fuel Gas Company maintains the distributing systems 35 itself?

A. It does.

Q. Now, take up the next important transmission line of the mpany?

A. We have an additional line practically paralleling line "A," eviously spoken of, known as our line "S," leading from the Roane unty field to Ball's Gap measuring station. This line is approxiately 49 miles in length, consisting of 10-inch, 12-inch and 20-inch pe; by far the larger proportion of it being 20-inch O. D. pipe.

Q. Now, this line supplies, as shown by your map, a number of ms in West Virginia?

A. It does.

Q. And at Ball's Gap, with what line does it connect there?

A. With the 18-inch line belonging to the Columbia Gas & Elec- Company, of Cincinnati.

Q. And where did that carry the gas?

A. The 18-inch gas line carries the gas from our measuring station Ball's Gap, at which point the gas is measured to the Columbia Gas lectric Company, to their Kenova compressor station; from which nt it is compressed and delivered to a 20-inch line to the City of cinnati.

Q. How many miles distant?

A. 123 miles from Kenova compressor station to Cincinnati, and 29 miles from our measuring station to Kenova.

. You refer to the only Cincinnati—that is, in Ohio?

. Cincinnati, Ohio.

. Now, what is your next important transmission line?

. Our next line of importance is an 18-inch line leading from t is known as our Spencer gas field, located in Roane and Jack- Counties, West Virginia, to and across the Ohio River, near enswood, West Virginia, at which point we measure the gas be- crossing the Ohio River, to the Ohio Fuel Supply Company, of

What is the size of that line?

The line is 18 inches, outside diameter.

And you supply, do you, a number of towns in West Virginia, e you reach the river?

We do.

And the Ohio Fuel Supply Company takes this gas, as I under- , at the low water mark on the Ohio side?

It does.

And transports it where?

To various cities throughout Ohio.

I beg your pardon.

To various cities and towns throughout the State of Ohio.

Q. What are the larger cities or towns? Just name one or them, so as to get the general direction of it.

A. I am not very familiar with the towns.

Q. Well, if you don't know, it is all right. Now, give us your next line. What is this called on your system—one was "A" and the other was "S," and what is this called?

A. That is called line "E."

Q. Now, then, take your next line.

A. We have another line connecting with our line "A," near Kenova, West Virginia, running south to Inez, Kentucky, and ending at Kermit, West Virginia. This is a 10-inch line, and crosses the state line, or river, near Leach, Kentucky, and Kenova, West Virginia, leading from West Virginia into Boyd County, Kentucky; again crossing the line, the river, between Buchanan and Louisa, Kentucky, crossing the river from Lawrence County, Kentucky, into Wayne County, West Virginia; again crossing the line from Wayne County, West Virginia, near Ft. Gay; leading again into Lawrence County, Kentucky, from Wayne County, West Virginia. This line connects with an 8-inch line and a 6-inch line near Inez, Kentucky, and extends across the river, or state line, into Kermit, Mingo County, West Virginia; then entering our
838 compressor station at Kermit, West Virginia, the gas is compressed and delivered back into our line, our 16-inch O. D. line, known as "B. M. 22."

Q. Extending from where?

A. From Kermit, West Virginia, this line B. M. 22 leads to Inez, Kentucky, from the compressor station in Kermit, West Virginia.

Q. Now, the gas that is obtained in this line, as you have described, comes, in part, from the Roane County field, from the Wayne County field, and the Kermit field, in West Virginia?

A. Also from the Kanawha field, in Clay County.

Q. And the Clay County field and the Chapmanville field or district in West Virginia, and from the Kermit field in Martin County, Kentucky, does it not?

A. It does.

Q. And that gas is all mixed and compressed at your Kermit station in West Virginia?

A. It is.

Q. And sent up as far as Inez, across the river to Inez, in Kentucky?

A. It is.

Q. And there delivered to whom?

A. To the Central Kentucky Natural Gas Company, sup-
839 plying towns and cities in Central Kentucky and the Louisville Gas & Electric Company, of Louisville, Kentucky.

Q. The Louisville Company supplies gas to Louisville, Kentucky, does it, as well as to stations en route?

A. Its gas is practically all supplied to domestic consumers in the City of Louisville, Kentucky.

Q. How far is the gas transported by the Central Kentucky Company, the longest distance, from Inez?

A. The distance from Inez, Kentucky, to Frankfort, Kentucky, is 142 miles.

Q. And how far is it from Inez to Louisville?
A. The distance from Inez, Kentucky, to Louisville, Kentucky—
ıe length of this line is 180 miles.
Q. Now, you supply from this same line, do you not, beginning
: Kenova, towns on both sides of the river in West Virginia and
:entucky, at different points along the line?
A. We do.
Q. Then you have quite a number of such towns, as shown on the
ıap here?
A. We have.
Q. Now, give us your next large transmission line?
A. Our next large transportation line is known as line "T,"
40 20 inch O. D. pipe; which line connects with, or has an extension known as our line "M," 16-inch O. D. pipe. These
ro lines were practically built to supply the Hope Natural Gas
'ompany and the Pittsburgh and West Virginia Natural Gas Com-
any, transporting the gas from the Kanawha County gas fields at
uff Lick, and also the gas from Roane and Kanawha Counties, near
lendenin.
Q. Now, how long is that line?
A. The line "M," consisting of 10-, 12- and 16-inch pipe—the
ırger proportion of it being 16-inch—is 19.2 miles in length.
Q. Now, line "T"?
A. Line "T," to which line "M" connects, is 39.29 miles in length.
Q. About 60 miles then altogether?
A. Yes, sir.
Q. Now you say it sells gas there,—it delivers gas to the Hope
Jatural Gas Company and the Pittsburgh & West Virginia Gas Com-
any. At what points does it make that delivery?
A. At Cedarville measuring station, in Gilmer County, West Vir-
inia.
Q. And where does the Hope Natural Gas Company take it?
A. At that point, Cedarville, West Virginia.
Q. And to where does it take it?
41 A. I couldn't tell you just what points it travels. I believe it eventually leads to Hastings Station in Wetzel County.
Q. Do you know where the Pittsburgh & West Virginia Gas Com-
any takes it?
A. The gas is measured to them at the same point in Gilmer
ounty.
Q. To what point do they take it?
A. That gas is eventually delivered to Pittsburgh, Pennsylvania.
Q. The Pittsburgh & West Virginia Gas Company is a subsidiary
f the Philadelphia Company, that supplies Pittsburgh and vicinity,
it not?
A. It is.
Q. Now, what other line have you—any main transportation line?
A. I believe that is practically all of the important transporta-
on lines.
Q. You have a line here, for example, called your B-19, 10-inch
ne, extending from the Wayne field to a point called Walbridge,
Kentucky, have you not?

A. We have.

Q. Now, that line is about how long?

A. Approximately 25 miles.

842 Q. Well, that will do; that is near enough. Now, tha takes the gas from your Wayne field, in Wayne County, We Virginia, and transports it across the river to a point at Walbridg where it connects into the line which you have already describe as your—What was that line?

A. Line B-10.

Q. That is correct, is it?

A. It is. At this point at Walbridge the gas is compressed at compressor station.

Q. Now, that line from that Wayne field, which takes the ga across there, supplies no towns in West Virginia at all, does it?

A. No, I don't believe there are any towns on that line.

Q. The line shown on your map here, V-16, a 16-inch line con necting your Chapmanville district, Big Creek, Logan and Cherr Tree Bottom, and so forth, in what is called the Chapmanville fiel in Logan County, West Virginia, transports the gas up to the com pressor station at Kermit, does it not?

A. Yes, sir, it does.

Q. And that gas is there compressed and sent through the lin you have already described as your B. M.-22?

A. It does, yes, sir.

843 Q. And what is the size and the length of that line?

A. That line is approximately 25 miles in length, of 1 inch O. D. pipe.

Q. Where does that gas go to?

A. That gas goes to Louisville, is delivered to the Louisville Ga Company at Inez, Kentucky, and to the Central Kentucky Ga Company at the same point, for distribution in Louisville, Kentucky and central Kentucky towns.

Q. This map offered in evidence and identified as Pennsylvani Exhibit No. 22, does not purport, of course, to show all the gatherin lines and connections with the wells, and so forth, but simply th main transmission lines and the towns supplied?

A. Yes, sir; and the larger field lines.

Q. And the larger field lines?

A. Yes, sir.

Q. You supply gas also to the City of Charleston, do you not?

A. We do.

Q. What are the large cities in West Virginia that are supplie by your company? Give us simply the larger cities.

A. Huntington, Charleston, Catlettsburg——

844 Q. No, in West Virginia.

A. And Spencer, West Virginia.

Q. And what are the large towns in Kentucky?

A. Catlettsburg, Ashland.

Q. Louisa, is that a large town?

A. To Louisa. I believe that would take in the larger cities.

Q. And what large towns or cities in Ohio?

A. Ironton, Wheelersburg.

Q. What is the matter with Portsmouth?
A. Well, Portsmouth, Ohio.
Q. And Wheelersburg, Portsmouth, Ironton, and what others?
A. Portsmouth, New Boston, Ironton; that takes in the larger cities.
Q. Those are the larger cities in Ohio?
A. Yes, sir.
Q. Now, what was the amount of your gas production in the year 1919?
A. The total gas sold during the year 1919 amounted to 51,650,275,000 cubic feet. Of this amount they purchased 12,086,690,000 cubic feet from other operators.
Q. What is the total number of your consumers in West Virginia?
A. The total number of our domestic consumers in the
845 State of West Virginia, was 24,559, at the ending of the year 1919.
Q. And what is the number of industrial?
A. We have 148 industrial consumers in West Virginia.
Q. Now, how many consumers have you in other states, both domestic and industrial?
A. In other states we have 11,777 domestic consumers.
Q. And how many industrial?
A. 47 industrial consumers.
Q. Now, give us the amount of gas delivered to the domestic consumers in West Virginia and the industrial consumers in West Virginia, and to the domestic consumers outside of West Virginia, and to the industrial consumers outside of West Virginia, if you have that? That is, for 1919, last year.
A. We sold to domestic consumers outside of the State of West Virginia, in the year 1919, 1,491,447,000 cubic feet of gas.
Q. And to industrial consumers outside of the state?
A. To industrial consumers outside of the state, we sold 2,507,654,000 cubic feet of gas.
Q. And to domestic consumers inside the state of West Virginia?
A. To domestic consumers inside the state of West Vir-
846 ginia, we sold 4,336,112,000 cubic feet of gas.
Q. And to industrial?
A. To industrial consumers in the State of West Virginia, we sold 6,986,926,000 cubic feet.
Q. And how much gas did you deliver to other gas companies?
A. We wholesaled to other companies inside the State of West Virginia 30,515,535,000 cubic feet of gas. Measured to industrial consumers, or to wholesale parties, outside of the state, 5,812,601,000 cubic feet of gas; or a total of 36,328,136,000 cubic feet of gas, wholesaled to parties in and outside of the State of West Virginia.
Q. The gas delivered to other companies, as you say,—measured to other companies inside of the state, you have already described the points to which that gas was taken by those different companies, have you not?
A. Yes, sir. The greater portion of it was to be delivered outside of the state, measured inside of the state.
Q. Now, what has been the investment of the United Fuel Gas

Company, or what is the investment of the United Fuel Gas Company, in the State of West Virginia, say at the end of the year 1919?

A. Between twenty-three and twenty-four million dollars.

Q. That is actual cash invested?

847 A. Actual cash invested.

Q. And what was the amount of money expended by the company in the acquiring of its property and the development of its property, and so forth, including its investment, up to, let us say, the end of the year 1919? You can give us a rough estimate of that, or as accurate as you can, without going into detail?

A. Well, the figures that I gave you as investment, between twenty-three and twenty-four million dollars.

Q. At what amount is the whole investment of the company at the present time carried upon the books of the company, taking into consideration the value of its gas territory which it has developed, and the amount expended upon its lines, and so forth?

A. Do you mean the actual investment, or the valuation that is placed on it?

Q. The valuation at the present time, placed by the officers of the company upon the property, and carried upon its books accordingly. Give it to us in round numbers.

A. It is very close to $60,000,000.

Q. Have you any data showing the number of cubic feet, the average amount per consumer, of the domestic consumers in West Virginia and those in other states?

A. I have.

848 Q. That are in your line?

A. Yes, sir.

Q. Give us that. What was the average consumption per consumer of the domestic consumers in West Virginia, Ohio and Kentucky, respectively?

A. The average domestic consumer in Charleston, West Virginia, in the year 1919, used 175,000 cubic feet of gas for the year. The average domestic consumer in the city of Cincinnati, Ohio, for the same year, used 84,000 cubic feet of gas. The average domestic consumer in the City of Portsmouth, Ohio, during the same year, used 137,000 cubic feet of gas.

Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the state?

Mr. Blue: The State of West Virginia objects to the foregoing question, as improper, irrelevant and immaterial, and for the

849 reasons heretofore assigned in objections to questions of like kind and import.

The Commissioner: Note the objection and let the witness answer.

A. I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the state, and for that reason I do not believe domestic consumers and other people would care to

be connected to our lines, if they could only receive a supply of gas during the summer season, and in the winter time, when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel. It would be absolutely dangerous, as I understand the method supposed to take care of this measure; in as far as you would be called upon at most any hour for a large supply of gas, it would necessarily take the gas away from the lines leading into the other states; providing that happened at night or at times the people were away from home, the gas would go out, no doubt, in their homes, if these parties were shut off in the meantime; and before they returned or got up, the pressure would be increased in their lines, and the gas would flow through and come into their houses, and it would not be lit, and there would be danger of asphyxiating
850 the people, and also of blowing up their houses and killing any number of people. I wouldn't feel that I would want to be connected onto a gas line under similar conditions, and I don't believe the average consumer would care to.

Q. What do you know as to what the effect would be upon increasing the demand for industrial purposes in the State of West Virginia?

Mr. Blue: The State of West Virginia objects to the foregoing question as improper, irrelevant and immaterial, and for the reasons heretofore assigned in objections to questions of like kind.

The Commissioner: Note the objection and let the witness answer.

A. I feel that in the course of a year or year and a half, the gas would be practically all sold in the State of West Virginia for manufacturing purposes; as I have had in the last month applications for gas from big industries that I feel—and the party that made the application assured me that in his mind they would want
851 50,000,000 cubic feet of gas a day between this and fall; and no doubt the other numerous applications I have had will take from seventy-five to one hundred million cubic feet, provided we would care to supply it to them. Also, I know that in the State of West Virginia today it would be very profitable for the carbon industries to use this gas in making carbon; they realize fully 30 cents a thousand cubic feet from the gas by making carbon black in the field,—an industry in which, we all know, all the heat units and valuable substances in the gas is absolutely wasted. I know this to be a fact, because I have had the applicants for the gas, and I know what the carbon industry is paying and what the price for carbon is.

Mr. Blue: The State of West Virginia moves to exclude the answer of the witness, for the reason, among others, that the answer undertakes to give a construction to the statute, which is not warranted by the terms of the statute.

The Commissioner: Let the motion be noted and let the examination proceed.

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CARD 5

Mr. Weil:

Q. Mr. Wallace, you mentioned that a number of applica-
852 tions had been made by large industrial plants, demanding gas, and so forth. Can you give us the names of some of them, their location, and so forth?

A. In the last week or ten days, Mr. H. G. Scott, manager of the Nitro Charles Industrial Corporation, and his assistant, both called at my office, endeavoring to make arrangements for a large supply of gas for manufacturing purposes at Nitro, West Virginia, located about twelve miles from Charleston. He informed me that he already had secured industries which were locating at Nitro, as follows: The Central Foundry & Equipment Company, the Nitro Pulp Mill, the Ribrated Products Company, the Nitro Products Company, the Miller Rubber Company, two large plants, Nos. 1 and 2; the Virginia Sheet Metal Company; the International Aluminum Company; the Southern Dyestuff Company. These industries, Mr. Scott informed me, had already located at Nitro, or were locating there, and that other people or parties were dickering for sites to be located at Nitro, which he felt were as good as closed. The Goodyear Rubber Company, the International Nickel Company, the Cab-Co Steel Company. I asked both Mr. Scott and his assistant about how much gas he felt these consumers would want. Well, he said that
853 they wanted any amount that they could get, but assured me that they would be pleased to have 50,000,000 cubic feet by this fall; he thought they would want 50,000,000 feet daily by the time winter hit them. Of course, I told him it could not be considered. Then I have had applications from numerous other industries at various times, of which I don't remember the names, because they were all turned down. We could not supply them with gas for industrial purposes, wouldn't take them on our line. Upon those numerous applications, I base my opinion that in from a year to a year and a half there would be no gas transported from our state for domestic purposes in winter time.

Q. From your practical knowledge, Mr. Wallace, and experience in the operation of gas lines and gas plants, what would you say would be the effect upon the operation of these lines, if during the colder spells of winter you were called upon from time to time to supply demands to make up deficits or shortages in any of the cities or towns or industrial plants in the State of West Virginia, or to companies supplying some of those cities, towns or plants? What would be the effect upon the operation of your system of lines and upon your plant?

854 Mr. Blue: The State of West Virginia objects to the foregoing question as improper, irrelevant and immaterial, and that it embodies in itself a construction of the statute not warranted by the terms of the statute.

The Commissioner: Note the objection.

A. I believe that it would be absolutely impossible to operate our gas company successfully as a gas company, under those conditions,

and as no doubt we would lose all our profitable business outside of the State of West Virginia. Consumers, as I stated, would not want to be bothered with our service, as it would be discontinued at practically the time they needed it the worst, and it would be very dangerous to endeavor to heat or cook with it, especially to heat with it, on account of the supply being possibly taken away from them during the night time when they were asleep, and coming on again and allowing the gas to flow into the residence when there would be no light to ignite it; and under those conditions, of course there is great danger of asphyxiating a large number of people, providing there was some little light in the house that had not gone completely
855 out, the gas would ignite and explode and blow up the building. Or, providing somebody came into the house and lit a match, not being familiar with what might occur in the gas business the same thing would happen—blow up the building, and possibly kill numerous people, and it would be a very dangerous and hazardous business.

Q. In constructing your plants and putting in your appliances, are the same designed by engineers and experts with reference to certain prospective maximum and minimum business which the lines are intended to take care of?

A. They are, absolutely.

Q. Your compressing stations, the size of your pipes on various lines, are designed, are they not, with that in contemplation, and that end in view?

A. In all cases.

Q. Is there any way by which a company operating in any given district could make any computation in advance of the demand that might be made upon it from time to time, to make up the deficit or shortage of other companies operating in the same district, or of the industrial or other plants requiring gas in the same district?

A. It would be absolutely impossible to construct your
856 lines, compressor stations and field equipment in such a manner that you could take care of the various companies and industries which would possibly make demands on you for gas at certain times, and also take care of your own business in a satisfactory manner, or anything like a satisfactory manner to your consumers.

Q. What is the situation at the present time as to there being competition among the big companies in taking up territory and leasing the territory for gas purposes, wherever they find a field is being developed, or where there is a prospective gas field?

A. There is a large amount of competition along the line of taking up leases, and it is steadily increasing. That is, the competition is getting stronger; they are all out for getting on the ground as quickly as possible after any developments showing that the territory has a certain value, either gas or oil. The prices paid are increasing enormously, making it much more expensive to secure gas territory, or do business along the lines as has been done in the past. Practically a very small amount of gas acreage has been developed in

recent years—been discovered rather in recent years; and what had previously been discovered has been to a great extent depleted.

Q. Mr. Wallace, what is your knowledge and information
857 as to the exhaustion of the gas in the various gas fields in Pennsylvania, Ohio, West Virginia, Kentucky, and so forth,—any of the fields tributary to the sections supplied by the companies we have been talking about, in Pennsylvania, Ohio and West Virginia?

A. I know that the gas in Pennsylvania, Ohio, Kentucky and West Virginia has been rapidly decreasing, in the amount of gas to be obtained.

Q. Do you know of any new fields being found within recent years, in any of those states, or adjacent thereto?

A. None of any size, that would warrant its being called a valuable discovery.

Q. Is your company making investigation and sending out its scouts for the purpose of obtaining other and further gas developments in any of these states adjacent to this territory or section?

A. We have an organization especially for that purpose, keeping them activily engaged in endeavoring to secure new territory; in other words, leasing up new territory where there are any indications whatever that there might be gas.

Q. Wherever that may be found?

A. Yes, sir.

Q. Whatever state——

858 A. In whatever state it might be found.

Q. Do you know, from your own experience and knowledge, whether other companies are doing substantially the same thing—the other larger gas companies?

A. I know that practically all the other large gas companies are doing the same thing.

Q. What, if any, use is being made at the present time by these companies of government reports and geological surveys, and so forth?

A. They are giving them close attention, regarding geological reports and surveys made by the state geologists; also employing geologists to enable them to locate gas and oil fields, to a considerable extent. I know that holds true with my own company and with most of the other companies.

Q. Take the consumers upon your lines in West Virginia and Ohio and Kentucky: what are the facts as to special appliances being necessary to be installed for the purpose of burning natural gas instead of other fuel?

A. They have to have, all domestic consumers, special appliances for using natural gas.

Q. What do you know as to whether or not any of those communities have constructed their houses with special reference to these appliances?

859 A. I know that some communities—in fact, practically all communities—have their buildings constructed along the lines of burning gas. In some communities the entire population

have had their buildings constructed without flues of any kind; that is, such as chimneys. That was brought very vividly to my mind here recently, in the desire to discontinue supplying gas to a certain locality. We were not allowed to do it, from the fact that the people could not burn any other kind of fuel; they had no way to take care of coal, wood, or anything of that kind, without rebuilding their houses, to a certain extent.

Q. You say that exists in certain localities, and exists in full communities, to your knowledge?

A. Yes, sir.

Q. What would they have to do in the event of the discontinuing of the natural gas supply?

A. Well, I would say that practically all their appliances would have to be removed, the present appliances, and installations made of proper appliances for burning coal and other fuel.

Q. And what would they have to do with those houses?

A. They would have to certainly make wonderful changes in those houses that had no chimneys or flues, for the purpose
860 of taking care of coal or wood, or anything of that kind. I wouldn't know myself exactly what I would do; I believe I would tear it down.

Q. Have you any information as to what would be the average cost—I say the average cost, or perhaps you might give us what information you have on that subject—of changing the appliances for burning natural gas to other fuels, such as wood or coal?

A. I haven't a great deal of information along that line. From merely running it over in my mind, I would approximate the cost at around $300 or $350 for the average consumer, at the present prices of material.

Q. The relations which you occupy to some of these other companies, that you call "wholesale," to whom you wholesale gas, that is gas which you supply to other natural gas companies, such as the companies that take it to Louisville and Cincinnati and Pittsburgh, and so forth—Are those relations covered by contracts?

A. They are.

Q. Do you obligate yourself to supply to such companies any particular quantity of gas for a given period?

A. The contract calls for a specified amount of gas.

Mr. Blue: The State of West Virginia moves to exclude the
861 answer, for the reason that the contract is the best evidence, and that the answer of the witness is merely hearsay.

The Commissioner: Let the motion be noted.

Mr. Weil:

Q. What do you estimate you are required to expend annually in the laying of lines, drilling of wells, and for compressor stations, in order to maintain, as far as possible, your gas supply?

A. I would say, providing we did not lay any large transportation lines, that the expense would run annually, in the next few years, between two and three million dollars yearly, and will increase as the field gets older.

Q. You said from two to three millions?
A. Yes, sir.
Q. What does it cost now to drill a well in your territory?
A. Our wells are running from $14,000 to $35,000 a well. Some of them, being rather exceptions, are running considerably higher than $35,000. They are more after the plan of wildcat wells.

Q. What is the situation as to the cost of operation at the
862 present time, as compared with previous periods?

A. The cost of operation has increased enormously in the last four years. I would say, completing a well, possibly between three and four times what it was in ordinary times. The laying of your pipe lines has increased in like proportion, and steel pipe that you originally purchased around $35 a ton, now runs about $100 a ton, providing you can get it. You have to pay a premium today to get secondhand material at much higher prices than you can get new material from the mills, providing you can secure shipment.

Q. What has been the policy of your company, and what is its present policy and rule, as to discouraging and discontinuing, as far as possible, the supply of gas to industrial consumers?

A. We have at no time encouraged manufacturing industries to come into our community to secure gas for manufacturing purposes. On the other hand, since my connection with the company at least, they have always discouraged it, and have in recent years refused to connect up industrial consumers, providing they moved into our territory, and have given them all to understand that there is little likelihood of their securing an adequate sup-
863 ply of gas during cold weather—that they can be expected to be shut down during the winter time.

Here a recess was taken until 1:30 o'clock, P. M.

864 Wednesday Afternoon, June 30, 1920.

And now, the hour of 1:30 o'clock, P. M., hearing resumed, pursuant to adjournment.

H. A. WALLACE resumes the stand.

Direct examination (continued).

Mr. Weil:

Q. Mr. Wallace, you testified this morning about the Kermit field in Mingo County, West Virginia, and in Martin County, Kentucky. Those two fields, in West Virginia and Kentucky, are practically the same field divided by the river, are they not?
A. They are, yes, sir.
Q. That is, the Big Sandy, I believe?
A. Yes, sir.
Q. How wide is the river at that point, do you know, do you remember—or about?
A. Oh, a couple of hundred feet.

Q. And how many wells have you in that field in West Virginia?
A. Twenty.
Q. And how many in Kentucky?
A. Forty-seven.
865 Q. What is the closest of those wells in West Virginia to the river?
A. The wells on each side of the river in both counties, in both states, are very close to the river bank.
Q. Are the gas-bearing sands the same on both sides of the river?
A. Practically the same; yes, sir.
Q. And is the gas found in the sand about the same distance from the surface, on both sides?
A. It is; yes, sir.
Q. It is a continuous sand then, is it, extending under the river?
A. It is; yes, sir.
Q. In both of those fields, one in West Virginia, and the other in Kentucky?
A. Kentucky; yes, sir.
Q. Practically the same field?
A. Practically the same field.
Q. Can you tell, or do you know, whether the gas that is produced in wells nearest to the river on the West Virginia side, or those nearest to the river on the Kentucky side, draw their supply of gas from West Virginia or Kentucky, respectively?
866 A. It would be impossible to determine. No doubt some of the gas from the wells in West Virginia is coming from Kentucky, the line in Kentucky; but that, of course, could not be determined.
Q. And some, I suppose, in Kentucky comes from West Virginia?
A. Comes from West Virginia.
Q. As I understood you this morning, however, all of that gas, whether produced on the Kentucky or the West Virginia side, goes into the compressing station on the West Virginia side, and is there compressed for transmission through the lines you have described to Inez, and there to Louisville or the Frankfort lines?
A. It does; yes, sir.
Q. We have had considerable testimony in the case, both by you and by others, on the subject of these measuring stations that are located upon the lease, by which gas is measured. I wish you would describe those measuring stations, of what they consist?
A. Well, there are different kinds of measuring stations. For instance, take it where this gas is measured to the Louisville Gas and Electric Company and the Central Kentucky Natural Gas Company, at Inez, that consists of orifice stations, what are known as orifice meters——
Q. Orifice?
867 A. Yes. The gas measured through those,—the amount of gas is determined by a differential pressure; the difference taken on the water reading on the inlet to the orifice, and the outlet of the orifice. There is a small variation in pressure, of course, in the inlet, to the outlet. Then the amount of your gas is deter-

mined by figuring out from your water reading on these charts on your differential pressure; and at the same time taking your line pressure into consideration, which was registered by a pressure gauge. At other stations, take it at Sandyville, we have what is known as a Pitot tube station—that is, a series of tubes——

Q. That is, Pitot tubes?

A. Yes. They are also figured up from the differential pressure; and the water readings taken every fifteen minutes, to ascertain the amount of gas flowing through them. At other points we have what is known as a proportional meter; however, they are not installed in any large wholesale contracts, mostly in manufacturing establishments. They consist of a proportional meter, which registers the amount of gas on the dial that passes through them, at the pressure, the line pressure.

Q. These proportional meters are not used, are they, where there is delivery of gas from one gas line to another, in large quantities?

A. No, sir.

868 Q. The measuring stations consist——

A. Of the Pitot tubes.

Q. —for these purposes, consist of the Pitot tube stations?

A. And the orifice meter stations.

Q. And the orifice meter stations. Now, in both of those stations, the measurement is predicated and based upon the flow and passage of the gas, is it not?

A. Yes, the measurement of the gas is taken while the gas is in action, flowing through the lines.

Q. And the gas cannot be measured except——

A. While in motion.

Q. —in motion and passing through?

A. It cannot be measured in any other way.

Q. Where these stations are located then, and the gas passes from one line into another, there is no stoppage or cessation of the flow, to the slightest extent?

A. No; there is practically the same flow of gas, continuing right through into the other line.

Q. Passes right from the one line into the other, and goes right on its journey, wherever it is going?

A. And is measured while it is in motion, yes, sir.

Q. You gave us this morning the amount of gas purchased by your company. Can you give us the quantity purchased in West

869 Virginia and in Ohio and in Kentucky, respectively?

A. Yes, sir.

Q. For what period?

A. The total gas purchased in Kentucky amounted to 615,416,000 cubic feet. The total gas purchased in Ohio, 14,432,000 cubic feet. The total gas purchased in West Virginia 11,456,842,000 cubic feet.

Q. This gas thus purchased was inducted into the lines of the company and there commingled with the other gas in the lines of the company, whether produced or purchased, from one or another state?

A. It was, yes, sir.

Q. Can you give us the number of domestic consumers, the amount

lomestic gas sold, the number of industrial consumers, the in-trial gas sold, the number of churches, schools and public build-s, the amount of gas sold, the total number of direct consumers—he number of direct consumers and the amount of gas sold, from 0 to 1919, for each year; together with the grand total of con-ers and the amount of gas sold for those same years, in the state Vest Virginia?

. Yes, sir, very closely.

Witness produces table.)

Q. What do you mean by "direct consumers"?

A. Direct consumers, I believe, are considered consumers in which the gas is more or less estimated,—some drilling wells possibly free consumers who are not connected by meter.

. Will you please read that table into the record?

. (Reading.)

United Fuel Gas Company.

Statement of Gas Sold in West Virginia 1910-1919.

	Number domestic consumers.	Amount domestic gas sold.
.....	11,622	1,569,277,000
.....	12,886	1,766,916,000
.....	14,425	2,071,911,000
.....	17,374	2,265,318,000
.....	18,132	2,617,361,000
.....	18,447	2,583,449,000
.....	20,453	2,852,380,000
.....	21,672	3,436,965,000
.....	22,606	3,903,372,000
.....	24,520	4,198,837,000
	Number industrial consumers.	**Industrial gas sold.**
.....	69	2,727,689,000
.....	138	2,885,793,000
.....	161	3,548,983,000
.....	111	2,720,439,000
.....	100	2,470,743,000
.....	130	2,578,349,000
.....	109	3,505,977,000
.....	110	5,169,774,000
.....	138	6,357,123,000
.....	150	6,265,795,000

871

Year.	Number churches, schools, public buildings.	Amount gas sold.
1910	169	267,375,000
1911	55	109,284,000
1912	33	55,373,000
1913	51	55,999,000
1914	69	150,173,000
1915	58	148,303,000
1916	52	231,134,000
1917	52	238,854,000
1918	52	238,710,000
1919	39	137,275,000

Year.	Number direct consumers.	Amount gas sold, est.
1910	135	615,946,000
1911	78	1,052,796,000
1912	628	3,566,635,000
1913	224	2,722,436,000
1914	63	1,439,416,000
1915	73	651,391,000
1916	44	373,573,000
1917	61	845,369,000
1918	88	615,133,000
1919	47	721,131,000

Grand Total.

Year.	Total consumers.	Grand total Amount gas.
1910	11,995	5,182,287,000
1911	13,157	5,814,789,000
1912	15,247	9,242,902,000
1913	17,760	7,764,192,000
1914	18,364	6,677,693,000
1915	18,708	5,961,492,000
1916	20,658	6,963,064,000
1917	21,895	9,690,962,000
1918	22,884	11,114,338,000
1919	24,756	11,323,038,000

872 Q. Is the United Fuel Gas Company in any manner owned or controlled by the Standard Oil Company or any of its affiliated companies, and if so, how?

A. It is not owned or controlled by the Standard or any affiliated companies belonging to the Standard, in any way.

Q. Is the capital stock of the United Fuel Company owned by other corporations, and if so, by which?

A. The capital stock of the United Fuel Gas Company is owned

y the Columbia Gas & Electric Company and the Ohio Fuel upply Company.

Q. Do you know whether or not the stocks of those companies, he Columbia Gas & Electric Company and the Ohio Fuel——

A. Ohio Fuel Supply Company.

Q. —and the Ohio Fuel Supply Company are listed upon the ew York Stock Exchange?

A. The Columbia Gas & Electric Company stock is listed on the ew York Stock Exchange, and the Ohio Fuel Supply is on the ittsburgh, also on the New York Stock Exchange now.

Cross-examination.

Mr. Blue:

Q. The United Fuel Gas Company is a West Virginia 3 corporation?

A. Yes, sir.

Q. And engaged in public service in the State of West Virginia?

A. It is.

Q. You have said that your company has a total acreage of 806,- 5 acres in West Virginia and Kentucky; how much of this acreage in West Virginia?

A. The total acreage in West Virginia is 715,502.64 acres; the ate of Kentucky, the total acreage is 91,282.89.

Q. Where is the 91,000 acres of your territory in Kentucky lo- ted—in a general way will be sufficient.

A. It is located in Boyd and Lawrence Counties principally, and ne scattered acreage around through other counties in Kentucky.

Q. How much of your Kentucky acreage is operated or devel- d?

A. Total operated acreage in Kentucky, 4,304.1 acres.

Q. How much of your acreage in Kentucky is proven gas terri- y?

A. About that amount.

Q. Of your 715,000 acres in West Virginia, what proportion of e owned by you in fee, and what proportion leasehold?

A. I would be unable to give you that.

Q. Part of your holdings in West Virginia you do own in fee, do you not?

A. Yes, sir.

Q. And your holdings in West Virginia, 715,000 acres in fee under lease, how much of such holdings do you regard as ven gas territory?

A. The operated acreage of 62,336.6 acres is all that I could defi- ly state as proven territory, although in my opinion there is a iderable amount of it gas territory.

Q. You mean considerable of the part you have not yet operated eveloped?

A. That is the unoperated territory.

Q. Is good gas territory?

A. Gas territory.

Q. If I am not too inquisitive, may I ask you your opinion as to what part or proportion of the undeveloped territory do you regard or consider as good gas territory—I mean, independently of your already developed leases?

A. I would say about 30 per cent of the total unoperated acreage, in my opinion, should be productive of gas or oil.

Q. On your direct examination, you referred to your line "A," your line from Roxalana running to and passing through, Kenova. Do you know, or can you state approximately, the number

875 of consumers you have in West Virginia on this line?

A. I would say possibly between ten and eleven thousand.

Q. Can you state accurately or approximately the number of wells on your territory feeding into this line "A"?

A. To answer that question, I would have to give you the approximate number. I would have to divide the wells in two parts—that is, these lines are connected together, and the wells can flow through either line, of these main pump lines,—line "A" and line "F."

Q. You mean, that the wells can be made to flow interchangeably between your line "A," already referred to, and your line "F"?

A. Yes.

Q. Being your line running to Ball's Gap?

A. Yes. On an estimate, I would say 200 wells.

Q. Line "A," on Exhibit Pennsylvania Exhibit 22, shows or indicates certain points at which you deliver gas to consumers in West Virginia. That line delivers gas to consumers at points other than those indicated on the map, does it not? I mean by that, at small points or small stations.

A. Yes, sir.

Q. Your line "A," from Roxalana to Kenova, as a part of

876 your system, is a public service line in the state of West Virginia, is it not?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, and involving a conclusion of law and legal opinion. The witness not being a lawyer, or pretending to be such, the question is objected to.

The Commissioner: Note the objection and let the witness answer.

A. It has never been really clear in my mind whether it was or was not. I have always endeavored to take care of consumers along the line, by making a tap and allowing a supply of gas from the line, upon request from consumers, but I could not state definitely whether it is or is not.

Mr. Blue:

Q. The rates that you charge your consumers along that line are fixed by the Public Service Commission of West Virginia, are they not?

A. They are.

Q. And you have applied to, and have received from, the Public

Service Commission of West Virginia, an increase of rates
7 charged by your company to your consumers along that line?

A. We have.

Q. Now, when you put the gas into this line "A" from the wells
ou have already indicated fed into it, that gas is intended to be
nsumed by persons along that line, is it not?

A. That has not been the principal object in laying the line; the
ne was laid for the purpose of transporting gas to points outside
the state, but, as I have previously stated, we have made connec-
ons for domestic consumers along that line, and small towns.

Q. When you place the gas in this line from the wells you have
dicated, you don't consign any particular part of it to any particu-
r place, do you?

A. We endeavor to turn a certain amount of gas into that line,
pending on what the temperatures are, to take care of the deliv-
ies necessary to take care of our consumers at the different places
tside of the state as well as inside of the state.

Q. But you have no particular point to which you are consigning
trying to destinate any of it, have you?

A. Yes, I know about what the demands should be at various
aces, and what the demand would be practically, say for gas
in Cincinnati, and I endeavor,—am turning on wells and
'8 starting compressors to put a supply of gas in that line suffi-
cient to take care of those different points.

Q. Well, when you put the gas from any specific well into that
ne, and mingle it with the gas from other wells, you don't know
here that gas is going, whether it is going to a consumer in West
irginia or a consumer out of West Virginia?

A. I do not, no, sir.

Q. And you have no way to control it—You don't control it
ter it enters that line, whether it goes to a consumer in West Vir-
nia or a consumer out of West Virginia, do you?

A. I couldn't keep track of that certain gas from a certain well,
, sir—not where it went.

Q. Does your company own or control the right of way by which
is line travels, and on which this line is laid?

A. We own the right of way on which such line is laid.

Q. What is the nature of your control or ownership of that right
way?

A. We have the right to lay, maintain, operate and remove the
ne.

Q. How did you acquire it?

A. By purchase.

'9 Q. All of it by purchase?

A. I would state, to the best of my knowledge, it has prac-
ally all been acquired by purchase.

Q. Did you acquire any of it by condemnation?

A. Not that I can recollect.

Q. Your company, as a part of the system—I will ask you at

this time, has acquired rights of way by condemnation, has it not?

A. I believe so.

Q. You have that power and you have exercised it at places along your system in the State of West Virginia, have you not?

A. I believe we have.

Q. This line furnishes gas to the City of Huntington, you have stated. Does your company have a franchise in the City of Huntington?

A. We have.

Q. And under that franchise you are permitted to do what?

A. The use of certain streets and alleys to lay our lines, connect up our consumers, to distribute gas to them.

Q. When did you acquire that franchise?

A. In the year 1909.

Q. In whose name was it acquired? Did you acquire it directly from the city, or did you acquire it by taking it over from
880 some other person or corporation?

A. It was acquired at the time we purchased the United States Natural Gas Company, which was in 1909.

Q. The United States Natural Gas Company originally had the franchise from the City of Huntington, and you then took it over—took the franchise over from that company?

A. Yes, sir; at the time of the purchase.

Q. The United States Natural Gas Company was a West Virginia corporation, was it not?

A. I understand that it was.

Q. And under that franchise, it was required to furnish service of gas to the citizens and industries of the City of Huntington?

Mr. Weil: This is objected to, as requiring from the witness an opinion on a question of law, and not a statement of fact. It is therefore objected to as incompetent, irrelevant and immaterial, and not proper cross examination.

The Commissioner: Note the objection and let the wit-
881 ness answer.

A. I would take it that they obtained the franchise for that purpose, although I do not know.

Mr. Blue:

Q. And when your company took it over, it assumed the carrying out of the undertaking, did it?

Mr. Weil: Same objection.

The Commissioner: Note the objection and let the witness answer.

A. I would assume that it did.

Mr. Blue:

Q. Do you know what gas territory the United States Natural Gas Company owned, by lease, purchase or otherwise? You may answer the question in a general way, if you cannot answer specifically.

A. I couldn't give you that information. I understand that the United—It is purely hearsay with me, as I wasn't with the company at that time, but I believe the United States Natural Gas Company operated in the state of Kentucky, and piped the gas from Kentucky into the City of Huntington, to supply the City of Huntington, at the time they took out a franchise there.

Q. Now, in the town of Ceredo, you furnish gas to the inhabitants there, do you?

A. We do.

Q. Under a franchise?

A. I couldn't state if we have a franchise at the present time, or whether our franchise expired.

Q. And you furnish gas to the inhabitants of the town of Kenova?

A. We do.

Q. Under a franchise?

A. Well, there are a number of our contracts or franchises that have expired, in some of those smaller places, maybe some of the larger ones, and we have not renewed the franchises; I couldn't tell you at the present time whether we have a franchise at Kenova or not.

Q. Your line "A" crosses public roads, and at places may run along with public roads, in the State of West Virginia, does it not?

A. I don't recollect of any places where line "A" runs along the county roads.

Q. It crosses county and public roads at places?

A. At places possibly it does.

Q. On your line "S," running to Ball's Gap, you have consumers in West Virginia, have you not?

A. We have.

Q. And you have places where you deliver gas to consumers along line "S," not shown on Pennsylvania Exhibit 22, have you not?

A. Possibly small settlements, or an occasional consumer connected direct to the line.

Q. And you own the right of way for your line "S"?

A. We do.

Q. On your line "E" you have a number of consumers in the State of West Virginia, have you not?

A. We have.

Q. You own the right of way for that?

A. We do.

Q. That line is also part of your public service system in the State of West Virginia, is it not?

Mr. Weil: The same objection is made to this question, as to the other questions, as calling for an opinion.

The Commissioner: Note the objection and take the answer.

A. It is part of our system. As I stated before, I do not know as to the legal status it has.

884 Mr. Blue:

Q. The rate you charge your consumers on lines "S" and "E" are fixed by the Public Service Commission of West Virginia, are they not?

A. They are.

Q. And in respect to your consumers on those two lines, as well as in respect to the consumers on line "A," you have applied to the Public Service Commission of West Virginia for an increase of rates, and have been allowed an increase, have you not?

A. We have.

Q. Can you state approximately the number of wells that feed into this line "E"?

A. Possibly 153 wells, in Roane and Jackson Counties.

Q. And you own the right of way for your line "E"?

A. We do.

Q. You acquired that by either purchase or condemnation, or both?

A. I believe we acquired it by purchase.

Q. When you put the gas from any particular one of the 153 wells into line "E," you don't know where that gas is going, do you,—whether it is going to a consumer in West Virginia, or part of it to a consumer in West Virginia, or going out of the State of West Virginia?

885 A. I couldn't tell the gas from any particular well, but I know that practically all of it goes out of the state. There is a very small consumption on that line in the State of West Virginia.

Q. You have a number of towns on that line, have you not?

A. Some small towns.

Q. Are you able to state the number of consumers, or the approximate number of consumers, you have on your line "E"?

A. Approximately 698 domestic consumers, connected to that line.

Q. Which one of your lines delivers gas to consumers at and near the City of Charleston?

A. The gas is delivered to Charleston through an eight-inch line "C," and a 10-inch line "D."

Q. Where are the wells located that feed into those two lines?

A. The wells are located in Roane and Kanawha County.

Q. Are lines "A" and "S" and "C" and "D" connected, so that gas may flow from one of them into the other, and pass interchangeably through those lines, as parts of your system?

A. It can be so handled up to a certain amount of gas. The pressures on the lines referred to as line "S" and line "A," would not be sufficient to deliver the gas at all times into the City of Charleston, to meet the demand.

Q. Does the gas from the wells that feed into lines "C" and "D" also into either line "A" or line "S"?

A. It has been pumped into that line with compressor stations.

Q. What I am inquiring is whether or not the gas—whether it is mped or feeds naturally—from the wells that feed lines "A" and " also may pass, or does pass, into lines "C" and "D," that feed City of Charleston, or vice versa?

A. The gas from line "A" and line "S," they fed lines or supplied es "C" and "D," leading to Charleston, to a certain extent, al-ugh, as previously stated, in cold weather the pressure on those es would not be sufficient to meet the demands for gas in the City Charleston. The gas from lines "C" and "D" would not feed a at deal of gas into line "S" or line "A," without the aid of a com-ssor station, so the gas connected to those lines is flowing into rleston.

Q. Is your system so constructed that you can place in lines "A" "S" gas that comes from the wells that also feed or furnish gas nes "C" and "D"?

A. It would not be practicable to feed the wells supplying lines "C" and "D" into line "S" or line "A," although it could be arranged so that this gas could be taken from the wells connected to those lines, and discharged into line "S" and line " through a compressor station, although it would take con-rable changing.

Q. There is no connection between your line "E" and the lines appear to run into it on the map, Pennsylvania Exhibit No. 22, he rest of your system, is there?

A. There is no connection between line "E" and the other lines rred to as line "S" and line "A." These lines are separated by ibly 20 to 25 miles distance.

Q. The rates you charge the consumers of gas in West Virginia, ll of your lines,—some of which I have not yet asked you about ifically—are fixed by the Public Service Commission of West ginia, are they not?

A. I believe all of the rates are fixed by the Commission. That ld mean domestic consumers.

Q. On your direct examination, you gave the distance of certain our main transmission lines. Can you state, and will you state se, the total mileage of your lines in West Virginia, excluding, ever, for the purpose of this question, small well lines and the in cities and towns where you have franchises?

A. Excluding the smaller lines that you refer to, there would be approximately 610 miles of pipe, the larger pipe lines in the state.

Q. What is the smallest line that you include in your an-?

That would be about 4.78.

Q. Your company has a franchise to furnish gas in the City of Charleston, has it not?

A. It has.

Q. Do you know when you acquired it?

A. No, I couldn't give you that information. It was acquired long before my connection with the company.

Q. Do you know whether that franchise was originally in the name of your company or in the name of some other company?

A. I believe we have secured franchises through purchases of other companies. This franchise was purchased from the United States Natural Gas Company in the year 1909.

Q. Do you know whether the United States Gas Company was the original owner holding the franchise, or whether it had acquired it in turn from some other corporation?

A. I understand that it acquired it from another company.

Q. There had been a local company in the City of Charleston furnishing gas to the city, and that local company, in the first instance, had acquired the franchise, had it not?

889 A. That is as I understand, from hearsay.

Q. Your company had acquired a number of franchises and a number of smaller companies before you went with the company, and the history of these matters is not in your personal knowledge. Is that true?

A. I couldn't state accurately as to what happened before I came with the company—positively.

Q. Do you know whether or not it is true that your company's properties, as they are today, represent the assembling and putting together of a number of properties that theretofore had been separate and independent properties?

A. I understand that a very small portion of the company was acquired in that company—the smaller companies, one or two.

Q. Do you mean a small portion of the leases, or do you mean a small portion of the franchises and local preferences?

A. I understand there was a considerable amount of acreage and some lines, consumers, secured.

Q. But as to the details of assembling and putting these together, you are not personally familiar and have no personal knowledge?

A. I am not.

890 Q. There are a great many small gathering lines, parts of your company's system, not shown or in any way indicated on this map, Pennsylvania Exhibit 22, are there not?

A. Yes, there is a considerable amount of small pipe leading from the wells to the lines, that is not shown.

Q. Quite a great many of them, of course, not shown here on this map?

A. I would think so, yes.

Q. On your direct examination, you stated that you delivered to domestic consumers, outside of the State of West Virginia, 1,491,447,000 cubic feet of gas. Will you state, please, the points at which you made the delivery of such quantities, to such consumers?

A. That was for the year 1919?

Q. Yes.

A. Ironton, Ohio, Ashland, Kentucky, and Catlettsburg, Kentucky, and scattered towns in Ohio and Kentucky, as well as rural consumers in both states.

Q. You stated that you delivered to industrial consumers outside of the state 2,507,654,000 cubic feet. Will you state the points at which such deliveries were made to such consumers?

A. Ironton, Ohio; Ashland, Kentucky; Portsmouth, Ohio;
891 New Boston, Ohio,—that is practically the larger amount of the gas to the points, which was delivered to industrial consumers.

An adjournment was here taken until Thursday, July 1, 1920, at 10 o'clock, A. M.

892 Thursday, July 1, 1920.

And now, Thursday, July 1, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed pursuant to adjournment.

H. A. WALLACE recalled.

Cross-examination (resumed).

Mr. Blue:

Q. Yesterday afternoon I inquired of you the location of the industrial plants to which you delivered gas outside of West Virginia. In a general way, state the nature of such industrial plants; I mean, industrial plants to which the United Fuel Gas Company delivered gas, outside of West Virginia.

A. The United Fuel Gas Company furnishes gas outside the state to the Ashland Iron & Mining Company, of Ashland, Kentucky; the Ashland Steel Company, of Ashland, Kentucky; the Whittaker-Glessner Company, of Portsmouth, Ohio; the Portsmouth Street Railway and Light Company, of Portsmouth, Ohio; the Ashland Fire Brick Company, of Ashland, Ohio, and several smaller consumers.

Q. The Whittaker-Glessner Company is an iron and steel plant, is it not?

893 A. A steel plant, I believe.

Q. On yesterday I asked you about your lines "C" and "D", which lines you say furnish gas to the City of Charleston. Do such lines "C" and "D" furnish gas to consumers in West Virginia other than to consumers in the City of Charleston?

A. Not to any great extent; a few domestic consumers along the line, small towns, such as Elk View, Milliken, and Blue Creek.

Q. What lines furnish gas to consumers in South Charleston, Kanawha County, West Virginia?

A. The gas of South Charleston comes through the same lines.

Q. At South Charleston, Kanawha County, is located the United States projectile and machine factory or plant, and armor plant, is it not?

A. At South Charleston there is a projectile plant located, and an armor plate plant, in the way of construction.

Q. How many consumers in West Virginia do your lines "C" and "D" serve or furnish gas to?

A. In the way of manufacturing plants supplied by the two lines referred to is the Banner Glass Company——

Q. Just the number. I don't care about the names so much.

A. The two lines referred to supply 10,305 domestic consumers in Charleston and South Charleston. Also 135 industrial users of gas.

894 Q. Does the number of domestic consumers given by you include domestic consumers outside of Charleston and South Charleston?

A. Yes, sir, of this number there are 121 consumers outside the city limits of Charleston.

Q. On yesterday you spoke of Mr. H. G. Scott, President of the Charleston Industrial Corporation, relative to gas for contemplated industries at Nitro. Will you please state where Nitro is located?

A. Nitro is located on the K. & M. Railroad, about twelve miles from Charleston; also on the Kanawha River.

Q. Do you have a line running to Nitro?

A. We have a line running through Nitro.

Q. You furnish no gas to consumers of any kind at Nitro?

A. We have been furnishing gas to the government at Nitro, to be distributed by the government representatives to domestic consumers at Nitro.

Q. In a short general way, what is Nitro?

A. Nitro is, at the present time, as I understand, owned by a body of men organized for the purpose of purchasing this material and site from the government, for the purpose of building up Nitro along industrial lines, endeavoring to get large manufacturing establishments to locate at that point and build up a city, if possible.

895 Q. Nitro was built by the United States Government during the war?

A. It was.

Q. It was generally understood that the Government spent fifty or sixty millions of dollars in building a town there?

A. That is as I understand it, from hearsay.

Q. And at Nitro the Government, in addition to the plant built there, built several thousand dwelling houses, did it not?

A. I couldn't state the number of dwelling houses, but at Nitro there were a large number of them, however.

Q. There were houses there built over a space of two or three miles in length, and from half a mile to a mile in width, are there not?

A. The buildings located in Nitro I should judge cover the territory specified by you.

Q. There is housing room there in Nitro for probably 10,000 people, is there not?

A. I don't think so.

Q. Well, several thousand anyway?

A. I would say possibly two thousand.

Q. Well, whatever it is, you were furnishing gas for distribution to those houses?

A. I would say the greater part of them.

Q. And also gas for delivery to the manufacturing part of
896 that plant also?

A. To a small extent, we took care of some manufacturing, I understood, during the war.

Q. On which one of your lines is Nitro located, and from which one of your lines did you supply and deliver gas to consumers at Nitro?

A. Nitro is located near line "S," a 20-inch line, and is securing their gas from a line connecting line "S" and line "A"; so it would be difficult to tell just which line the gas came through that furnishes Nitro, although I would judge the greater proportion of it would be through the 20-inch line.

Q. Which one is the 20-inch line?

A. Line "S."

Q. What is the size of your line from line "S" to Nitro?

A. As I recollect, that line is 12-inch O. D. pipe, although there are a couple of different sizes of pipe in the line. It consists mostly of 12-inch, with a small amount of 10-inch.

Q. You mean that you have one 12-inch line from the line "S" up to Nitro, or a 12-inch and a 10-inch?

A. We have two lines connecting at this point from line "S" to line "A", commonly spoken of as a 12-inch line, although there is a small amount of 10-inch pipe in one or the other of these
897 connecting lines.

Q. Then the deliveries that you have made, are making, or may make, of gas to Nitro, comes through line "A" and line "S", and probably the larger part of it through line "S"?

A. From the field, yes, sir.

Q. Can you state approximately the number of wells, and their general location, that have supplied and do supply gas to your line "S"?

A. We have approximately 405 wells in Roane, Kanawha and Clay Counties, feeding into line "S" and line "A"; the two lines being connected together, of course; the wells feeding both lines.

Q. Line "A" and line "S" are so connected then, as I understand you, that the gas that goes into them cannot be determined as to which particular wells finally find their way into either line; is that right?

A. That is correct. Of course, this could be separated, but in the usual operating condition, the lines are connected together.

Q. Do you know when gas was first delivered, or the delivery of gas begun, to consumers along your line from Roxalana to Kanawha? I mean, deliveries to consumers in the State of West Virginia along that line?

A. I couldn't state positively what time the first deliveries
898 were made on this line, but I believe that line "A" was completed in the year 1905. This line, however, was not built by the United Fuel Gas Company.

Q. Gas was being delivered to consumers in the State of West Virginia on that line at least as far back as 1905, was it not?

A. I would say that there was gas delivered to consumers on that line in the year 1905. It couldn't have been back further than that, for the line wasn't completed until that year.

Q. How far back are you able to state that gas was being delivered to consumers in the county of Kanawha and other counties adjacent thereto, by any of the lines shown on the map, Exhibit Pennsylvania 22, as parts of your present system?

A. I couldn't state as to whether any of the present lines are the lines that formerly supplied Charleston, prior to my employment with the company, but understand that gas was supplied to the City of Charleston by the Charleston Natural Gas Company, beginning in the winter of 1893 and 1894.

Q. While probably not the same identical pipe lines, yet the lines of your system supplying consumers in the County of Kanawha are on the same rights of way, or substantially the same rights of way as the pipe lines that supplied consumers in the County of
899 Kanawha and adjacent counties, by your predecessors—isn't that right?

A. It is just possible that some of these lines were supplying Charleston, although there have been additional lines laid into the City of Charleston since that time, and I suppose the line—providing it was one of these lines shown on our map—had been increased in length, running farther into the field to secure a more adequate supply of gas.

Q. Well, you mean that with the increase of population in the City of Charleston, and elsewhere along these pipe lines, that you have extended your system and enlarged the pipe lines of your system, to take care of that increased consumption?

A. Yes, sir.

Q. But you are carrying out the franchises and undertakings of those who were your predecessors in furnishing to these consumers gas?

A. We are endeavoring to take care of the consumers in Charleston in the best possible manner.

Q. Now, the supplying of these consumers and the building of these lines for the purpose of supplying these consumers in West Virginia, was all prior to the construction of your lines to
900 Cincinnati, for instance, were they not—or was it?

A. I would say the original line supplying Charleston was laid before gas was supplied to Cincinnati; but the additional improvements, such as laying additional lines and extending the lines previously laid—a great deal of the work has been done since Cincinnati was supplied.

Q. But the undertaking to furnish to consumers in the County of Kanawha natural gas was an undertaking some time before any undertaking to furnish gas to Cincinnati or Louisville, was it not?

A. Gas was supplied, as I previously stated, to Charleston, by our predecessor, before gas was supplied to the City of Cincinnati.

Q. You not only supplied it, but your lines were built and the

system was installed for the purpose of supplying gas to consumers in the State of West Virginia, even before you began the construction of the line to furnish gas to Cincinnati or to Louisville; isn't that right?

A. Not by the United Fuel Gas Company.

Q. No, but by your predecessors?

A. Yes, sir; that is true, in a small manner. There was gas supplied to the City of Charleston.

Q. And your company took over the lines and system of your predecessors, and made it a part of your present system?

A. They did, yes, sir.

901 Q. On your direct examination, you referred to your line "T." It is by this line that you deliver gas to the Hope Natural Gas Company and the Pittsburgh & West Virginia Natural Gas Company. Where are the wells located, and how many of them are there which supply your line "T"?

A. A large part of the gas supplying the 20-inch line "T" is obtained from what is known as the Kanawha field in Kanawha County. The wells, in number, are between 30 and 40. I could not state exactly the number. There is also an additional supply of gas at times secured from the Roane County field.

Q. Where is connection made with your line "T," so that gas from the Roane County fields may be put into line "T"?

A. The connection is made near a point shown on the map as Cobb, in Roane County, near Clendenin.

Q. How many of your Roane County wells can you use in supplying line "T" with gas at the connection indicated by you?

A. In the Clendenin field there are approximately 405 wells, and the greater part of these wells could be used to supply this line "T."

902 Q. You use those wells interchangeably though, do you not? In other words, you can use them so as to supply line "T" or line "A" or line "S," or all three of them at the same time, if you so desire.

A. You can, yes, sir.

Q. Your line "T" is connected then with your line "A" and your line "S"?

A. There is a connection to both lines.

Q. And you can put your Kanawha field gas into either line "A" or "E" or both, as you desire, at any time?

A. No, we couldn't put the Kanawha field into line "E."

Q. You can into line "A"?

A. We can into line "A" and line "S" and line "T."

Q. If I said "E," I meant "A" and "S." In my question I meant to inquire if you could not, and if you do not, put your gas from the Kanawha field into lines "A" and "S" as well as "T" at such times as you so desire?

A. The wells in Roane County and Clay County, known as the Clendenin field, are principally used for supplying gas for delivery through line "A" and line "S"; the gas supplying 20-inch line "T," a larger proportion of it is taken from the Kanawha field, but at times there is a certain amount of gas taken from the Roane County

or Clendenin field, to add to the deliveries of gas through line "T

Q. Gas from your Kanawha field then may find its way
903 Cedarville, or it may find its way into your line "A," and
may find its way into line "D," or it may find its way in
your line "S"; is that not true?

A. That is correct.

Q. On your direct examination you said that you understood th
the gas you delivered to the Hope Natural Gas Company and t
Pittsburgh & West Virginia Gas Company at Cedarville is for tran
portation to Pennsylvania. When you deliver your gas throug
your line "T" to the Hope Natural Gas Company and the Pitt
burgh & West Virginia Gas Company, such gas is not consigned,
designated as consigned, to any particular place, is it?

A. Not by our company. It is merely sold to the two compani
referred to at Cedarville, and the distribution of the gas after leavi
that point is solely up to the two companies referred to.

Q. When you deliver your gas through line "T" to the Hope Na
ural Gas Company and the Pittsburgh & West Virginia Gas Com
pany, it becomes there commingled with the common mass of g
produced and purchased by the two companies named; is that right

A. That is correct. My idea in saying the gas came to Pittsburg
was merely a supposition, on the strength of being called u
904 in extremely cold weather by officials of the companies he
at Pittsburgh, complaining to me that they were extremel
short,—in part, practically out of gas for domestic consumers, an
requesting me to give them more gas, if possible. And I take it fo
granted, under those conditions, that the gas was coming to Pitt
burgh.

Q. You also know, do you not, that at the same time that com
plaint was coming from Pittsburgh, there was also complaint com
ing to them from consumers in West Virginia?

A. No, I wouldn't say that would hold true. Consumers in We
Virginia are taking their gas from the line prior to the time that
would be received at Pittsburgh, and necessarily they should have
much better supply at those points than they have at the extrem
end of the line here in Pittsburgh.

Q. What I have in mind, and what I meant by the question,
that the West Virginia consumer is attached to the same line of g
that you deliver to the Hope Natural and the Pittsburgh and We
Virginia, that is being distributed by those companies to their con
sumers in West Virginia, as well as to Pittsburgh?

A. No doubt there is a certain proportion of consumers in We
Virginia connected to lines belonging to the Hope Natur
905 Gas Company and the Pittsburgh & West Virginia Gas Com
pany, into which some of our gas finds its way, but I woul
say that they would possibly have a good supply of gas when th
consumers up here were entirely out, or almost entirely out.

Q. The point of the question I am asking you is, that the gas d
livered by you to the two companies at Cedarville is in lines of th
Hope Natural Gas Company and the Pittsburgh & West Virgini
Gas Company delivering gas and distributing gas to consumers i

West Virginia and in Pittsburgh, and you do not know, therefore, where your gas really goes?

A. No, I couldn't state where the gas really goes after it enters their lines, although I do know in a general way that a large part of the gas comes to Pittsburgh.

Q. Well, that is only true because of the fact that the two companies that you refer to—or rather, you assume that to be true, because the two companies to whom you deliver the gas deliver a larger quantity through some mains into Pittsburgh and vicinity than they deliver from the same mains in the State of West Virginia to their consumers in West Virginia?

A. I understand it through that source, and I also put in a great number of years working for the Hope Natural Gas Company
906 and know about the route their gas takes after leaving the large compressor stations into which this gas is feeding.

Q. You stated awhile ago that the West Virginia consumer would probably get more gas than the consumer in Pennsylvania; indicating that that was true because the gas first reached the West Virginia consumer. Would that not be the natural, practical operation, and the natural and practical effect?

A. I made that statement, taking into consideration that the consumers in West Virginia were closer to the field than the domestic consumers in Pittsburgh, and adjustments could be made possibly quicker to relieve any shortage they might have in the state. In other words, if their pressure was lower, they could weight down a regulator to a certain point and get quick results, while to build up their pressure at Pittsburgh, it would necessarily take a considerable number of hours after the shortage had become acute in Pittsburgh.

Q. On yesterday you stated on direct examination that you delivered to other gas companies in West Virginia 30,515,535,000 cubic feet. Will you please state the gas companies to whom you made such deliveries in West Virginia, and the respective quantities to them?

907 A. The gas was delivered in the amounts specified in the year 1919, in this state, to the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, the Hope Natural Gas Company, the Pittsburgh & West Virginia Natural Gas Company, the Charleston-Dunbar Natural Gas Company, the Falling Rock Cannel Coal Company. The amount supplied to the Columbia Gas & Electric Company was 7,301,647,000; the amount supplied to the Ohio Fuel Supply Company was 9,455,428,000; to the Hope Natural Gas Company, was supplied 7,461,440,000 cubic feet; to the Pittsburgh & West Virginia Gas Company was supplied 6,222,967,000; to the Charleston-Dunbar Natural Gas Company was supplied 55,385,000; to the Falling Rock Cannel Coal Company was supplied 18,668,000 cubic feet.

Q. The 7,301,647,000 feet delivered by you to the Columbia Gas & Electric Company was delivered at the point designated as Ball's Gap?

A. Yes, sir.

Q. The gas you deliver to the Columbia Gas Supply Company is delivered by your line "S" at Ball's Gap?

A. To the Columbia Gas & Electric Company?

Q. Yes.

A. It is principally supplied through our line "S," but a
908 additional supply can also be taken, if necessary, from lin
"A."

Q. You bring your gas over from line "A" to line "S," by you
line A-25, as well as other connections you have between the tw
lines?

A. Yes, sir, if practical to do so, or necessary. But it is not th
usual operating condition; the gas, as a usual thing, is transporte
from line "S" to line "A."

Q. The Columbia Gas & Electric Company is a West Virgini
corporation, is it not?

A. It is.

Q. And it makes small deliveries of gas to consumers in the Stat
of West Virginia?

A. I understand so.

Q. Can you state about the proportion of the gas delivered by you
company to the Columbia Gas & Electric Company, delivered by it t
consumers in the State of West Virginia?

A. I do not believe that any of our gas sold to the Columbia Gas &
Electric Company is delivered to consumers in West Virginia.

Q. What is your answer?

A. I do not believe any of the gas sold by us to the Columbia Ga
& Electric Company is being sold to domestic consumers in Wes
Virginia.

909 Q. Where does it get the gas that it sells to consumers in
West Virginia, if it sells any?

A. The Columbia Gas & Electric Company have a large number o
wells in what is known as the Branchland Field. It also has some
compressor stations located at Branchland and Nye, at which point
they have additional wells; that is, meaning additional wells at Nye
in addition to the field they have at Branchland. To the best of my
knowledge, the gas supplied to the domestic consumers in West Vir
ginia comes from this field.

Q. The Branchland Gas Field of the Columbia Gas & Electri
Company is situated in the County of Lincoln, State of West Vir
ginia, is it not?

A. It is.

Q. The gas which you deliver to the Columbia Gas and Electri
Company at Ball's Gap is commingled and mixed with the gas which
the company produces itself, and then transports through its line?

A. It is, after leaving our line.

Q. The 9,445,428,000 cubic feet of gas delivered by your com
pany to the Ohio Fuel Supply Company is delivered at the Ohio
River near Ravenswood, Jackson County, is it not, by your line
"E"?

A. The gas from this line is delivered to the Ohio Fuel
910 Supply Company after crossing the river, connecting with
their line at the state line on the Ohio side of the river.

Q. And none of the gas delivered by you in the State of West

Virginia then, at the point indicated in your answer, is sold to consumers in the State of West Virginia by the Ohio Fuel Supply Company?

A. None that I know of.

Q. The 7,461,440,000 feet delivered by you to the Hope Natural Gas Company, and the 6,222,967,000 feet delivered by your company to the Pittsburgh & West Virginia Gas Company, are the same quantities of gas already referred to by you as delivered by your company to its line "T" at Cedarville, West Virginia?

A. It is.

Q. Where does, or where did, your company deliver the 55,385,000 cubic feet of gas to the Charleston-Dunbar Natural Gas Company?

A. This gas was delivered to the Charleston-Dunbar Company at a point near the Kelly Ax factory, in the City of Charleston, West Virginia.

Q. Are you delivering at this time any gas to the Charleston-Dunbar Natural Gas Company at any point other than at or near the Kelly Ax plant in the City of Charleston?

911 A. Not at the present time. They don't usually ask for assistance only in extremely cold weather, and they had an ample supply of gas during the warm weather; but at times when in urgent need of gas for domestic consumers, such companies as the Charleston-Dunbar Company and those small companies, make an insistent demand on us for gas, stating that they need it to take care of their domestic consumers.

Q. You have points of connection with the Charleston-Dunbar Natural Gas Company on your lines in the County of Kanawha, have you not?

A. We have not. We made this connection merely to assist them in taking care of their domestic consumers in the time that they were short of gas, as they hadn't had the foresight to lay in a supply of gas, and sufficient acreage, or drilled up a sufficient amount of gas to take care of their consumers, only in the warmer months. Immediately after the cold snap was over, I had the connection taken out, and at the present time, to the best of my knowledge, there is no connection between the two companies named.

Q. You have had a connection of your lines in Kanawha County with the line of the Charleston-Dunbar Company at or near the industrial town of Dunbar, haven't you?

912 A. Well, it is just possible that there was. I don't recollect of there being any. We have, at the request of the officials of the Charleston-Dunbar Company, endeavored to help them out of their troubles, to take care of their nearsightedness, on a couple of different occasions, and might possibly have had a connection at that point too.

Q. You also had a connection connecting your lines with the Charleston-Dunbar Natural Gas Company to supply gas for the town of St. Albans, in the County of Kanawha?

A. No, I believe not.

Q. Where is the connection of your lines with the Falling Rock

Cannel Coal Company, by which you supplied the latter company with 18,668,000 cubic feet of gas?

A. This connection must have been made to our line near Blue Creek or Bannister. I couldn't state the exact location of the connection to our line, but it was in that vicinity.

Q. To which one of your lines, as indicated on this map, is the connection made?

A. I couldn't give you that information. Either to the 8-inch line "C" or the 10-inch line "D." They are very close together, and the connection might have been placed on one or the
913 other of those lines.

Q. And to which one of your lines, as indicated on the map, was the Charleston-Dunbar connection made?

A. The Charleston-Dunbar would really be connected after the gas reached the City of Charleston through both lines; connected to one of our medium pressure lines in the City of Charleston,—a line not shown on the map.

Q. On your direct examination, you were asked the valuation of your plant in West Virginia, and as I understood you to answer, you fixed that valuation at $60,000,000?

A. Near $60,000,000, yes, sir.

Q. In making that answer, did you mean that to be the capital investment of your company in West Virginia?

A. In that investment I included the capital investment and money expended in—well, expended, and the added value for acreage.

Q. How much of the $60,000,000 is the capital investment of your company?

A. Close to $24,000,000.

Q. And what does that capital investment represent?

A. That investment represents expenditures for pipes, casing, necessary fittings for well work and construction work, acreage, right of way purchased and right of way expense, build-
914 ings, fittings, gate-valves and other materials; labor, teaming and freight, regulators, and so forth; telegraph and telephone lines, office furniture, large tools, meters, compressor stations and measuring stations, service lines; horses, wagons and autos, and drilling tools, cleaning out tools, and discount on bonds.

Q. What does the other $36,000,000 of your valuation represent?

A. Principally increased values in acreage.

Q. Do you mean the $36,000,000 represents the increased valuation of your leases on the 715,000 acres of gas territory in the State of West Virginia.

A. That was the value placed on the property by appraisal; including capital investment and the value of the leaseholds.

Q. Do you mean the $60,000,000 was the value placed by the appraisal on your leaseholds and the things represented by your capital investment?

A. Yes sir.

Q. Leaving the appraisal value of your leaseholds in West Virginia then at approximately $36,000,000?

A. Near that figure, yes, sir.

Q. In making your answer a moment ago, you used the
915 words, "Increased value of your leaseholds," or words to that effect. Will you explain, please, what you meant, and what you do mean, by such words?

A. Well, originally, when this acreage was taken up, a considerable amount of it was not known to have any great value; but from the drilling of wells and testing out the territory, and wildcat wells, and so forth, it was shown that the lands were naturally valuable for gas purposes, and necessarily increased considerably above the purchase price.

Q. And that increase by your appraisal was determined at $36,000,000?

A. Near that amount. There were other things, I suppose, taken into consideration. The lines, and so forth, being constructed through the field to various points crossing acreage, showing that there would be a ready market for the gas when drilled up, without too great an expense in constructing lines.

Q. Now, when you give this valuation of $60,000,000, made up in the way as you have indicated? do you mean that that statement of figures, of $60,000,000, is the valuation of the property as a gas property, and independently of your property as an oil property, or as inclusive of the value of your property as an oil property?

916 A. I believe there would be between four and five million dollars of that amount that should be stated as oil valuation.

Q. You mean, of the $60,000,000 of valuation?

A. Yes sir.

Q. Do you include that $4,000,000 as representative of the oil value, in the $36,000,000 of increase in valuation?

A. That would be the increase and the whole investment.

Q. Since you have referred to the oil, can you state, please, whether your company has, on its leases, any oil wells?

A. It has.

Q. State how many?

A. We have approximately 162 oil wells.

Q. Do you know what your production in oil was, in barrels, during the year 1919?

Mr. Weil: This is objected to as incompetent, irrelevant and immaterial, and not cross examination; the witness not having been interrogated with reference to the oil production. The investigation here being with reference to the export of gas from the State of West Virginia, and not with reference to the internal operation and affairs of each witness's company that appears before the Master to give testimony. Proceedings of this character, going
917 into all the details of business of every witness that is produced, would prolong this examination to a period where counsel for complainants would be compelled to ask the Supreme Court for a further extension of time, from five months to twelve months, in order to put in their testimony. The cross examination here having already gone into fields far away from any pos-

sible issue that could be involved, counsel now give notice that if this procedure is continued, and this method of consuming time in cross examination upon matters that can by no possibility have the slightest reference to any issue involved in this controversy is continued, an application will be made to the Court, as soon as possible, for an increase in the time to be allowed counsel for the complainants to complete their testimony.

The Commissioner: The objection will be noted, and the witness will answer.

A. For the twelve months in the year 1919, the total oil production amounted to 236,308.83 barrels.

918 Q. Was that oil produced on the same leaseholds referred to in your direct examination, when you stated, in response to Mr. Weil's question, the number of acres held by you in the State of West Virginia?

A. That was included in the acreage.

Q. It is on the same leaseholds—and this production of oil is on the same leaseholds you referred to in your direct examination?

A. Yes, sir.

Q. In the State of West Virginia?

A. In the State of West Virginia.

Q. What is the valuation that you place upon your gasoline rights in respect to your leases in the State of West Virginia, and the same leases that you referred to in answering Mr. Weil's question upon direct examination, as to your leaseholds, and as to the valuation of your property in West Virginia?

Mr. Weil: The same objection to this question as was made to the inquiry with reference to the oil production.

The Commissioner: Note the objection.

919 A. The valuation was placed as a whole on the company as a going concern, and I could not designate the value placed on gas for gasoline purposes.

Q. Of the gas you produce on your leaseholds in West Virginia, you do extract therefrom gasoline, do you not?

A. The larger part of it, yes, sir.

Q. Could you state how many gallons of gasoline you extracted from the gas from your leaseholds in the year 1919, in the State of West Virginia?

Mr. Weil: The same objection is made to this question as was made to the inquiry with reference to the oil production.

The Commissioner: Note the objection.

A. For the year 1919 the production of gasoline amounted to 12,932,156 gallons.

Mr. Weil: The motion is made to strike out this answer, for the reasons given in the objection; there having been no bill as yet passed by the State of West Virginia to prevent the export of gasoline from the state.

The Commissioner: Let the motion be noted.

920 Mr. Blue:

Q. And this gasoline was made from the gas produced and purchased by your company in the State of West Virginia in that year?
A. In the States of West Virginia and Kentucky.

Mr. Weil: The same motion.
The Commissioner: Note the motion.

Mr. Blue:

Q. How much of it was made from gas produced and purchased in the State of Kentucky?
A. I would be unable to answer that question.
Q. You may approximate it.
A. I would be unable even to approximate it.
Q. Can you apportion the quantities between the states of West Virginia and Kentucky approximately?
A. I couldn't even do that, as the gas from the plant in Kentucky comes from both West Virginia and Kentucky.
Q. In the statement filed by you yesterday, showing gas sold in West Virginia in 1910-1919, there is a column headed "Number Direct Consumers," for the several years, with the amounts sold for each of the several years to direct consumers. Will you ex-
921 plain, please, what the column so headed means?
A. This, I believe, is drilling wells and cleaning out wells, gas furnished for these locations, without measurement by either, and the amount of gas consumed for this purpose being estimated.
Q. Does this column include your own field service, or, in other words, the field service of your own company?
A. It does not, to the best of my knowledge.
Q. Is the quantity of gas used or consumed by your company for each of the several years in its field service shown on this statement?
A. No, it is not.
Q. Could you state approximately about the quantity of gas your company uses each year in its field service? Particularly, say for the year 1919, including your compressor stations, and other gas consumed by you in the operation of your plant?
A. The gas used for operation by the United Fuel Gas Company in the year 1919, amounted to approximately 1,380,252,000 cubic feet.
Q. This quantity includes, does it, the gas used by your company in operating its compressor stations, and all other appliances used by you in the operation of your plant?
922 A. It does.
Q. Including the drilling of oil wells?
A. Including the drilling of oil wells.
Q. Was your company delivering gas in the years 1917 and 1918 to the Columbia Gas & Electric Company, the Ohio Fuel Company, the Hope Natural Gas Company, the Pittsburgh & West Virginia

Gas Company, the Charleston-Dunbar Natural Gas Company and the Falling Rock Cannel Coal Company?

A. We were delivering gas to the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, the Central Kentucky Natural Gas Company, the Louisville Gas & Electric Company, the Portsmouth Gas Company, the Hope Natural Gas Company, the Pittsburgh & West Virginia Gas Company, and the Charleston-Dunbar Natural Gas Company, during the years 1917 and 1918, but not to the Falling Rock Cannel Coal Company.

Q. And were you so delivering gas to these companies, in substantially the same quantities, as you did in the year 1919?

A. The deliveries to these companies varied to some extent. We delivered on the whole more gas to the parties mentioned during the years 1917 and 1918 than we did during the year 1919.

923 Q. When was the appraisal of $36,000,000 increase in value made and entered upon your books?

A. During the year 1918.

Q. On your direct examination you stated the average consumption of gas in the City of Cincinnati. Did you have reference to the consumption of natural gas in the City of Cincinnati?

A. I did, yes, sir.

Q. By what company was the gas delivered to the consumers upon which you base your average domestic consumption in Cincinnati?

A. That is the Union Gas & Electric Company of Cincinnati.

Q. Is that a distributing company in the city of Cincinnati?

A. It is.

Q. How many consumers of natural gas in the City of Cincinnati has the distributing company upon whose distribution you made your average consumption?

A. They have between 121,000 and 125,000 consumers; in the City of Cincinnati.

Q. Do you know whether the Union Natural Gas Company gets all of its natural gas from the West Virginia fields?

A. It does not.

Q. Does it get any of it from the West Virginia fields?

924 A. The Union?

Q. Yes.

A. The Union Natural Gas Company is supplied through the Columbia Gas & Electric Company.

Q. Where does the Columbia Gas & Electric Company get the gas it supplies to the Union?

A. From West Virginia and Ohio.

Q. On your direct examination you testified respecting reconstruction of buildings, in the event that the consumers of natural gas were deprived thereof. To what consumers were you referring in your statement?

A. I had in mind the domestic consumers in practically any state.

Q. You included the domestic consumers in the State of West Virginia, in the statement made by you, did you?

A. I did.

Q. The same conditions would apply, of course, to them, as would

pply to the consumers in any other state—the conditions that you ere speaking of in your direct examination?

A. I would presume they would.

Q. The consumers of natural gas in your territory were using , and building their houses to use it, before the lines from Kermit Louisville and from Kenova to Cincinnati were built, were they not?

25 A. A great many of them were.

Q. The homes in Cincinnati and in Louisville were not riginally built for the use of natural gas in them, were they?

A. They were practically all built, I suppose, for the purpose of sing gas, as they were supplied with artificial gas, I understand, rior to the time they secured natural gas, which would be along the me lines.

Q. In other words, they did not build their houses particularly r the use of natural gas that might come from the fields of West irginia or any other state, but were built for the use of artificial as, if built at all for the use of any kind of gas? Isn't that right?

A. A great number of them, I suppose, were built for the use of tificial gas as fuel, but possibly have been changed to a consider- ble extent since securing natural gas.

Q. Are not many of these old artificial gas plants in Cincinnati nd Louisville and other cities, where artificial gas was made and sed, being used today in the distribution of natural gas?

A. I understand these plants—the service has been practically discontinued from them and the plants are out of commission,

26 and I suppose it would practically cost as much to put them in running order as it would to construct new plants.

Q. My question, however, is this: aren't these old plants being sed now for distribution—the systems being used now, in the sup- lying of natural gas, so far as they have natural gas at hand, to omestic consumers?

A. The only part of the plants that are in use, to my knowledge, the reservoir or storage that they had for artificial gas, and is ssibly being used—in fact, I know is being used to some extent r the storage of natural gas.

Q. And out of those reservoirs this natural gas is going through ains that were formerly used for artificial gas?

A. I suppose, to a considerable extent.

Q. About all that has been discontinued in the use of them, and hat you refer to as would have to be built, is that part referred to retorts, isn't it?

A. I don't know a great deal about the artificial gas condition in e cities referred to, only from hearsay; hearing men interested lking and discussing it.

Q. But the homes themselves have the same gas pipes and ap- iances in the use of natural gas that they had formerly in the use of artificial gas?

27 A. No, I believe the appliances have been changed, to some extent.

Q. But the piping isn't? Probably the burners have, but they e constantly changing. But the pipes themselves?

A. There is a considerable amount of the pipe in use, I suppose, that was used for the artificial gas.

Q. On your direct examination you stated that your company had contracts to deliver gas to the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, the Central Kentucky Natural Gas Company, the Louisville Gas & Electric Company, the Portsmouth Gas Company, the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company. Are these contracts in writing?

A. They are in writing.

Here a recess was taken until 1:30 o'clock, P. M.

928 Thursday Afternoon, July 1, 1920.

And now the hour of 1:30 o'clock, P. M., having arrived, hearing resumed pursuant to adjournment.

H. A. WALLACE recalled.

Cross-examination (resumed).

Mr. Blue:

Q. Will you please produce them?

Mr. Weil: Counsel for the States of Pennsylvania and Ohio object to the question, and to the request for the production of these papers and contracts between the United Fuel Gas Company and these other companies, for the following reasons:

1. As incompetent, irrelevant and immaterial to any issue involved in this controversy.

2. They were merely referred to by the witness on the direct examination, as contracts having been made and in existence, and no evidence as to their contents was offered.

3. The contracts as relating to the controversy here are evidence solely res inter alios acta, and the production thereof cannot
929 be compelled in this proceeding.

4. The demand at this time for the production of these papers to be offered in evidence by the defendant upon cross examination is not proper. If the contracts are evidence at all, they can only be offered by the defendant when the defendant presents its own testimony, as its own exhibits, and the production of these papers cannot at this time, in connection with the cross examination, be compelled.

5. This is not the proper method of procedure, by which the production of these papers can be compelled.

The Commissioner: Let the objection be noted and let the witness answer.

A. Upon the advice of counsel, I feel that I should refuse to produce these contracts at the present time.

Mr. Blue:

Q. May we ask you to state on the record, by the advice of whose counsel you decline to produce the papers? We mean by that, whether by the advice of counsel for the Commonwealth of
930 Pennsylvania and the State of Ohio, or counsel for your company, or your own personal counsel?

A. Upon advice of the chief counsel of my own company.

Q. And, on the record, will you please state who that is?

A. That is Mr. R. G. Altizer.

Q. Who is also counsel for the State of Ohio?

A. He is, so I understand.

Mr. Blue: The State of West Virginia, on the record, moves the Commissioner to order the witness to produce the contracts called for, either at once, or within such reasonable time as the Commissioner may fix.

Mr. Weil: Before any reply is made to the request of counsel, I desire to ask the witness some questions with reference to this same matter.

Mr. Weil:

Q. Mr. Wallace, have you those contracts in your possession?

A. I have no contracts of that kind with me. I understand those are at the general office at Charleston, in the hands of the Secretary and Treasurer.

931 Q. Have you any copies of them here?

A. I have not.

Q. Are you the custodian of those contracts?

A. I am not.

Q. Who is?

Objected to.

(Question withdrawn.)

Mr. Weil: Objection is made to any order by the Master on the witness for the production of these papers, for the reasons already given in the objections made to the question as originally entered upon the record; for the further reason that the papers are not in the custody of the witness; for the further reason that this is not the manner provided by law for securing the production of papers to be used in evidence in any case; and lastly, for the reason that under the authority of the Master, as heretofore interpreted by the counsel for the defendant and by the Master in response to their position in opposition to views of counsel for the complainants, the Master has
932 no such power, and any application of this kind would have to be made to the Court.

Mr. Blue:

Q. Is the custodian of those papers subject to your authority?

Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer

A. I have always taken it for granted that papers of this nature were in charge of our secretary and treasurer, and I could possibly be able to secure them by requesting them to deliver them to me.

Q. Do you have access to them when you desire to examine them?

A. I have.

Q. Is your treasurer—your secretary and treasurer—present?

A. He is.

Q. Who is he, and where does he live?

A. Mr. L. A. Seyffert; Charleston, West Virginia.

Q. He is present in the room at this time?

A. He is.

933 Q. Are you declining to produce these contracts because you don't have them present with you, and because you are not the custodian of them, or on the contrary, because you are advised by your counsel not to produce them?

A. I am declining to produce them at the present time upon the advice of counsel.

Mr. Blue: On the statement of the witness, Mr. Commissioner, the State of West Virginia renews its motion.

Mr. Weil: And for the same reasons, objections are made. As further objection to the demand, counsel for the States of Pennsylvania and Ohio call attention to the fact that the witness upon the stand is a witness called by the States of Pennsylvania and Ohio, and the company of which he is the general manager, the United Fuel Gas Company, is not a party complainant or a party to this proceeding; that where documentary evidence is required from anyone who is not a party to the record, the production of the same cannot be required or compelled by notice either to the witness

934 the company he represents, or to the complainants in the proceeding; that being the regular method established by law and the uniform practice of the courts, by which the production of documentary evidence can be secured, and when offered, the proper objections thereto can be made. Notice to produce can only be effective when given to the party to the litigation who has in his or its possession the papers which the notice requires to be produced. Therefore, in addition to the other objections made, any notice to the witness, who is not a party, has no effect, and cannot be regarded as a proper proceeding for requiring the production of the papers required.

Mr. Hoffheimer: We expect to be heard on this, if the Commissioner thinks it is necessary.

The Commissioner: We will, at this time, counsel for West Virginia may state their views on the propriety of the witness producing the papers under the order of the Commissioner, if such order can be made.

Mr. Hoffheimer: We have made a motion for an order to

935 produce these papers, and we have endeavored to refrain from encumbering this record with argument. In so far as it may

be proper to state on the record the grounds of the motion, we will proceed to do so as briefly as possible,—and we hope without the addition of further argument. We object, in the first instance, to the assumption which underlies the objection of the other side, that the United Fuel Gas Company are identical with the complainants in these cases. We take it that whether this witness shall or will produce these papers is a question between the examining counsel and the witness. We take it that so far as the practice with regard to notices to produce is concerned, if it be assumed that there is any right upon the part of counsel for the complainant to advise the witness not to produce, no notice to produce is necessary in any event, where a proceeding is based upon the existence of a contract, because the institution and pendency of the proceeding as such involves and assumes the production of that paper. So far as the question of relevancy or materiality is concerned, that is a question with
936 which the witness has nothing to do. So far as the particular custody or location of the papers is concerned, that is with which the witness does have something to do, and which the complainants have nothing to do, in case the witness sees fit to waive the particular inconvenience of bringing the papers here; and the objection, as we understand it, is now placed by the witness, not upon the ground that the papers are not in his custody, but that under advice of counsel he declines to produce. Now, we take it that this proceeding having been placed in court upon the existence of these very contracts, and this statute having been assailed as an impairment of the obligations of the contracts, upon that very substantial ground, we are entitled to see and have produced here these contracts which it is said are impaired under this legislation. And, putting it on a more narrow ground, the witness having testified to contracts for the sale of gas with these particular companies, we are entitled to cross examine upon the terms of that contract, or those contracts, to which he has testified in chief, and will go into
937 every phase of them, in order to sift his conscience upon the question whether the contracts are as he says them to be—that upon the narrow technical ground. If we place it on the broader ground, that they have assailed this legislation because it is an impairment of the obligations of these contracts, it goes to the very basis of these contracts. So far as the witness is concerned, so far as the United Fuel Gas Company is concerned, there is no privilege on the part of the United Fuel Gas Company, under any statute or any constitution, to withhold the production of papers. Even the privilege against incriminating oneself has been too often held not to apply to corporations. It has also been too often held that the officers or agent of a corporation have no privilege of that character against the production of the documents of a corporation which are assailed. It has too often been held that the witness has nothing to do with the question of materiality or relevancy. That comes right down to the question whether the Commissioner, under the Equity Rule empowering Masters to require the production
938 of papers, is to order the production of papers which the witness has refused to produce, not because they are not in his possession, not because they are not available, but because counsel—

who happens in one and the same instance to be counsel for his com
pany and counsel for the state of Ohio—has advised him not to pr
duce those papers.

The Commissioner: Let the motion and the objection thereto b
noted.

Mr. Blue:

Q. I understood you to say, in substance, on your direct examin
tion, that if your company were compelled to supply to the domesti
industrial and other consumers in West Virginia, all the gas the
desired, before taking any gas out of West Virginia, in your opinio
you would, in a very short time, in cold weather especially, have n
gas to transport out of the state; am I correct in so understanding

A. In the cold weather.

Q. That is the way I stated it in my question.

A. You are correct.

Q. If your company were compelled to supply an adequa
939 supply to fill the requirements of the domestic consumers
the State of West Virginia, before taking any of the gas o
of the state, what, in your opinion, would be the effect of this upo
your ability to transport gas out of the state?

A. That would make a much more favorable working conditio
and could be taken care of in a much more satisfactory manner.
believe the domestic consumers in the state of West Virginia coul
be taken care of without creating as great a hardship on the domest
consumers being supplied outside of the state.

Mr. Weil: The question is objected to, and particularly the a
swer, and motion is made to strike it from the record, because und
the bill in controversy here, by its express terms, adequate suppl
must be given, not only to domestic consumers, but to industri
consumers and others; and therefore the question is purely the
retical and does not apply to the issues before the Court.

The Commissioner: Let the motion be noted.

940 Mr. Blue:

Q. Then under the condition stated in the last preceding questio
you would be able to transport gas outside of the State of West Vi
ginia?

Mr. Weil: This question is objected to for the reasons given i
the preceding motion; the Act of the Legislature being just as ma
datory to supply industrial and other consumers as domestic.

The Commissioner: Let the objection be noted.

A. Under present conditions, we would be able to transport g
out of the state, after supplying the domestic consumers in We
Virginia, providing we were not called on to take care of the indu
trial consumers and other smaller companies demanding gas in th
cold weather.

Redirect examination.

Mr. Weil:

Q. Mr. Wallace, you answered counsel with reference to supplying domestic consumers; I suppose you mean the domestic consumers upon your own lines?

A. Domestic consumers on our own lines, yes, sir.

941 Q. And not all the domestic consumers in West Virginia?

A. No. I called attention to supplying smaller companies who were supplying the other consumers.

Q. Now, when your company, the United Fuel Gas Company, in 1909, as you stated, purchased the property and lines of the United States Natural Gas Company—You stated that?

A. I did.

Q. And at that time the United States Natural Gas Company had a certain amount of territory and production in Kentucky and West Virginia?

A. It had.

Q. I believe you stated, in answer to a question of counsel, that the gas that supplied Huntington, West Virginia, by the United States Natural Gas Company came from its Kentucky fields?

A. That is as I understand.

Q. Did the United States Natural Gas Company, at the time that the United Company took it over, have its line to Portsmouth, Ohio?

A. It did.

Q. At that time, when you took it over?

A. Yes, sir.

Q. And was supplying gas, was it, to Portsmouth?

A. To Portsmouth; yes, sir.

942 Q. And the gas that was being supplied to Portsmouth, Ohio, and the intermediate towns along the lines, do you know where that gas was produced by the United States Natural Gas Company?

A. As I understand it, part of it was being produced in West Virginia and part of it in Kentucky.

Q. Now, you were asked a number of times by counsel on cross-examination, and you stated that the gas which you deliver from your 20-inch line "T" to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company was being transported to Pennsylvania, and they asked you how you knew whether any of that gas went to Pennsylvania or not,—what do you know as to the quantity of gas which you deliver to those companies respectively being more than they require for the supply of their consumers en route between Cedarville and Pennsylvania?

Mr. Blue: This question is objected to by West Virginia, for the reason that the witness is to state facts and not his conclusions.

The Commissioner: Note the objection and let the witness answer.

943 A. From the knowledge that I have of the Hope Natural Gas Company's markets in West Virginia, through being employed by the Hope Natural Gas Company for a great

many years, and keeping in touch with their operations to a certain extent since leaving the company, I know that we have supplied the company with more gas through line "T," and delivered to them at Cedarville, than would take care of the domestic consumers they have in the state.

Q. And what do you say as to the Pittsburgh & West Virginia line?

A. While I never was employed by the Pittsburgh & West Virginia Company, I know considerable about their operations and their markets, and I would make the same reply relative to the amount of gas used for the domestic market in West Virginia—that we supply the Pittsburgh & West Virginia Company more gas at Cedarville than would amply take care of all domestic needs at any time in the State of West Virginia.

Q. You testified with reference to an estimate—or appraisement I think you put it—that had been made on the property of the United Fuel Gas Company, of about $60,000,000; I wish you would state the purpose for which that appraisement was made, why that appraisement was made, and why that appraisement was entered upon the books, as you have testified.

944

Mr. Blue: The State of West Virginia objects to this question as immaterial and irrelevant and as improper redirect examination.

The Commissioner: Note the objection and take the answer.

A. I understand this appraisal was made to obtain a fair and just valuation of the United Fuel Gas Company's holdings at that time, for the purpose of Federal tax matters, so as to obtain a correct idea as to the depletion and depreciation on the property for Federal tax reports in the future.

Mr. Blue:

Q. Was this appraisal also made for the further purpose of its use in the obtaining of increased rates for consumers of gas in the State of West Virginia?

A. I had really nothing to do with this appraisal. I understood it was made for the purpose I just stated.

Q. Such appraisal was also introduced at considerable length, and was made a very large part of your evidence, or the evidence of your company, in its application to the public Service Commission of West Virginia, for an increase in the rates charged by your company, and to be charged by your company to consumers of gas in West Virginia, was it not?

945

A. I believe it was used in a recent case.

Q. You introduced a number of witnesses in support of that appraisal, did you not, in the hearing before the Public Service — of West Virginia, on an application for increase of rates to consumers in that state—in respect to this appraisal?

A. I believe we had some witnesses introduced.

Q. In fact, you know that you did have——

A. Yes.

Q. —witnesses before the Commission in support of this appraisal in your application to the Public Service Commission of West Virginia for an increase in rates for natural gas furnished by you to your consumers in that state?

A. They were used in that case, although the appraisal was primarily taken for the purpose stated, and was used also in the recent rate case.

The Commissioner: The witness, Mr. Wallace, is now excused for the time being, but it is understood that he is subject to recall in case it is deemed necessary.

946 JOHN B. CORRIN, recalled.

Direct examination.

Mr. Weil:

Q. When you were on the stand before, Mr. Corrin, you were asked to produce a statement of the lines of the Hope Natural Gas Company and the Reserve Gas Company, and the sizes of those respective lines. Have you obtained such information, and are you now prepared to give that?

A. I have, and I am.

Q. Will you just state that then?

A. (Reading:)

Lines of Hope Natural Gas Company.

H-1, Eight and Ten inch, Hastings to Round Bottom, via Glover, completed in 1902.

H-2, Eighteen inch, Hastings to Round Bottom, via Brinkmeier, completed in summer of 1902.

H-3, Eighteen inch, Hastings to Clarington, completed December, 1907.

H-4, Twenty inch, Hastings to Clarington, completed in December, 1913.

H-6, Sixteen inch, Hastings to Glover and Brave, completed in 1903.

H-8, Twelve inch, Hastings to Brinkmeier, completed in 1902.

H-9, Eight inch, Hastings to Sistersville and Paden City,
947 completed in 1903. (Five six-inch branch lines.)

H-17, Sixteen inch, Wilsonburg to Wright to Lemley, completed in 1903 and 1904.

H-28, Ten inch, Wilsonburg to Wright to Lemley, completed in December, 1911, and December, 1913.

H-39, Twelve inch, Hawkins to Wade, purchased from Fayette County Gas Company May 1, 1910.

H-45, Sixteen and Twenty inch, Cove Lick to Hastings via Fink Station, completed in December, 1911.

H-45 extension, Sixteen and Twenty inch, Cove Lick to Hastings via Fink Station, completed in April, 1913.

H-51, Eight and Ten inch, Schultz to Williamstown, purchased from Mountain State Gas Company April 1, 1910.

H-52, Ten inch, Schultz to Parkersburg, purchased from Mountain State Gas Company, April 1, 1910.

H-54, Schultz to Cokeley Farm, Eight inch, purchased from Mountain State Gas Company, April 1, 1910.

H-55, Ten inch, Craig to Schultz, purchased from Mountain State Gas Company April 1, 1910.

H-100, Fourteen and Sixteen inch, Cedarville to Cove Lick,
948 completed in April, 1917.

H-106, Twenty inch, Hastings to Clarington, completed March, 1918.

H-854, 5 3/16 inch, from H-9 to Paden City, completed December, 1909.

Lines of Reserve Gas Company.

R-1, Twelve and Sixteen inch, Dry Fork to Boaz, completed in 1902.

R-5, Twelve inch, Kennedy Station to Schultz, completed December, 1908.

R-24, Sixteen inch, Dry Fork to Boaz, completed November, 1914.

Q. You were asked to give us the number of domestic and industrial consumers of the Reserve Gas Company, from 1910 to 1919. Have you prepared that data?

A. I have.

Q. Will you please state what they were?

949 A. (Reading:)

Reserve Gas Company.

Number of Domestic and Industrial Consumers.

Year.	Domestic.	Industrial.
1910	227	10
1911	246	7
1912	288	17
1913	330	19
1914	373	11
1915	386	20
1916	414	22
1917	459	33
1918	448	33
1919	521	49

Q. You were also asked to obtain for us the total acreage and wells, and the territory developed and undeveloped, of the Reserve Gas Company for each year from 1910 to 1919. Have you prepared that data?

A. I have.

Q. Will you please state those figures?
A. (Reading:)

Reserve Gas Company.

Total Acreage and Wells—Developed and Undeveloped.

ear.	Producing wells.	Acreage operated.	Acreage unoperated.
910	275	30,043.52	25,644.74
911	304	31,731.98	23,802.18
912	343	33,076.14	22,395.46
913	397	35,265.85	20,211.25
914	443	38,236.07	17,268.53
915	475	40,014.63	15,639.715
916	545	42,837.11	12,900.745
917	639	46,076.56	89,699.925
918	691	48,647.32	7,375.405
919	740	51,467.82	4,663.875

50 Q. You were also asked to prepare for each year from the year 1910 to 1919 the quantity of gas produced by the Reserve Gas Company and the quantity purchased by the Reserve as Company during each of those years, and the total. Have you epared that data?
A. Yes sir.
Q. Will you state what that was?
A. (Reading.)

Reserve Gas Company.

Gas Produced and Purchased.

Year.	Gas produced.	Gas purchased.	Total.
1910	9,657,785 M.	643,063 M.	10,300,848 M.
1911	9,611,527 M.	1,840,062 M.	11,451,589 M.
1912	12,643,378 M.	1,810,742 M.	14,454,120 M.
1913	19,513,482 M.	2,757,120 M.	22,270,602 M.
1914	21,080,238 M.	5,240,737 M.	26,320,975 M.
1915	21,172,149 M.	3,223,286 M.	24,395,435 M.
1916	29,752,951 M.	2,895,368 M.	32,648,319 M.
1917	31,161,590 M.	2,154,866 M.	33,316,456 M.
1918	29,219,199 M.	1,259,944 M.	30,472,143 M.
1919	20,911,446 M.	1,267,373 M.	22,178,819 M.

Q. You were also asked to have prepared the quantity of gas supplied to domestic, industrial and free gas consumers and the company's operations for each year from 1910 to 1919. Have you prepared that data?
A. Yes sir.
Q. Will you state what they were?
A. (Reading.)

Reserve Gas Company.

Gas Supplied to Domestic, Industrial and Free Gas Consumers and Company Operations.

Year.	Domestic consumers.	Industrial consumers.	Free gas consumers.	Company's operations.**
1910	36,902 M.	103,817 M.	57,892 M.	321,819 M.
1911	38,466 M.	78,522 M.	75,857 M.	192,575 M.
1912	45,499 M.	92,175 M.	90,362 M.	336,849 M.
1913	45,565 M.	89,294 M.	100,395 M.	532,308 M.
1914	58,286 M.	42,334 M.	118,185 M.	583,607 M.
1915	59,599 M.	87,931 M.	133,229 M.	691,364 M.
1916	67,897 M.	124,874 M.	146,989 M.	1,138,185 M.
1917	73,418 M.	112,905 M.	151,474 M.	1,473,844 M.
1918	82,605 M.	315 M.	154,767 M.	1,289,143 M.
1919	78,429 M.	... M.	139,063 M.	1,235,769 M.

952 Q. You were also asked to have prepared the deliveries of gas other than domestic, industrial and your own operations, for each year from 1910 down to 1919, inclusive, and the parties to whom the same was delivered. Have you prepared such a statement?

A. I have.

Q. Will you please give us those figures?

A. (Reading.)

Reserve Gas Company.

Deliveries of Gas Other Than Domestic, Industrial and Own Operations.

To Union Natural Gas Corporation.

Year.	Sugar Grove.	Athens.	Total.
1910	3,498,047 M.	415,858 M.	3,913,905 M.
1911	4,633,173 M.	516,281 M.	5,149,454 M.
1912	6,068,363 M.	561,133 M.	6,629,496 M.
1913	9,110,993 M.	514,483 M.	9,625,476 M.
1914	11,821,503 M.	559,323 M.	12,380,826 M.
1915	10,838,809 M.	466,575 M.	11,305,384 M.
1916	11,950,990 M.	398,796 M.	12,349,786 M.
1917	12,502,217 M.	308,532 M.	12,810,749 M.
1918	11,781,288 M.	271,459 M.	12,052,747 M.
1919	9,358,871 M.	264,472 M.	9,623,343 M.

** Includes small amount of gas for drilling operations of outside operators.

Year.	Northwestern Ohio Gas Co.	River #2.	Ohio fields.	Hope at Wilsonburg.	Total.
1910	3,598,103 M.	10,739 M.	64,843 M.	2,245,899 M.	5,919,584 M.
1911	3,814,692 M.	10,561 M.	.....	2,167,319 M.	5,992,572 M.
1912	4,285,096 M.	41,133 M.	.....	3,023,872 M.	7,350,101 M.
1913	4,663,933 M.	40,667 M.	.....	7,273,299 M.	11,977,959 M.
1914	5,213,506 M.	49,557 M.	.....	7,992,859 M.	13,255,922 M.
1915	5,196,789 M.	65,290 M.	.....	6,948,236 M.	12,210,315 M.
1916	5,296,766 M.	69,274 M.	.....	13,601,537 M.	18,967,577 M.
1917	6,347,845 M.	85,273 M.	.....	12,412,422 M.	18,845,540 M.
1918	6,059,661 M.	86,635 M.	.....	10,901,037 M.	17,047,333 M.
1919	5,709,498 M.	87,006 M.	.....	5,444,774 M.	11,241,278 M.

Year.	Clarksburg Light & Heat Co.	Pittsburgh & W. Va. Gas Co.
1910	4,821 M.	.....
1911	.....	.....
1912	.....	.....
1913	.....	.....
1914	.....	.....
1915	.....	40,842 M.
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....

954 Q. You were also asked to prepare, as to the Reserve Ga
Company, the quantity of gas sold in 1919, and how the sam
was distributed, to domestic consumers, industrial consumers, and t
other companies. Have you prepared those figures?
A. I have.
Q. And also like figures as to the River Gas Company?
A. Yes, sir.
Q. Will you give those to us?
A. (Reading:).

Reserve Gas Company.

The Reserve Gas Company, during 1919, sold 22,178,819,00
cubic feet of gas.
This amount of gas was distributed as follows:
78,429,000 cu. ft. sold to domestic consumers.
1,235,769,000 cu. ft. sold to industrial consumers.*
9,623,343,000 cu. ft. sold to Union Natural Gas Corporation.
At Sugar Grove: 9,358,871,000 cu. ft.
At Athens: 264,472,000 cu. ft.
11,241,278,000 cu. ft. sold to Hope Natural Gas Company.
For Northwestern Ohio Gas Co., 5,709,498,000 cu. ft.
For The River Gas Company, 87,006,000 cu. ft.
At Wilsonburg meter, 5,444,774,000 cu. ft.*

955 The River Gas Company.

The River Gas Company, during 1919, sold 1,778,257,000 ft. c
gas.
This amount was distributed as follows:
930,656,000 cu. ft. sold to domestic consumers.
835,119,000 cu. ft. sold to industrial consumers.
12,482,000 cu. ft. sold to Amesville Gas Company, under contrac
The gas sold by The River Gas Company (1,778,257,000 cu. ft.
was secured as follows:
470,436,000 cu. ft. from its own wells and contracts.
1,307,821,000 cu. ft. purchased from Hope Natural Gas Company
The River Gas Company sold to the Hope Natural Gas Company
during the year 1919, 323,323,000 cu. ft. of gas.

Cross-examination.

Mr. Steptoe:

Q. Whom do you refer to as "Free Gas Consumers"?
A. They are lessors, or the successors of lessors, who own the land

*The gas sold for Industrial Purposes, includes gas used for dril
ing and cleaning out tools of Reserve Gas Company, for drillin
and cleaning out tools of other companies, largely the Hope Natur
Gas Company, and for gas used in operation of Reserve Gas Com
pany compressor stations and gasoline plants.

we have under lease—these leases—entitling them either to a certain amount of gas, or gas for certain purposes, by the terms of the lease, and this gas is given to them either from a well or from a pipe line, for heating or lighting in their homes, on the lands where the wells are drilled.

Q. Does it include any gas delivered to public institutions,
956 or local communities in return for franchises, as in the case of the Flaggy Meadow?

A. It does not, no, sir—all land owners. There are one or two—I will qualify that by saying there are one or two public institutions, but that is because we have wells on a County Farm; we have a lease on the County Farm in Harrison, under which we furnish free gas to the County Farm.

Q. That is what is commonly known as the Poor Farm?

A. Yes, sir.

Q. Three miles out of Clarksburg?

A. Yes, sir; we have wells on that farm.

T. O. SULLIVAN recalled.

Direct examination.

Mr. Weil:

Q. I call your attention to your testimony on page 234 of the printed record, in which the record shows that you stated the amount of gas sold to Industrial consumers during the year
957 1919 did not include gas used in company operations on the wells, compressor stations, and so forth?

A. Since having that checked up, I am informed that it did not include gas used for that purpose.

Q. And on page 240 of the printed record, the same statement was made by you as to the inclusion of field operations?

A. It was, after I had asked to have the matter looked up and had been informed that it did include those wells; but since having it checked up again, I find that the party who informed me that it did was mistaken, and that it did not include those wells.

Q. Now, in your answer on page 267, you stated that during the year 1919, the Hope Natural Gas Company used for its operations in the field, drilling, pumping wells, and so forth, 1,078,834,000 cubic feet of gas; it also used in connection with compressing stations, and so forth, during the year 1919, 3,887,660,000 cubic feet—a total used by the Hope Company in the year 1919, of 4,966,500,000 cubic feet. Do you wish to correct those figures?

A. I do. The total, as given, 4,966,500,000 cubic feet, is correct, but the divisions as between drilling, pumping and cleaning out wells, and gas used in Hope Compressing stations, and so
958 forth, are incorrect; one amount which should have been included under the heading of "Drilling, Pumping and Cleaning out," being included in the other item of "Gas Used in the Compressor Station."

Q. Will you give us the actual figures?

A. The correct figures under those headings are: 1,529,848,000 cubic feet used for drilling, pumping and cleaning out wells, and 3,436,652,000 cubic feet used in compressing stations, and so forth, making the total the same.

Hearing was here adjourned until Friday, July 2, 1920, at 10 o'clock a. m.

959 Friday, July 2, 1920.

And now, Friday, July 2, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed pursuant to adjournment.

JOHN B. TONKIN, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Tonkin, where do you live?

A. Pittsburgh.

Q. And your business?

A. Vice president and general manager of the Peoples Natural Gas Company.

Q. You have held that position how long?

A. Two years yesterday.

Q. And prior to that time, what experience had you had in the natural gas business?

A. Well, for the sixteen or seventeen years prior to that, I was treasurer of the Hope Natural Gas Company, the Reserve Gas Company, the Connecting Gas Company, the River Gas Company, and the Marion Oil Company. Prior to that I was general book-
960 keeper for the East Ohio Gas Company and the Hope Natural Gas Company; and prior to that, I was in the purchasing department, and before that I was in field work, a short time in the field, for the River Gas Company.

Q. Are you thoroughly familiar with the operation of natural gas companies, both in the field and in connection with their office management and operation?

A. Well, I have been in it for twenty-six years, and I ought to know a little something about it.

Q. What territory does the Peoples Natural Gas Company supply with gas?

A. Well, it supplies Pittsburgh and vicinity; along the Pennsylvania main line, as far east as Altoona—or a little farther than that—Juniata. And it supplies some of the Allegheny Valley towns, and west as far as the Ohio State line.

Q. Has the Peoples Natural Gas Company any gas territory and wells?

A. Yes, sir, it has.
Q. And where are they situated?
A. Well, they are located in Clarion County, Pennsylvania, Armstrong County, Indiana County, Westmoreland County, Allegheny County, Greene County, a little in Jefferson, Washington County, and Fayette County. It has no wells in Fayette County,
961 however.
Q. That is in Pennsylvania?
A. In Pennsylvania.
Q. All of that is in Pennsylvania?
A. Yes, sir.
Q. Has it any gas territory in West Virginia?
A. None whatever.
Q. And has no gas territory in any other place than that——
A. No other state, and no other counties, except what I have mentioned.
Q. How many wells has it?
A. It has 1,108. This is February 29, 1920,—it had 1,108 gas wells, 37 oil wells and a part interest in 22 other oil wells.
Q. What was the amount of its gas production for 1919?
A. The gas production of the peoples Company for the year 1919, was 12,325,680,000 feet.
Q. And what was the amount of gas purchased by it in 1919?
A. We purchased in Pennsylvania 6,948,119,000 cubic feet; and in West Virginia, 6,496,994,000 feet. This was an abnormal amount of gas to be purchased in Pennsylvania, due to the McKeesport field, which gave us a temporary supply from that source.
Q. Can you have prepared for us, or have you had pre-
962 pared, the amount of gas produced and purchased in the various states by your company, from 1910 to the end of 1919?
A. I had this memorandum made only from 1916 on. I can have the statement prepared from 1910 on.
Q. You have it from 1916?
A. From 1916 on, yes, sir.
Q. Well, give us those figures then from that period.
A. In the year 1916, gas produced, 13,250,056,000 gas purchased, Pennsylvania, 1,448,496,000. Gas purchased, West Virginia, 26,-251,185,000. In 1917, gas produced, 14,144,931,000; gas purchased, Pennsylvania, 1,453,773,000; West Virginia, 23,276,116,000. In 1918, gas produced, 13,955,618,000; gas purchased, Pennsylvania, 1,269,314,000; gas purchased, West Virginia, 18,206,928,000. Shall I repeat 1919?
Q. Yes, so as to have it all in order.
A. 1919, gas produced, 12,325,680,000; gas purchased, Pennsylvania, 6,948,119,000; gas purchased, West Virginia, 6,496,-994,000.
Q. You stated that your purchase last year, 1919, was abnormal, on account of the development in the McKeesport field?
A. I did.
Q. What is the condition in the McKeesport field now, as to the

quantity of gas obtainable therefrom? That is, what pro-
963 portion has it gone off, would you say?

A. Well, our highest day last fall, after the field was first new, we got 64,000,000 feet, as high as 64,000,000 feet a day. Today, we run between five and six million.

Q. You are not getting then a tenth?

A. Not a tenth—less than a tenth.

Q. That amount that you are securing now from the McKeesport field, you get it from the natural flow, or do you have to use compressing stations?

A. We have been building a compressing station, and we have half of it in operation at the present time. We started about two or three weeks ago, so that we are pumping gas now.

Q. What is your total number of consumers? Have you collated that?

A. This is for——

Q. For 1919.

A. They have given me that February 29, 1920, and there has been very little change. Will that be satisfactory?

Q. All right.

A. 84,063.

Q. That is the total number of consumers?

A. The total number of consumers.

Q. And of this number, how many are in West Virginia?

A. None.

964 Q. And are there any in any other state than Pennsylvania?

A. These consumers are all in Pennsylvania.

Q. You have no West Virginia consumers at all?

A. No, we have not.

Q. Have you those figures as to the number of consumers for several years past?

A. No, I have not.

Q. What was the amount of gas supplied by your company to these consumers, separating it into domestic and industrial?

A. During the year 1919, we supplied to domestic consumers 9,654,042,000; to manufacturers, 12,264,921,000; and to other gas companies, 3,749,983,000, making a total of 25,668,946,000.

Q. Did your company ever own any gas territory in West Virginia?

A. We never did.

Q. Has your company any lines laid in the State of West Virginia?

A. We have lines laid to the state line—not in West Virginia.

Q. And at what points?

A. The point called Brave, in Greene County.

Q. And at any other point?

965 A. There are two small connections that are not delivering any gas—haven't been for some time—I guess up in Washington County, where we did get some gas from West Virginia, from their Brooke County Field, but there has been no gas delivered there for some time.

Q. You have those connections there?
A. The connections are there; yes, sir.
Q. Are those connections on the Pennsylvania or on the West Virginia side?
A. One is at Eldersville, Pennsylvania. It is right about on the state line. The other one I think the meter sets in Pennsylvania; it is right near the state line.
Q. From whom do you receive the gas that you purchased in West Virginia?
A. We purchase gas from the Hope Natural Gas Company.
Q. And that is delivered to you at the present time at Brave Station?
A. Yes, sir.
Q. Where is that gas measured?
A. It is measured at Brave Station.
Q. Is it measured by you at Brave Station, or by the Hope Company?
A. Measured by the Peoples Company. Well, I believe we do have a man on that station.
966 Q. That is on the Pennsylvania side of the line?
A. Yes, sir.
Q. In order to refresh your memory, Mr. Tonkin, haven't you a connection at a place called Glover?
A. Oh, yes, we have. Glover Station, in West Virginia.
Q. You have a connection there with the Hope Natural Gas Company?
A. Yes, sir.
Q. And they deliver some gas to you there?
A. Gas is delivered there from Hastings Station.
Q. You also have a connection, have you not—what you call a couple of local meters near the state line?
A. Yes, sir, we have, down near Brave.
Q. And also you have a connection in Brooke County, have you not?
A. That is the one I spoke of before.
Q. You did mention that?
A. Yes, sir; that is where we get gas from the Hope from their Brooke County field.
Q. Will you give us a list of the towns or cities to which you supply gas?
A. Will this do, without calling them all off? (Producing paper.)
Q. Well, I want this on the record. Just read it off, give
967 us the names.
A. Adamsburg, Altoona, Ardmore, Arnold, Avonmore, Bellevernon, Blairsville, Bolivar, Boston, Buena Vista, Burgettstown, Candor, Carnot, Clarksburg, Cresson, Delmont, Derry, East McKeesport, Edgewood, Eldersville, Eldora, Enon Valley, Export, Fair Hope, Fayette City, Florence, Glendale, Greenock, Greensburg, Haffey—called Milltown, Harper's Corners, Harrison City, Heidelberg, Imperial, Industry, Jeannette, Juniata, Kingsville, Larimer, Latrobe, Ligonier, Livermore, Logan's Ferry, Loretto, Manor, Midland, Monessen, Monroeville, Murrysville, New Florence, New Kensington,

North Bessemer, North Irwin, Pittsburgh, Portage, Rankin, Salina, Saltsburg, Sankertown, Southwest Greensburg, Spring Church, Summit, Swissvale, Turtle Creek, Unity, Valley Station, Vanport, Verona, Webster, Westmoreland City, Wilkinsburg and Woodlawn.

Q. Have you ever made any calculations as to the population of the district supplied by you? I don't mean the number of consumers, but the whole population of the district. Have you ever had that called to your attention?

A. No. It would be hard to do that, for the reason that we
968 only supply part of Pittsburgh. No, I have never made those calculations.

Q. Some of the other towns supplied by you, such as Altoona,—what is its population, or do you know?

A. I don't know. I imagine it is about fifty-five or sixty thousand.

Q. And Greensburg,—you supply Greensburg?

A. Yes, sir. From looking at it, I would figure it was about fifteen or twenty thousand.

Q. Well, you have a number of such towns and cities on your list?

A. Oh, yes.

Q. Have you not?

A. We have.

Q. Ranging from 10,000 up to cities as large as Pittsburgh, of which you supply only a part of the city?

A. We have.

Q. What efforts have your company been making in the last few years to obtain additional gas supplies in Pennsylvania?

A. Our drilling tools have been more active in the last few years than at any time in the history of the company.

Q. Have you sought other fields?

A. We have.

Q. Have you had a corps of experts out seeking other gas fields?

969 A. We always have a number of men that are employed in that business; yes, sir.

Q. And who do nothing else?

A. Who do nothing else.

Q. What was the acreage in Pennsylvania that you consider developed and what undeveloped?

A. Well, we have 85,819.65 acres of operated territory. We have 302,559.48 acres of unoperated territory, as of December 31, 1919.

Q. And how much of that unoperated territory is regarded as what you would call proven territory—any of it?

A. Oh, yes. We call the operated only those farms which actually have wells on them. There is a good deal of unoperated territory that lies between production that looks as if it was certainly productive, if developed.

Q. A great deal of that is acquired, is it not, and unoperated, for the protection of wells that are being operated?

A. Yes, sir.

Q. And is territory surrounding operated wells?

A. It is.

Q. Would it be considered wise operation, or intelligent operation, of a company, to drill all of that territory?

A. No, it would cost a lot of money to do it, and you can
970 get the gas out with the wells that you have at present, in most instances.

Q. As a matter of fact, is your company operating all of the territory that it considers good business judgment and intelligent operation to drill at the present time?

A. We are doing everything we can to keep up our supply, yes, sir.

Q. And how many wells did you drill last year?

A. They have omitted it from this statement. I will have to get you that figure. About 130 or 137, I am not sure which.

Q. From 130 to 137 wells?

A. Yes, sir.

Q. And what did those wells cost you—at what expenditure?

A. They cost us $1,034,388.37.

Q. How does your production from your property in Pennsylvania compare with the production in previous years, not only in amount, but with reference to the wells, as indicating the drainage or want of drainage of the territory?

A. Our production fell off between 1918 and 1919 about 11 per cent, even with the additional wells.

Q. Notwithstanding the drilling of all those additional wells?

971 A. Yes, sir.

Q. And the expenditure of over a million dollars?

A. Yes, sir.

Q. What did you observe with reference to the wells that were drilled in operated territory, as to their capacity, as compared with wells of the same capacity drilled in previous years?

A. The average open flow was smaller on the wells drilled in 1919 than those drilled in 1918; and 1918 was smaller open flow than it was in 1917, and so on. It has been coming down for some time.

Q. And what does that indicate to you, with reference to the drainage of that territory?

A. It indicates the gradual exhaustion of the gas.

Q. How long, at the present rate of consumption, notwithstanding the drilling of from 100 to 200 additional wells a year—where they could be drilled—what percentage of decline would you estimate would take place from this time on, in your production of gas?

A. Well, perhaps a decline of 15 per cent a year, something like that.

Q. And that, notwithstanding the most active operations in the drilling of additional wells, regardless of the question of ex-
972 pense?

A. That is true.

Q. Of course, that is only an estimate. You have nothing absolutely definite on that?

A. Well, I was figuring on the experience of the last few years in making that estimate.

Q. Isn't it the fact that after you get around to the bottom end of a decline, that the decline is very much more rapid?

A. Well, the decline has been quite rapid in the last five years.

Q. What do you know as to the adaptation of houses and appliances in sections where you supply gas for the use of gas?

A. You mean, as to houses built for the use of gas only?

Q. Yes.

A. Well, it seems that there are a good many of them, I can't estimate how many, that have been built with flues that will accommodate gas only. In order to burn coal, you would have to reconstruct the flues in their houses and change over to other appliances, of course.

Q. Well, is that to any considerable extent?

A. It is. And in houses that would probably surprise you, that they have been built that way. A great many of the very good class of houses are constructed in that way. People when they
973 built them figured that they would always have gas. They had always had it before and never thought about the decline in the fields.

Mr. Hoffheimer: I move to strike out the statement of the witness that the builders of these houses felt or thought that they would always have a supply of gas, as a mere opinion, and as irrelevant.

The Commissioner: Note the motion.

Mr. Weil:

Q. Is this true throughout the whole section where you supply gas, or is it only in particular localities?

A. Well, I believe it is true throughout the whole section, except possibly some towns that we recently went into. It probably would not be as true in Altoona and Juniata, for instance, where their houses were constructed long before natural gas was thought of for that community.

Q. Otherwise, you would say that that was general?

A. That is general throughout the gas territory.

Q. What about appliances that are used for burning natural gas? If they had to change to other fuel, would they have to change those appliances?

A. They would, unless they switched over to artificial gas.
974 Q. And what would you estimate would be the average cost to change the appliances from natural gas to other fuels? Give an estimate of the average cost, say for all of the consumers on your line?

A. $250 to $300.

Q. Apiece?

A. Apiece, yes, sir.

Q. Do you supply any municipal subdivisions, such as poorhouses or poor farms or public buildings in any of these towns and cities, in which your company supplies gas?

A. We do. We supply the court houses and jails and city buildings, public schools, hospitals, hose houses.

Q. All the general public buildings then of the state and municipalities?

A. We do.

Q. Where you are supplying gas to private consumers?

A. That is correct.

Q. Have you been able to meet the demands for gas upon your lines in the last few years?

A. There have been shortages in the cold weather during periods of the last few years.

Q. And how has that become in later years—has it become more acute each year?

A. It has become more acute, and becomes more acute each
975 year.

Q. What was the situation last winter?

A. Last year it would have been almost appalling had it not been for the discovery of this McKeesport gas last fall, which helped us out to a great extent, so that our shortages were not very marked until April; April was our worst month, when the field had played itself out.

Q. What policy has the company adopted, with reference to domestic and industrial consumers?

A. Well, we always shut off industrial consumers at the approach of cold weather, or when the pressures in our lines begin to decline, so that we can take care of the domestic consumers.

Q. Domestic consumers then are always given the preference?

A. Always given the preference.

Q. What did you do as to the making of contracts with industrial consumers, as to what you take on and what you will not take on?

A. Each industrial contract contains a clause that they agree to be shut off at a moment's notice, in order to take care of domestic consumers.

Q. What I was inquiring about—Do you make any investigation as to the character of the use that the industrial consumer—or the purposes for which he wants to use the gas, and as to the
976 purpose for which you sell it to him to use?

A. Oh, yes; we have refused to make contracts for boiler use, for instance, where coal could be readily substituted. We try to confine the use of industrial gas to furnaces and pots and such uses in glass houses, where they cannot very readily substitute other fuels.

Q. And that has been the policy of the company, has it not?

A. That has been the policy of the company; yes, sir.

Q. Do you supply industrial consumers out of anything except the surplus after having supplied the domestic consumers?

A. We do not; the domestic consumer comes first.

Q. What would you say was the maximum variation between the normal and the peak load in the coldest weather?

A. In the ratio of about one to ten.

Q. About a thousand per cent would be the peak load?

A. You are speaking about domestic requirements?

Q. Yes.
A. Yes, sir, about a thousand per cent.
Q. And do you have to meet those peak loads every winter?
A. We do.
Q. You are confronted with those conditions?
A. We are, and at times during the day the ratio is even greater than that.

Q. And why is that?

977 A. Well, people get up in the morning, for instance, and turn on all of the fires to heat up the house and cook breakfast, and the demand is very strong at that time.

Q. Now, as treasurer and bookkeeper of the Hope Natural Gas Company, I presume you are thoroughly familiar with the causes which led up to the acquisition of the Peoples Natural Gas Company, are you not?
A. I am.
Q. Who owns and controls the Peoples Natural Gas Company?
A. The Standard Oil Company of New Jersey.
Q. The same company that owns and controls the Hope?
A. They do.
Q. For what purpose was the Peoples Natural Gas Company acquired, and when was it acquired?

Mr. Hoffheimer: That is objected to, in so far as it relates to the purpose for which the Peoples Gas Company was acquired, as calling for an opinion or a conclusion of the witness, and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection, and let the witness answer.

978 A. The Peoples Natural Gas Company was purchased by the Standard interests in 1903. At that time the Peoples Natural Gas Company was short of gas, and the Hope Natural Gas Company had a surplus. It was for the purpose of marketing this surplus that the Standard interests bought the Peoples Natural Gas Company.

Q. That is, the Hope Natural Gas Company, you say, at that time had a surplus?
A. Had a surplus.
Q. Of gas?
A. Of gas, and the other company was short.
Q. And was unable to supply its consumers?
A. It was.
Q. At that time did the Peoples Natural Gas Company have a large consumption, a large demand for gas?
A. It was a comparatively small company. It had, I don't remember how many consumers, but perhaps less than one-third of the consumers that the Peoples Company has at the present time. In other words, after the Standard interests purchased the Peoples Natural Gas Company, they expanded and took on other plants—took on other towns, I mean.
Q. But the Peoples Natural Gas Company at that time had its

franchises in the City of Pittsburgh and other sections, and was connected, was it not, with some of the industrial plants in this vicinity?

979 A. Oh, yes.

Q. And the opportunity therefore to market large quantities of gas?

A. There was.

Q. Now, at that time, did the Hope Natural Gas Company have a large surplus which it was unable to market?

A. They did.

Q. The purchase of the Peoples Plant was to find a market for that surplus?

A. That was the purpose.

Q. As you stated?

A. That was the purpose of the purchase.

Q. Now, then, have the two plants been operated accordingly ever since?

A. They have.

Q. Under the same general direction?

A. They have; yes, sir.

Q. What was done with reference to laying pipe lines to furnish gas to the Peoples Company, by either the Hope or the Peoples Company, or both?

A. Well, immediately after the purchase of the Peoples Company, the Hope Natural Gas Company started to lay a 16-inch line from Hastings station up to Brave, Pennsylvania; and they also laid another 16-inch line from near Wilsonburg, in

980 Harrison County, to Brave, for the purpose of taking gas from that section. At the same time, the Peoples Company started to build a 20-inch line from Pittsburgh to Brave, to get this gas.

Q. How long was that line?

A. About 60 miles.

Q. And what did it cost, in round numbers?

A. I do not know.

Q. How long was the line laid by the Hope Company?

A. I suppose that line would cost $1,800,000, something of that kind, at the time it was built. The line built by the Hope Company I suppose was 100 miles long, the line to Wilsonburg, and the line to Glover probably about 30 miles.

Q. What did this line cost, in round numbers?

A. About a million and a half, that would be my estimate.

Q. Now, what is the relation between the Hope Natural Gas Company and the East Ohio Gas Company?

A. The Hope Natural Gas Company was organized for the purpose of supplying the East Ohio Gas Company with gas, and they are still trying to do that.

Mr. Hoffheimer: I move to strike out the statement of the witness as to the purpose for which the Hope Natural Gas Com-

981 pany was organized, as constituting an opinion or conclusion of the witness, and also as relating to matters which are to

be determined by the charter of the company and the public records.

The Commissioner: Note the motion.

Mr. Weil:

Q. What territory doest he East Ohio Company supply?

A. The East Ohio Gas Company supplies the eastern part of Ohio and as far north as Cleveland, including Cleveland; Cleveland, Akron, Canton, and Youngstown are among their principal cities.

Q. Were not those two rompanies organized and incorporated at substantially the same time?

A. They were.

Q. And were incorporated through the Standard Oil Company of New Jersey?

A. They were incorporated through the National Transit Company, and afterwards assigned to the Standard Oil Company of New Jersey. At that time the Standard Oil Company of New Jersey controlled the National Transit Company.

Q. And the East Ohio Company and the Hope Natural
982 Gas Company were practically arms of the same operation and movement, as I understand it?

A. They were.

Q. What were the facts as to the lines of the Hope Company and the East Ohio Company being constructed—were they constructed at the same time?

A. They were. The line was started in West Virginia and built straight through to Akron, the first line. And that East Ohio Company assumed the Ohio investment and the Hope Natural Gas Company assumed the West Virginia investment.

Q. And what other lines were there?

A. Oh, later—the next line was an 18-inch line, and the next line was another 18-inch line.

Q. Where was the first line built?

A. Well, the first line was built from a point—it started over at Piney, in Wetzel County, West Virginia, and came past what is now Hastings Station, and up through Marshall County, to a point about four miles below Moundsville; and continued from there up near and taking in the lines of Urichsville, Dennison, New Philadelphia, Canal Dover, Massilon, Canton, and Akron, in Ohio And they continued to supply those towns through that 10-inch line until 1902, when the Hope acquired more territory, and an
983 additional line 18 inches in diameter, practically paralleling the 10-inch line, was built and continued through to Cleveland, Ohio. Later on, an 18-inch line was built from Hastings and across the river near Clarington, probably ten or fifteen miles south of the original river crossing, and continued through to Cleveland, and tied in with the other system at different points along the line. Then there was a 20-inch line and I believe another 18-inch line built later on.

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Q. These lines that you have described were built in West Virginia by the Hope Company, were they?
A. They were.
Q. And were charged in Ohio to the East Ohio Company?
A. They were. Any lines that the Hope Company built for the East Ohio in Ohio were charged to the Ohio Company.
Q. But those lines, all of them that you have described, were started and built continuously through to the respective points that you have designated?
A. They were.
Q. Substantially as one line?
A. Well, some of the later lines, the 18-inch lines, were started at different points in Ohio, but the construction of the lines in Ohio and West Virginia was simultaneous.

(Pennsylvania Exhibit No. 15 shown witness.)

Q. Calling your attention to Pennsylvania Exhibit No. 15, being a map, does this map show the lines of the Peoples Natural Gas Company in Pennsylvania?
A. It shows the main lines of the Peoples Natural Gas Company.
Q. And those lines are all lines indicated in red, are they not?
A. The lines indicated in red and within the state of Pennsylvania are the main lines of the Peoples Natural Gas Company.
Q. Those lines show all of the main transportation lines, but do not show either the gathering lines, the intake lines or the distribution systems of the Peoples Company?
A. That is true.
Q. Now, what is the uttermost distance from Brave Station, for example, to the point in Clarion County beyond Pew Station?
A. From Brave Station to Clarion County, I imagine would be about 125 or 130 miles.
Q. And what would be the distance between the state line at a point near Eldersville in West Virginia, and Altoona?
A. About 120 or 125 miles.

Q. What is the total investment of the Peoples Natural Gas Company?—Fix the date say as of the first of January, 1920, or December 31, 1919.
A. The total investment was $16,442,234.71.
Q. As of those dates?
A. As of December 31, 1919.
Q. In what does that investment consist, in a general way?
A. In main lines, field lines, and city plants.
Q. What about the territory, how is that charged?
A. Well, that was carried only at the nominal cost or bonus paid for the acreage, if there was any charged,—a small amount.
Q. In the event of the cessation of the gas supply, so that you had not adequate amount of gas to supply to the consumers and thereby maintain your plant, what would you estimate would be the value of your plant under those conditions?
A. That is a hard question to answer, in regards to the Peoples Natural Gas Company, for the reason that your city plants might

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be converted into an artificial plant, or sold for that purpose. wouldn't know what the recovery value would be in the city plant As far as your field and main lines are concerned, I would suppos you would be able to realive, oh, perhaps 15 per cent of you investment.

986 Q. Well, as to your city distributing plants, unless the could be sold, as you said, for the purpose of supplying som manufactured gas, what would they be worth? Would the amoun that you could get for it as junk pay for taking it up?

A. It would not, not in the city plants. And that is one thin that makes the question as relates to the Peoples Natural Gas Com pany more difficult to answer; for the reason that we have a larg number of small towns that probably it wouldn't pay to put in a artificial gas plant; so that it is a hard question for me to answer.

Q. Well, the question of an artificial gas plant to supply gas fo fuel in any of these localities is still one of the questions to b determined by future developments, is it not?

A. It is something that I must confess I know nothing about.

Q. Does anybody else that you know anything about know any thing about it?

A. Well, we haven't found anybody that is very wise yet.

Q. Mr. Tonkin, during the coming winter, what percentage o gas do you estimate you will require from the Hope Company, i order to supply your consumers?

A. We should have from the Hope Company, in order to supply our customers, about two-thirds of our consumption.

Q. Have you no other source from which to obtain that supply except the Hope?

987 A. There is not.

Q. Even with that amount supplied by the Hope, I believ you have already testified there are periods during the peak load where you are utterly unable to supply your consumers?

A. There have been such shortages for several years past, and n doubt it will be more acute this coming year, this coming winter.

Q. Now, then, what would be the effect upon the operation o your company, if, under the provisions of the Act of the Legisla ture in controversy here, the Hope Company should be compelled to make connections with other companies to supply their deficit, o should be compelled to supply the demands of the consumers in West Virginia with gas before making deliveries to you? Wha would be the effect?

Mr. Hoffheimer: That is objected to, on the grounds stated previously, in objections to similar questions to other witnesses.

The Commissioner: Note the objection and let the witness answer.

A. Well, the result would probably be that on extremely

988 cold days there would be very little, if any, gas come north through the lines connecting with the Hope Company. It would create a situation that would leave us practically without gas and what little gas we would have left would be scattered around to so many places, and we would have to try to do so much with so little gas, that we wouldn't have any service. It would also creat

a dangerous situation, where the gas would go out, no doubt, in a number of places. In fact, it would demoralize the operation of the company.

Q. Would that demoralization go to the extent of substantially shutting down your operations?

Mr. Hoffheimer: The same objection.
The Commissioner: Note the objection.

A. I think that after one winter of that, our consumers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through, under those conditions.

Q. From your practical knowledge and information as to the operation of natural gas lines, and your familiarity with the Hope Company, by reason of your official connection therewith,
989 what do you say as to those demands, such as I have described, being such as to demoralize or interfere with the whole operation of the Hope Company's system.

Mr. Hoffheimer: I object to the form of that question, in respect to its being leading, and as calling for an opinion or conclusion of the witness, and as being speculative in character.
The Commissioner: Note the objection and let the witness answer.

A. Well, I know that during my connection with the Hope Natural Gas Company there were a great many requests of other gas companies and other consumers for a supply of gas, and it is my opinion that the demand on their lines would be so great from companies doing business in West Virginia and from industrial plants there, that there would be no gas left in cold weather to distribute to the Peoples Natural Gas Company.

Q. You stated, in answer to one of the previous questions, that this shortage of gas, occasioned in the manner I have described, would make it dangerous. Will you explain that a little more fully?—dangerous to consumers?
990 A. Well, there is a very great danger when the gas goes out in a house, to the safety of the consumer and the safety of his property; because if he is asleep or happens to be away, or something of that kind—particularly if there is one light that happened not to go out, the gas would come back on and fill the house with gas, and an explosion would be bound to occur. There is always that danger; that is one danger,—of the gas going out and then coming back on again before the valves are shut off.

Q. Well, would the cessation of the supply such as has been described, result in such an intermittent supply of gas as to produce those conditions?

A. There is no doubt about it in my mind.

Q. What do the gas companies do now when, by reason of some breakage in the line, or something else, they are compelled to shut off the gas from any particular section of their lines—what do they do with reference to their consumers, in preparation for that, both before and after?

A. We send out our own employees, and sometimes enlist the services of the Boy Scouts or anybody we can get hold of, to go and notify all the consumers to shut off their valves and not to turn them on until we tell them that the supply is back in the lines; a house-to-house canvass to notify them to shut them off.

991 Q. And then do you notify them subsequently?

A. Subsequently we notify them what time the gas will be turned back into the line and what time they can open up their valves.

Q. Is that the universal custom of all gas companies supplying consumers?

A. I believe so.

Q. You testified, Mr. Tonkin, I believe, that you were the general and confidential bookkeeper for the Hope and the East Ohio, at the time these lines were being laid, and so forth, to which you have testified?

A. Yes, sir, I was the general bookkeeper for both companies. The books were kept at one office, and I was the general bookkeeper for both companies.

Q. At the time that work was being done?

A. At the time that work was being done; yes, sir.

Q. And when it was undertaken?

A. Well, just a few months after, after the organization of the companies. At the time of the organizations in 1898, I was in the purchasing department, purchasing material for them. Two or three months later I went down and took the position of general bookkeeper.

Q. Where was the general office?

992 A. It was at Oil City at that time.

Q. Did you buy the material for these lines?

A. I was a clerk in the Purchasing Department. I was not the purchasing agent, but that department bought the material, yes, sir.

Cross-examination.

Mr. Hoffheimer:

Q. How long has the Peoples Natural Gas Company been in existence?

A. Since 1885.

Q. Where did its field operations start?

A. Out here near Murraysville, about on the Allegheny and Westmoreland County line.

Q. What were the original places which it supplied with gas?

A. Pittsburgh, New Kensington, Milltown, and they leased the plant of the Manufacturers Gas Company of Greensburg, and supplied gas to Greensburg through that leased plant. I believe that was about the extent of their territory.

Q. Greensburg is in Westmoreland County, is it not?

A. Westmoreland County, yes, sir.

Q. Then, as I understand you, from 1885 until 1903, the com-

umption of the Peoples Natural Gas Company increased to a point substantially one-third of the present consumption; is that
993 right?

A. No, I think three times. It increased three times, at east three times. Is that what you mean?

Q. What I had in mind was this: that between 1885, when the Peoples Company began business, until 1903, when the supply from he Hope Company was contracted for or first obtained, the Peoples Natural Gas's consumption had gotten to a point where it was about one-third of the consumption today?

A. I believe so.

Q. Then the other two-thirds by which the present day consumption exceeds that, is accounted for by later extension of the ines and territory of service?

A. I think when I answered that question that I explained I was ot familiar with the affairs of the Peoples Gas Company at the ime that it was taken over, but it was my opinion that their consumption was not over one-third——

Q. The point is that from that time, when the Peoples was taken ver by the Standard interests, to the present time, the increase in onsumption has been due to expansion of territory supplied and he increase of numbers of consumers of the Peoples Natural Gas Company?

A. Yes, sir.

Q. When did the shortage in the gas supply of the Peoples
994 Natural Gas Company first manifest itself?

A. Well, they were short at the time they were taken over y the Standard interests.

Q. That was in 1903?

A. Yes, in 1903.

Q. Do you know how far back of 1903 that shortage had become vident?

A. I know nothing about the company back there.

Q. But you do know that it had become acute?

A. That is my understanding; as the reasons given for the former wners wishing to dispose of the property. They either had to dispose of the property or put in enough money to go to West Virginia or their supply—or felt that they did. That was the understanding hat I had.

Q. You have given us figures as to the number of wells of the Peoples Company, as of February, 1920?

A. Yes, sir.

Q. Also, from 1916 to 1919, inclusive, the gas production and urchases of the Peoples Company?

A. I have.

Q. Also, as of 1919, the acreage developed and undeveloped of he Peoples Company?

A. Yes, sir.

Q. For the sake of uniformity, and in order to cover the
995 same period of time that we have been inquiring into in regard to other companies, we would like to have, if you do

not have it now available, later, when you get the time to get the material together,—the number of wells, year by year, from 1910 to 1919, inclusive; the number of consumers, domestic, industrial and miscellaneous, or however else you may classify them, year by year, during the same period; the gas consumption year by year, during the same period, of these various classes; the gas purchases and the Peoples Company's own production, year by year, during the same period?

A. We were furnished that.

Q. And also, if I have not already asked for it, the acreage, developed and undeveloped, year by year, during this same period?

A. Yes, sir.

Q. Are you familiar with the circumstances under which that delivery and measuring station at Brave was established?

A. Yes, sir.

Q. That was put in in 1903?

A. No, in 1903, we measured the gas at a point a couple of miles south of the Pennsylvania State line, called Bulah station. We had a Pitot tube station there, where the gas was measured. I think it was about probably 1910, before that station was changed—
996 or after that; 1912, perhaps—that the station was changed and put up at Brave, where we did away with the operators of the Bulah station, and the men at Brave Station looked after the measurement of that gas.

Q. That Bulah station, as you call it, was located where?

A. In West Virginia.

Q. What county?

A. Monongalia County.

Q. What was the occasion for the transfer of the delivery and measuring station, from Bulah to Brave?

A. Well, at Bulah we had two men on duty twelve hours apiece, and we figured on doing away with that expense, and removed it to Brave when the style of the meter was changed to a recording gauge, where the gauges only had to be changed once a day; so that it did away with the services practically of two men.

Q. What had there been at Brave up to 1910?

A. There was a compressing station built by the Peoples Natural Gas Company there.

Q. And this delivery and measuring station was practically consolidated with the compressing station?

A. Yes, sir.

Q. How far is Brave from the boundary between Pennsylvania and West Virginia?

A. 400 yards; perhaps less.

997 Q. When was that station at Eldersville established?

A. About 1908, as near as I can figure it.

Q. Was that the time when deliveries from the Hope to the Peoples began in that vicinity?

A. I believe it was.

Q. How far is Eldersville from the line between Pennsylvania and West Virginia?

A. Well, I don't know that; I have never been at Eldersville. About two miles, it looks on the map.

Q. Am I correct in understanding that deliveries at that point have not taken place for several years past?

Q. The Hope Company is supplying some towns in Brooke County, and we took any gas that they had to spare; but recently I believe their own consumption at that point takes all the gas, and while the meter is still set there, I don't believe we have taken any gas there recently.

Q. How long would you say it had been since you got any gas from the Hope at that point?

A. I think a year and a half or so.

Q. When did deliveries commence at Glover Station?

A. As soon as the pipe line was completed up to Brave, in the latter part of 1903, or perhaps early in 1904.

Q. There is a delivery measuring station there?

A. There is a measuring station at Glover.

998 Q. How far is it from the Pennsylvania line to the Glover Station?

A. About five miles.

Q. Aside from the development in the McKeesport field, would you say that efforts to obtain additional gas in Pennsylvania within the last few years have been successful, or to the contrary?

A. They have not been successful. The fields in Pennsylvania are what you might call old fields, and highly competitive, and the fields have been pretty well developed.

Q. How far back did that development begin, to your knowledge or information?

A. Oh, these fields are all old, many years old, but occasionally you strike a rich pool in them at some time or other; but the fields are twenty-five years old mostly.

Q. More than that, if they date back to the beginning of the——

A. Some of them; yes, sir. The Murraysville field is much older than that—thirty-five years old or more.

Q. The efforts of the Peoples Company to obtain additional gas in Pennsylvania have been confined to drilling wells of ordinary character and the purchase of gas from other producers?

A. Not entirely. We have done some wildcatting in the hopes that we might develop additional gas, and we have done some

999 deep drilling, some very expensive deep drilling, in the hopes that we might obtain additional gas at lower depths.

Q. How many deep wells have you drilled?

A. Well, we drilled one near McDonald that was 7,200 feet, something like that. We drilled one out near Ligonier, in Westmoreland County, to a depth of 6,822 feet, and developed a small amount of gas.

Q. The fact about it is, though, that a small amount of gas obtained in one of those deep wells gives you a better supply than an equal amount of gas obtained in one of the shallow wells, because of the greater rock pressure, does it not?

A. That is true, yes. However, we haven't had very much ex-

perience; this is the first time we have ever got deep gas, and the well is only a few months old, and in bad shape at the present time, on account of a string of tools in the hole, and a bad lot of tubing, defective tubing, dropped into the hole; so the well is far from a clear hole and is in bad shape.

Q. In other words, you have a fishing job on your hands?

A. We have.

Q. Such as is pretty well known in the gas business?

A. Yes, sir; and we have a man-size job to get it out.

1000 Q. You would say that the matter of deep well drilling is still in its inception?

A. No. The sands that all these deep wells have tried to reach—or at least this is my understanding—that they have tried to reach the Clinton sand. The Clinton sand, it isn't possible to reach it in but very few places in this section of the country, on account of the great depths, so that there would be very few places that you can go and try to reach that sand; and we don't know that there is anything in this sand when we do reach it—if we are successful and ever reach it.

Q. And you don't know that there are not other sands below the usual sands that are encountered, by the test of deep drilling, which may produce gas?

A. We have drilled through all the other sands, all the other known sands.

Q. From your very broad knowledge and experience in the gas business, I suppose that you are pretty well acquainted with the uses and adaptation of buildings and appliances in West Virginia, with relation to the gas supply, are you not?

A. I probably know something about it.

Q. The fact is that so far as the construction of houses is concerned, the particular appliances installed, and the general method of domestic consumption of gas is concerned, they are and

1001 have been substantially the same in Pennsylvania and West Virginia. Is that the fact?

A. I presume that is true; yes, sir.

Q. And when you speak of the necessity of reconstruction of houses or change in appliances in Pennsylvania, as a result of the cutting off of gas supply in Pennsylvania, it is your view that the same incidents would apply to the cutting off of the gas supply in West Virginia?

A. It would, if the West Virginia consumers should find it necessary to go over to coal for their heating appliances, and for their grates, yes, sir.

Q. In other words, if the West Virginia consumer did not get enough gas for his domestic uses, he would have to do the very same things, incur the very same expenses and encounter the very same inconveniences which you attribute to the Pennsylvania consumer under similar circumstances?

A. There is no doubt about that.

Q. And I suppose that you think it true that in case of an inadequate gas supply to domestic consumers in West Virginia, and

the sudden cutting off of gas during peak load periods, or during cold weather, you would have the same inconveniences and the same dangers to life and property in West Virginia that you de-
1002 scribe in Pennsylvania?

A. The conditions are the same in one state as another, in case of a shortage.

Q. In other words, it is just as easy to asphyxiate a West Virginian, in case the gas would suddenly be cut off, and then turned on again without warning, as it would be a hardy Pennsylvanian?

A. I expect that is true.

Q. In regard to this map which has been referred to in your evidence, showing the Hope and Reserve and Peoples Natural Gas Companies' lines: that may does not show the gathering or the field or the distributing lines or plants of any one of those three companies, does it?

A. It does not.

Q. You say that you formerly made contracts for the supply of industrial gas for pipe lines, furnaces, glasshouses, and that sort of thing?

A. Yes, sir.

Q. Do you still make contracts for those purposes?

A. We still make contracts for gas for industrial purposes, but we are discouraging as much as possible the use of it where other fuels can be substituted. For instance, in boiler use,—We do furnish boilers for drilling wells, and things of that kind, but we have eliminated the boiler consumption in office buildings
1003 down town here, for instance, and in apartment houses and in the mills, and try to confine it to the use that the gas is best adapted for, such as furnaces and pots.

Q. In other words, while still continuing to furnish industrial gas, you endeavor to classify, to a certain extent, the industrial consumption itself, by regarding some of it as more essential than the rest?

A. We do.

Q. What is the nature of the industries to which you furnish industrial gas?

A. Steel mills, glass plants.

Q. Where are they located?

A. Around in the Pittsburgh district largely.

Q. In the steel mills, what is their gas used for in a general way? I do not want, however, to get you into technical steel making.

A. Why, in open-hearth furnaces very largely.

Q. And in the glass plants?

A. Well, I am not familiar with those plants. It is in what they call the "glory holes" that they seem to require the gas for glass manufacture, and it is hard to get along without some kind of gas for that purpose, I believe.

Q. For the purpose of heating the tanks of molten glass?

A. Yes, sir.

1004 Q. You are today supplying gas for those purposes?

A. We are.

Q. Has there ever been a time when the Peoples Company has not supplied industrial gas?

A. The year before last we got the glass factories all to shut down for the winter, except those, I believe, that were making glass for munition plants, or for war purposes rather; because you can't shut a gas plant entirely down without ruining their pots; so that we anticipated that there would be periods when we would have to shut down entirely, and we discouraged them from going on, and in fact notified them that we would not furnish them gas at that period. And last year, on account of this McKeesport field, we allowed them to run, because they could shut down to a point where we could take care of our domestic consumers.

Q. Would you regard the McKeesport production as an abnormal production?

A. Absolutely.

Q. And not as a permanent thing?

A. No, it is nearly gone now.

Q. How about steel plants? Have they been getting their industrial gas out of your line?

A. They have been connected, but a steel plant is one
1005 that can very readily change over to other fuel, and when we call them on the telephone and tell them to get off, with their open-hearth furnaces, or something else, they immediately comply, without any question.

Q. The fact is that under their contracts with you, as you recall them, the priority of service is given to the domestic consumer?

A. It is, at all times.

Q. It is a similar condition of priority to that which is given to domestic consumers over industrial in West Virginia and elsewhere, as far as you know, is it not?

A. Well, I don't think they have enforced it as much in West Virginia as they have in Pennsylvania; I am sure they haven't.

Q. I am not talking about enforcement; I am talking about the nature of the contracts or arrangements?

A. The contracts are the same, yes, sir.

Q. They are the same?

A. Yes sir.

Here a recess was taken until 1:30 o'clock P. M.

1006 Friday Afternoon, July 2, 1920.

And now, the hour of 1:30 o'clock, P. M., having arrived, hearing resumed.

JOHN B. TONKIN resumes the stand.

Cross-examination (continued).

Mr. Hoffheimer:

Q. If it is the fact that you have had difficulty in obtaining sufficient gas to take care of your domestic consumers, under the conditions, how does it come about that you have been and are supplying gas to manufacturers and industrial concerns?

A. Our fields are very competitive; where we have fields that are not competitive, during the summer time we shut in those wells to hold them for the benefit of domestic consumers in the winter time. It is only from competitive fields that gas is sold and used for manufacturing purposes, and if we didn't do it, the gas would go out of the field through the other companies' wells and reach the manufacturer; so it is on account of competition, conditions have forced us to sell gas to industrial consumers, as well as helping to keep down the price of the gas to the domestic con-
1007 sumer.

Q. How does the industrial gas business keep down the price to the domestic consumers?

A. If we were to depend entirely upon the domestic consumer for our revenues, and he doesn't use hardly any in the summer time, we wouldn't have money enough for operating; it would be necessary to charge him several times the price that he is being charged now, the price for that service.

Q. So that it comes about that the domestic consumer and the gas company each have obtained a benefit through the supplying of gas to industrial concerns?

A. That is true.

Q. The fact is that all of the gas companies in Pennsylvania and West Virginia, so far as you know, continue to supply gas to industrial consumers?

A. I believe that all of the gas companies in this part of Pennsylvania do that. The gas companies in the northern end of the state, northwestern Pennsylvania, I understand they shut off all their industrial gas? Here we even go farther than that; we not only shut in our own wells that are not competitive, but we get the other companies in certain fields to agree to cut down their compressing stations in a certain section, and shut off their wells in that section during the summer, and we shut down ours, so that certain fields are only used in the winter time. There are
1008 fields where manufacturing concerns have their own individual wells, or some gas company has wells that are used

almost exclusively for industrial purposes; in those fields we don't shut our wells in, because the other fellow would take the gas out from under the territory.

Q. And in that territory where you shut down your wells, what do you find to be the effect on the wells after you re-open them in the winter?

A. Well, it helps to build up the well a little bit. They accumulate a little more of their rock pressure—that is, it keeps them fresh, so that when they are turned on in the winter time they produce a little bit more than if they were in an exhaustive condition from being used the year around. It helps very considerably.

Q. Do you get more production out of the well than if you had used it continually?

A. You get more nearly the maximum production, yes.

Q. You gave us some percentage of the decline in the Peoples Gas Company's gas supply in Pennsylvania, giving us as the approximate decline from 1918 to 1919, 11 per cent, and an estimate of a prospective decline of 15 per cent. You were speaking of the experience of the Peoples Natural Gas Company. Has the experience of the Peoples Natural Gas Company been different from that of other gas companies?

1009 A. I believe it has been a little bit different from the West Virginia gas.

Q. Different?

A. I think there has been a little difference.

Q. That is, in the rate of the percentage of decline?

A. Yes, sir.

Q. But in Pennsylvania there has been substantially the same rate of decline, so far as you know?

A. No; I think Pennsylvania's decline has possibly been a little bit less in recent years—less percentage.

Q. Less than West Virginia?

A. Well, I am not sure about that.

Q. Whether the figures are the same or not, there has been a relative decline in both Pennsylvania and West Virginia?

A. There has.

Q. And in fact that has been the history of the gas business everywhere, so far as you know?

A. Our decline in Pennsylvania has possibly been less, for the reason that we have held back more wells when we could get gas, and it has only been the last few years that we have worked our fields to what you might call the maximum.

Q. Well, are you now working the Pennsylvania fields to

1010 the maximum?

A. Except in those cases where we can shut in the gas, in non-competitive fields.

Q. The question I asked you was this: The experience in Pennsylvania and West Virginia as to the fact of decline, leaving out the particular percentage, has been the experience in all of the gas fields which have been developed for some time, so far as you know?

A. So far as I know, it has, but I didn't follow that part of it

very closely when I was connected with the West Virginia Company—as closely as I have since I have taken a different position in the Peoples Company. I was in the accounting end of it there and didn't watch the operations so closely.

Q. In what particular territories or fields do you have arrangements by which you are able to shut in wells in the summer time, as you have indicated?

A. Well, in part of the Armstrong County field——

Q. That is, Pennsylvania?

A. Pennsylvania. Out here at Murrysville—In the Murrysville, I believe that is shut down now by agreement with the Philadelphia Company and the American Gas Company, that they will not use their wells there if we do not, and in certain sections of Clar-
1011 ion County our wells are pretty well connected, we have them shut down.

Q. What are the companies in Clarion and Armstrong Counties that are concerned?

A. Well, I refer to the American, in Armstrong County. In Clarion County we have arrangement with anybody this year to shut off any gas, but there are certain sections of the field that are pretty well protected, where we have just our own wells, and we shut those down.

Q. You have pointed out to us the places of delivery and measurement of gas from the Hope Natural Gas Company. Into what lines in Pennsylvania does the Hope Natural Gas Company's gas go for transmission and distribution?

A. It goes into our main transmission lines, which are 12- and 12-inch, paralleling one another from Brave up to Wilkinsburg, just outside of the City of Pittsburgh, with branch lines to the west towards Imperial, Burgettstown and the town of Woodlawn and towns in that neighborhood, with a branch off to the east, going as far east as Altoona and Juniata.

Q. Some of that gas from the Hope Natural Gas Company comes into Pittsburgh and is distributed there for local consumption?

A. It does.

Q. And so at Altoona?

A. Yes, sir; it does.

1012 Q. And at Greensburg?

A. Yes, sir.

Q. If that is true, what becomes of your Pennsylvania produced gas?

A. That is pumped into the same line and commingled.

Q. And gets to the same places, so far as you know, as the Hope Company gas?

A. And gets to the same places; yes, sir.

Q. Speaking of the decline of the McKeesport field, has there been any other field discovered in the last year or two in Pennsylvania, which duplicates that condition of gas production, so as to give you a considerable additional supply?

A. No, there has been nothing like it since the beginning of the gas industry. The nearest approach to it probably was the field dis-

covered up in Ohio near Cleveland, which was over-drilled and played out very shortly.

Mr. Weil:

Q. What year?
A. I would say about 1914.

Mr. Hoffheimer:

Q. Anyway, you wouldn't know where to go and find
1013 another field like the McKeesport field?
A. We would not.
Q. Did I correctly understand you as saying that if it had not been for the gas from the McKeesport field, you would have had an appalling condition of gas shortage in the last winter?
A. No question about it in my mind.
Q. You would have had an appalling shortage?
A. We would have had appalling conditions.
Q. Then you have a prospect of an appalling condition next winter?
A. We are trying to forcibly impress upon our consumers the absolute necessity of putting their main heating appliance over to coal, with a view of trying to get steady service. If our consumers will do that, we feel we will be able to take good care of them. If they don't do that, and continue to use gas as they have in the the past, without curtailing their present supply, there will certainly be an appalling condition in the gas situation here.
Q. What kind of appliances for the burning of coal have you in mind?
A. Putting their furnace, their main heating furnace; in case they haven't got that, turn their grates or whatever their main heating appliances are in the home, over into coal or coke.
1014 Q. And if they haven't a furnace, to instal one?
A. Yes, sir.
Q. How much would that average furnace cost for one of these Pennsylvania houses?
A. Why, I installed one in a house a year or so ago, a coal furnace, for about $135—$150.
Q. Did that involve any reconstruction of your house?
A. No, it did not.
Q. Did you continue to use natural gas?
A. Last winter I used both gas and coal.
Q. How about your lighting?
A. Electric light.
Q. Electric lighting is pretty common here in Pennsylvania, isn't it?
A. It is, in the larger cities, yes, sir.
Q. You mean by "larger cities," Pittsburgh, Greensburg, Altoona, and places of that character?
A. Places of that kind; yes, sir.
Q. Places running down to 5,000 and 10,000 inhabitants?

A. I expect that it would.
Q. Almost all of them have electric lights?
A. I think so
Q. And almost all of the houses use electric light?
A. I couldn't say what proportion of them use electric
015 lights.
Q. A very large number?
A. I suppose the majority of them.
Q. What was the general state of the weather last winter?
A. Quite a cold winter.
Q. Very cold?
A. It was a steady cold—not any days here—not over one or two
ays—that reached below zero in Pittsburgh, I believe; but it was a
teady cold.
Q. Would you say the temperature—or rather the average tem-
erature—the last winter here in Pittsburgh was less or greater than
receding winters?
A. It was a lower temperature than the year before. I don't know
ow it compared with 1917-18, that was a very cold winter.
Q. As a matter of fact now, do you not recall that the temperature
st winter, on the average, was milder than it had been in several
receding years?
A. I think you are mistaken. I think the temperature last win-
r was colder than it had been in the preceding year. I have just
hecked up March, April and May for another purpose, and find
at those three months were lower than the year before.
Q. And would that statement apply to conditions throughout that
part of Pennsylvania served by the Peoples Gas Company?
016 A. I think so.
Q. Both in the months indicated and throughout the win-
r?
A. I think throughout the winter.
Q. As you understand it, there is a continual decline in gas pro-
ıction in West Virginia?
A. There is, yes, sir.
Q. As you understand it, that is true of the Hope Natural Gas
ompany, upon whose gas your company is dependent to a large
tent?
A. That is true of the conditions existing in the Hope Natural
as Company, yes, sir.
Q. The one way you think of for counteracting the effects of that
ortage is to induce your consumers to exercise economy in the
nsumption of gas, and to instal other appliances?
A. That is the only thing we can do at the present time.
Q. Even if they do that, you are going to have a day when you
ven't enough gas to take care of all your domestic consumers, are
u not?
A. They will have to keep on curtailing from time to time.
Q. Do you say they will have to keep on curtailing?
A. Our consumers, I refer to.

Q. Or do you mean, that the Peoples Natural Gas Company will have to curtail?

1017 A. Well, we don't have the gas, so we will necessarily have to curtail.

Q. How will you curtail?

A. By forcing our consumers to use less gas. In other words, they can take off their main heating appliances now, and later on take off some of their grates and eventually use it as artificial gas, as being used in other communities.

Q. That is, confine themselves to other fuels for heating purposes?

A. Yes, sir.

Q. That would leave them using natural gas for what purposes?

A. Well, for the cooking range, for the hot water heating, and incidental heating—such as bathroom heating, and for lighting for those that use gas for lighting.

Q. The only other remedy would be for the Peoples Natural Gas Company to cut off some of its consumers or to get an additional supply?

A. That is the only alternative.

Q. And if you don't get any additional supply of gas, the time is coming when the Peoples Natural Gas Company must do that; is that correct?

A. I don't know that I can say what the Peoples Natural Gas Company will do when it comes to that.

1018 Q. You don't know what it can or would do?

A. I don't know. That is a big problem and should be decided by a good many heads, I guess, if that point comes.

Q. In other words, you anticipate that the condition will arise, but the solution of the problem has not been found?

A. It has not been solved.

Q. But one solution would be to shorten up your territory?

A. That would leave more for the territory that was left, certainly, but it would not be a very profitable arrangement to abandon part of your plant.

Q. Well, is there any irreducible minimum beyond which a domestic consumer won't go, so far as his gas supply is concerned?

A. Well, it is pretty hard to educate consumers who for a great many years have had all the gas they wanted, to come down to burning gas on practically an artificial basis.

Q. Well, supposing a consumer has only enough gas to give him a constant supply at all times for cooking and hot water heating, as indicated, what do you anticipate would be the result?

A. Well, that is probably eventually what he will have to come to.

1019 Q. I say, what will be the result, so far as your gas business is concerned, with that particular class of consumers?

A. Well, by that time our available supply will be down, so that that is all he can get.

Q. And he either will have to submit or quit and go to other fuels?

A. Yes, sir.
Q. What will you do with your gas plant then?
A. Well, I don't know. That is something to be decided in the
ıture. The chances are that you will then have your price up to
ıch a degree that in a large plant such as Pittsburgh you will be
ıabled to manufacture gas, and mix the gases, and we will event-
ally get to an artificial plant. That is my own opinion.
Q. That artificial gas proposition is the proposition concerning
hich you said a little earlier in your examination that nobody was
ery wise at the present time?
A. It is largely in the experimental stage at the present time.
Q. I believe you anticipate that even if you leave out of view the
'est Virginia statute which has been mentioned in this litigation,
or even if the Court in this case should determine that that
020 statute is not enforcible, it will still result, will it not, that the
contraction of service and the limitation of gas service to
okstoves, for hot water heating appliances, and that sort of thing,
ill be arrived at?
A. If I understand the question correctly, eventually that will
me, but in the meantime you will have to educate your consumers
adapt themselves to these conditions.
Q. But the condition will arrive, even if we don't have this West
irginia law?
A. I expect that some day that condition will arrive.
Q. You gave us some figures of the capital investment of the
oples Natural Gas Company. Was that the investment in all of
properties?
A. It was.
Q. That includes field pipe lines, local distributing plants, and
erything?
A. It does.
Q. Does it include oil wells?
A. It includes the oil investment, yes, sir.
Q. Does it include gasoline plants?
A. Yes, sir.
Q. Do you have a good many gasoline plants?
A. Well, we have $434,000 invested in gasoline plants.
Q. How much in oil wells?
21 A. $153,000.
Q. The figure you gave us was something over $16,000,000.
A. Sixteen million four hundred forty-two thousand and some
d dollars.
Q. How long has that capital investment been stationary?
A. It never has been stationary; it is increasing all the time.
Q. How has it increased?
A. By building additional pipe lines, drilling additional wells,
lding additional compressing stations, adding additions to com-
ssing stations already built.
Q. Well, has any depreciation or depletion been charged off
inst that capital at any time?
A. Yes, sir.
Q. Can you give us a general idea of how that has been done?

A. There has been $4,681,297.71 depreciation charged off.

Q. In what period of time?

A. Since the beginning of business.

Q. Has there been anything charged off for depletion of gas supply?

A. The treasury department allowed us as of March 1st, I think, 1918, to value natural gas deposits, and to charge a depletion
1022 off that. The properties—the natural gas deposits—were valued at that time—No, it was March 1, 1913, and the depletion was arrived at, based on the percentage of decline in rock pressure year by year, from that time on.

Q. Well, without taking you all over that, you did proceed according to the usual method prescribed by the Internal Revenue Department?

A. Yes, sir, we did.

Q. And that accounts for that four million and odd dollars?

A. No, that was no part of the four million dollars, nor is the value of gas deposits any part of the $16,000,000.

Q. What was the amount of depletion that you took—that is, in your gas territory?

A. The valuation was placed at $9,659,657, as of March 1, 1913; the balance, December 31, 1919, is $7,775,494.08.

Q. And the difference between the two sums would be the depletion?

A. There were two years during that period when our rock pressure showed an appreciation, and we appreciated the property accordingly. That may sound strange, but, for instance, we drill a well. Take, for instance, the well we drilled out near Ligonier. That would probably bring our average rock pressure very high for 1919, because the rock pressure of that one well was some-
1023 thing like perhaps—We don't know what it is, but perhaps 3,000 pounds, but it just happened we struck wells that gave us a higher average than before, so we appreciated them in depreciating them. It all depended on the rock pressure.

Q. That Ligonier well was one of the deep wells we spoke of this morning?

A. It was.

Q. You found some gas there?

A. Yes, we found some gas there.

Q. A considerable amount?

A. About four hundred thousand.

Q. How much rock pressure?

A. It is impossible to shut it in to ascertain, the casing wouldn't hold it.

Q. Are you taking gas from that well?

A. We are at times, when we are not fishing.

Q. How much of your capital investment does not cover gas territory or gas deposits? My understanding of your statement was that some amounts, such as bonus payments for leases, and that sort of thing, were included?

A. We had an operated acreage of $374,382.22; we had an unoperated acreage, $167,966.53, or a total of a little over $500,000.

Q. That is included in the sixteen million and odd dollars?
1024 A. That is included.
Q. And represents bonuses and payments upon acquisition
of leases?
A. It does.
Q. As distinguished from rentals?
A. It does.
Q. I assume rentals are taken out of your operating revenue?
A. Rentals are operating expenses; yes, sir.
Q. Charged as operating expense?
A. They are, as well as the drilling of wells.
Q. How?
A. Also the drilling of wells.
Q. That goes into your operating expenses?
A. Yes, sir.
Q. Is that the common practice of gas companies?
A. It is; always has been.
Q. You have to take that into consideration when you make your
ates, I suppose?
A. Well, you can understand why that is charged to expense,
hen I tell you that we are adding to our investment each year, with-
ut even maintaining the production—for instance, during the year
919, we added $1,093,513.40 to our investment, and did not main-
tain our production. In spite of that, our production was off
925 eleven or twelve per cent.
Q. Where did that money come from—operating income?
A. From the income, yes.
Q. I understood you to express the opinion that the enforcement
this West Virginia statute, about which we are litigating, would
sult in your receiving little or no gas from the Hope Natural Gas
mpany. Was that the impression you intended to convey?
A. No, I told you that that would be true on extremely cold days;
t that was my opinion of what would happen on extremely cold
ys.
Q. But with that exception, you would expect to get enough gas
carry you through?
A. I would expect to get some gas from them on other days; they
uld probably have gas to deliver on warmer days, but that would
very poor service, to take the gas away from our consumers on
very periods when they want it the worst.
Q. What do you mean by "warmer days"—summer time or com-
atively mild days in winter?
A. Summer time and mild days in the winter.
Q. You would expect to get some gas from the Hope?
A. I would expect to then.
Q. That probably would be then during your peak load periods?
A. Yes, but that would extend pretty much over all the
6 cold spell.
Q. In forming that conclusion, that you would get little
no gas during the very cold weather, what did you take into
sideration as being the operation or effect of that West Virginia
ute?

A. I took into consideration my knowledge of some of the demands, or requests, for service, that have been made of the Hope Natural Gas Company by West Virginia Companies and industrial concerns that are not now supplied by the company.

Q. You had in mind the prospect that the consumers in West Virginia,—domestic and industrial, along the lines of the Hope Natural Gas Company, would receive all of the gas that they desired, before any gas was allowed to go out of the state and into Pennsylvania, had you?

A. I had.

Q. That was the condition you had in mind?

A. That was the condition.

Q. Suppose you eliminate industrial consumption from that assumption of yours; then what in your opinion would be the effect?

A. The effect, in my opinion, would be largely the same; that is,
1027 there would be enough gas taken out for domestic consumers to very seriously cripple the service on the cold days to our consumers up here, and would probably cause such an acute shortage that the conditions that I described would still exist. In other words, the supply of gas gets down so low now at times that it would not take so very much to be taken out of the lines on these extremely cold days, to cause that condition.

Q. How much addition to the West Virginia domestic consumption along the lines of the Hope Natural Gas Company would create the condition in Pennsylvania to which you last referred, Mr. Tonkin?

A. Well, I think if we supplied the companies at Clarksburg, Fairmont and Morgantown, that it would be sufficient to cause that condition.

Q. You mean by the company at Clarksburg, the Clarksburg Light & Heat Company?

A. I mean the Clarksburg Light & Heat Company, yes, sir.

Q. And the company at Fairmont, the Monongahela Valley Traction Company?

A. Yes; I guess it would be the Fairmont Gas Company,—the Monongahela Valley Traction Company.

Q. And at Morgantown, the Randall Gas Company?

A. The Randall Gas Company and the other one; there
1028 are two companies at Morgantown.

Q. But I am trying to get at this: What amount of gas would be added to the domestic consumption of the Hope Natural Gas Company in West Virginia, under the operation of this statute, which amount, as you say, would occasion the condition of shortage in very cold weather in Pennsylvania?

A. I don't know how anybody could arrive at the amount that would be diverted to West Virginia under that statute, because the statute calls not only for the domestic but also for the industrial consumers of West Virginia, and I have no idea what those industrials and domestic would take.

Q. In other words, you don't know how anybody could, at this time, determine how much gas would be taken by or for either class

of consumption in West Virginia, under the operation of this statute?

A. No, I do not. But I know that it wouldn't take so very much—or that it wouldn't take very much to make us critically short here.

Q. But how much would that amount be, in order to get you over the line?

A. Well, if you would take ten or fifteen million off us on a cold day in the winter time, we would have that condition.

1029 Q. Ten or fifteen million cubic feet a day?

A. Would put us in very bad shape.

Q. Well, the real fact is that any increase of the Hope Natural Gas Company's consumption in West Virginia, whether for domestic purposes or for industrial, or any other, would reflect itself in a diminution of the amount of gas which the Peoples Natural Gas Company would receive from the Hope, would it not?

A. I think the Hope Natural Gas Company has its hands full now, without taking on any additional consumption, and that every foot of gas that they would take on for consumers not already their own, would reflect on the amount they would be able to deliver us here.

Q. In other words, any increase in the Hope Natural Gas Company's consumption in West Virginia would lessen the supply to the Peoples Natural Gas Company?

A. Well, they could take on some additional consumers and force the restriction on manufacturers a little bit more, and it would not affect the consumers of the Peoples Natural Gas Company.

Q. That does not quite answer the question. The question was this: Would any increase in the Hope Natural Gas Company's consumption in West Virginia lessen the amount of gas which

1030 the Peoples Natural Gas Company would receive from the Hope Natural Gas Company?

A. It would.

Redirect examination.

Mr. Weil:

Q. Mr. Tonkin, I want to clear up a little your testimony with reference to your sixteen million dollar investment. You say this does not include the value of the gas deposits?

A. It does not.

Q. Except to the extent of about $500,000, the amount that was actually invested in bonuses, and so forth, for procuring the same?

A. That is true.

Q. Have you placed a valuation upon these deposits for the purpose of complying with the Federal revenue laws in charging off depletion, and so forth, against the same?

A. We have.

Q. But that does not enter into the investment account at all?

A. That is no part of the $16,000,000.

Q. Now, the conservation program to which you testified, I wish you would clear that up a little bit further. You spoke of
1031 having your consumers supply other fuel for their heating appliances. You mean by that the heating appliances as distinguished from the incidental heating, from the cookstove, for example?

A. I think I stated, Mr. Weil, that we were asking them to put the main heating appliance in their houses over onto coal; I did not refer to cooking ranges or incidental heating or hot water heating.

Q. Now, that program, as I understand you, is to limit the gas, so far as possible, by arrangement with the consumers, to their cooking stoves, and to what are commonly called instantaneous water heaters.

A. We haven't gone so far as to limit our consumers to anything.

Q. I understand that. I say, that is the propaganda and program which you are now initiating?

A. We are trying to educate them to the necessity of putting their main heating appliance over, in order that everybody can obtain satisfactory service. If they all keep their main heating appliance on, conditions will be such that there will be very bad service here next winter.

Q. And if the program which you have in mind, and about which you have started your propaganda, with a view to
1032 educating your consumers, is carried out, then the natural gas will be used for the cooking stoves and for the instantaneous water heaters, and where they use it for lighting purposes?

A. That is what we are trying to bring about; yes, sir.

Q. As to whether or not at the present time, under the laws of the states or state in which you are doing business, you would have the power to prescribe definitely or specifically the purposes for which a domestic consumer could use the gas, you are not at present advised, are you?

A. I don't understand that there is any law that would permit us to limit them. I understand that the Public Service Commissions are talking about issuing an order to that effect. I know nothing about the law on it. But I don't think there has been any such order issued so far.

Q. Is there not a difference of opinion between the lawyers representing the respective gas companies, and even those representing the Public Service Commissions, as to whether or not some legislation will be required to give that power, even to the Public Service Commission?

1033 Mr. Hoffheimer: We object to that as irrelevant and immaterial; also as speculative.

The Commissioner: Note the objection.

A. Yes, I have heard that discussion a number of times.

Mr. Weil:

Q. It is a fact, is it not, that those consumers attached to the lines of the company nearest to the point of production obtain better service than those a longer distance from the point of production?

A. That is true; the extreme ends of our lines are always where the shortages are most acute.

Q. And that is true correspondingly or relatively from the point of production?

A. It is. The man nearest the source of production gets the first pull on the line, and his service is apt to be more satisfactory.

Q. There was put in evidence, when the testimony of Mr. Sullivan was being taken, a contract between the Hope Company and the Peoples Company. Prior to the date of that contract, which I believe was in 1911, did you have a parole contract or arrangement, by which the Peoples Company obtained their gas from the Hope Company?

034 A. It was a verbal arrangement, I believe, prior to that time.

Q. During the time that the Peoples Natural Gas Company has been under its present ownership and control, what has been the amount of dividends declared, in percentages, each year, on its capital?

Mr. Hoffheimer: That is objected to as irrelevant and immaterial.

The Commissioner: Note the objection.

A. I couldn't answer that question without looking it up.

Mr. Weil:

Q. Could you tell us what has been the largest dividend during that whole period?

A. I think the largest dividend was 15 per cent.

Q. And what has been the smallest dividend?

A. I believe the years that no dividend was declared,—a number of them.

Q. A number of years that no dividend was declared. And how was the dividend ranged when a dividend was declared?

A. Why, when we had the money we declared a dividend, and when we didn't have the money we did not.

035 Q. Well, the dividends have ranged from no dividend at all and three per cent up to fifteen, have they not?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. I couldn't tell that, without looking it up, but I know there was a period when no dividends were declared; and I believe the highest rate of dividend was 15 per cent.

Mr. Weil:

Q. What is the capital stock of the Peoples Natural Gas Company?

Mr. Hoffheimer: Same objection.
The Commissioner: Let the objection be noted.

A. Eleven million outstanding.

Mr. Weil:

Q. Of course the dividends would be declared upon the capital stock?

A. Yes sir.

1036 Q. Could you get for us a statement of the amount of dividends declared from the time that the present owners acquired the company, giving the amount each year?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. I can.

Mr. Weil:

Q. And will you have that done, please?
A. I will have it prepared.
Q. When you obtain the other data for which request has already been made, will you obtain that data with reference to the dividends?
A. I will.
Q. And also the amount of capital stock, each time, upon which the dividend was declared?
A. I will.

Recross-examination.

Mr. Hoffheimer:

Q. That written contract with the Hope Natural Gas Company was made in 1911?

1037 A. Yes, sir.

Q. The prior verbal contract was in substance the same as the written contract?

A. Why, I believe that was the understanding. There really was no great necessity for a contract at that time, because the Hope had a surplus of gas, and we could get all we wanted, and the contract in 1911 was made when it was seen that conditions would change and we had better get it down in writing, but the arrangements were the same.

Q. Mr. Weil has asked you for a statement of dividends declared and paid by the Peoples Natural Gas Company. I suggest that you

prepare, in that connection, a statement of income, or at least fortify yourself with sufficient information to tell us what the income and charges against income during the periods covered by dividend payments were; also, the surplus and undivided profits, and reserve accounts, if any, of the Peoples Natural Gas Company,—that to cover the same periods referred to in Mr. Weil's request for dividends?

A. I will do that.

Q. You were referring to cash dividends when you talked about dividends from 3 to 15 per cent, were you not?

A. I was.

1038 Q. Were there any stock dividends?

A. There were some stock dividends.

Q. Will you have in your account the time and amounts of those stock dividends?

A. I can include the stock dividends,—which are cash and which are stock; yes, sir.

Q. You will include that in your statement?

A. I will.

An adjournment was here taken until Tuesday, July 6, 1920, at 10 o'clock, A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of July 6, 1920.

039 And now, Tuesday, July 6, 1920, the hour of 10 o'clock, a. m., having arrived, hearing was resumed pursuant to adurnment.

W. W. FREEMAN, a witness produced in behalf of the Comlainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. What are your initials, Mr. Freeman?
A. W. W.
Q. What is your position?
A. President of the Union Gas & Electric Company of Cincinati.
Q. Are you an officer of the Columbia Gas & Electric Company?
A. I am vice president of the Columbia Gas & Electric Company.
Q. And are you connected with the Cincinnati Gas Transportation Company?
040 A. I am a director of the Cincinnati Gas Transportation Company—not an officer.
Q. The Union Gas——
A. I think possibly I may be vice president of the transportation ompany; I am not absolutely certain.
Q. The Union Natural Gas Company—is that the name of the ompany?

A. The Union Gas & Electric Company, of Cincinnati.

Q. The Union Gas & Electric Company, of Cincinnati, is the distributing company that supplies the City of Cincinnati with natural gas, is it not?

A. Yes, sir, it is.

Q. Now, does it have any transportation lines, or any gas territory of its own?

A. For the transmission of gas from the gas fields?

Q. Yes.

A. No. It receives the gas at the city line.

Q. Well, it has no gas territory or gas wells or main transportation of its own?

A. None whatever.

Q. It purchases the gas with which it supplies the City of Cincinnati from other companies?

A. Yes, sir.

Q. From what other companies?

1041 A. From the Columbia Gas & Electric Company and from the Ohio Fuel Supply Company.

Q. Does it purchase any gas from the United Fuel Gas Company?

A. Not direct, but a considerable portion of the supply coming from the Columbia Company is taken from the United Fuel Company through the Columbia Company: not purchased direct.

Q. Who owns the capital stock of the Columbia Gas & Electric Company?

A. It is owned by several thousands of stockholders—the Columbia Gas & Electric Company's stock, a widely distributed stock.

Q. And who owns the stock of the Union Gas & Electric Company?

A. That stock, both preferred and common, is owned by the Columbia Gas & Electric Company entirely.

Q. And who owns the stock of the Cincinnati Gas Transportation Company?

A. The $3,000,000 of preferred stock, which was owned by the Cincinnati Gas & Electric Company, has been purchased by the Columbia Gas & Electric Company; the actual transfer has not taken place. The $2,000,000 of the common stock is in the hands

1042 of the general public, widely distributed. The preferred and common have equal voting power, so that the ownership of the three million preferred carries with it the voting control of the transportation company, which will be vested with the Columbia Company within the next sixty days.

Q. Prior to this purchase of the capital stock by the Columbia Gas & Electric Company, of the Cincinnati Gas Transportation Company, what arrangement did the Columbia Company, or the Union Gas & Electric Company, either one, have with this Cincinnati Gas Transportation Company?

A. The property of the Cincinnati Gas Transportation Company is operated by the Columbia Company under a lease of that property, which runs until 1938, I think.

Q. And when did it begin? About how long ago?

A. In 1909, or previous to that time; no later than 1909.
Q. Then the Columbia Gas and Electric Company, if I understand your testimony correctly, operated that Cincinnati Gas Transportation Company under a lease?
A. Under a lease; yes, sir.
Q. From about 1909?
A. From about 1909.
Q. And that runs until 1938?
A. Until about 1938, I think. I think that is the exact
1043 year. That lease may be 1933. It is certainly not earlier than 1933, that it expires.
Q. The Columbia Gas & Electric Company owns certain territory and wells and pipe lines in the State of West Virginia, does it not?
A. It does; yes, sir.
Q. And when was that property acquired—about what year?
A. About and since 1906.
Q. Taking as a date the last of 1919 or the beginning of 1920, say December 31 of 1919, or about January 1, 1920, what was the total investment of the Columbia Gas & Electric Company, in the State of West Virginia, in wells, territory, pipe lines, compressor stations, and so forth?
A. The investment of the Columbia Company alone was at least 11,000,000.
Q. Of what, generally, did that consist?
A. Wells, acreage, field lines——
Q. Just a moment. As we go along, suppose you give us the number of wells.
A. 253 wells, on November 30, 1919.
Q. Now, what was next?
A. 29,000 operated acres—gas territory in operation.
Q. How much unoperated?
A. 221,000 acres unoperated. 122 miles of field lines in
1044 service, two compressor stations, one gasoline station. Aggregating in value at least $11,000,000.

(Pennsylvania Exhibit No. 22 shown witness.)

Q. I show you the map offered in evidence in connection with the testimony of Mr. Wallace, and ask you if the lines of the Columbia Gas & Electric Company are correctly represented on that map, as extending from the Branchland Field to Ball's Gap, and from Ball's Gap to Kenova?
A. Those lines are the lines of the Cincinnati Gas Transportation Company, which are not included in the estimate I have given of the investment of the Columbia Company.
Q. Well, this line also extends from another field here, the Griffiths-dale field, east of Branchland; it runs north and into Ball's Gap.
A. That is also a line of the Cincinnati Gas Transportation Company.
Q. And from Kenova, this line extends, as indicated on this map here by the legend, 123 miles, Kenova to Cincinnati?
A. It does, yes, sir.

Q. And what line is that?

A. That also is a line of the Cincinnati Gas Transportation Company.

Q. And that is correctly set forth on the map?

1045 A. I believe that is entirely correct.

Q. Do you recall the size of this line, the diameter, from Kenova to Cincinnati?

A. That line is a 20-inch line.

Q. And from Kenova to Ball's Gap?

A. 18-inch.

Q. And the line to Branchland?

A. Is 12 inches.

Q. And to Griffithsville?

A. It is 8 inches between Griffithsville and Culloden, and the balance of the line is 18 inches.

Q. Do you know for what the investment was made in West Virginia by the Columbia Gas & Electric Company, and for what those gas lines were laid by the Cincinnati Gas Transportation Company?

Mr. Hoffheimer: Objected to, as calling for an opinion or a conclusion of the witness, and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer.

1046 A. Those lines were laid for the express purpose of bringing natural gas to the City of Cincinnati and surrounding territory.

Mr. Hoffheimer: I move to strike out the answer, on the grounds stated in the objection, and also for the further reason that it does not appear that the witness has knowledge of the matters testified to.

The Commissioner: Take the motion.

Mr. Weil:

Q. Where does the Columbia Gas & Electric Company, or the Cincinnati Gas Transportation lines have its connection with the lines of the United Fuel Gas Company?

A. At Ball's Gap.

Q. The gas is taken from Ball's Gap then through the lines of the Cincinnati Gas Transportation Company to Cincinnati?

A. Yes, sir.

Q. What is the investment in West Virginia of the Cincinnati Gas Transportation Company, in its pipe lines, pumping stations, compressor stations, and so forth?

A. Approximately $7,250,000.

Q. Is that in West Virginia alone, or the total?

1047 A. Oh, no, that includes Kentucky. In West Virginia alone it would approximate two and one-quarter million.

Q. And what is its total investment, including West Virginia, all of the way to Cincinnati?

A. Approximately seven million and a quarter.

Q. And that runs partly through what States besides West Virginia?

A. Kentucky.

Q. And Ohio?

A. No; the state line in Kentucky runs across the Ohio River, and this gas is served by the Transportation Company on the line in Cincinnati, so that the Transportation Company's property is exclusively in Kentucky and West Virginia. The point of supply is at the line between Kentucky and Ohio.

Q. And that is where it is delivered to the Union Company?

A. That is where it is delivered to the Union Company.

Q. How much gas was delivered last year, 1919, by the Columbia Gas & Electric Company to the Union Company?

A. Approximately thirteen and a half billion cubic feet was delivered during the year 1919 by the Columbia Company; including the gas which it obtained from the United Fuel Gas Company.

Q. And how much did you get from the Ohio Fuel Supply
1048 Company?

A. About three and a half billions, in addition.

Q. Have you collated the figures of gas consumption of the Union Gas & Electric Company for the last few years?

A. Yes, sir, we have all of those figures.

Q. Give us then, if you will please, the amount of gas consumption of the Union Gas & Electric Company from 1910 to the end of 1919, inclusive?

A. Do you wish to include or exclude the Ohio Fuel, or state it separately?

Q. I want the whose gas consumption of the Union Company.

A. In 1910, 10,100,000,000; that figure, however, includes the gas sold by the Union Light, Heat & Power Company, just across the river from Cincinnati, in the cities of Covington, Newport, Bellevue, Dayton, and other smaller communities in Kentucky, which are included as a portion of the metropolitan Cincinnati territory.

Q. And the Union——

A. The Union Light, Heat & Power Company serves those communities; that company being leased to and operated by the Columbia Gas & Electric Company. For 1911, the figure is 12,600,000,000—not attempting to give the odd thousands. For 1912, 14,500,000,000. For 1913, 15,300,000,000. For 1914, 16,200,000,000. For 1915, 16,600,000,000. For 1916, 18,200,000,000. For 1917, 19,000,000,000. For 1918, 18,300,000,000. For 1919, 16,900,000,000.

1049 Q. How many consumers has the Union Company on its lines altogether? Both Cincinnati and these other places?

A. In domestic consumers, 151,184, on the first day of June.

Q. This year?

A. 1920. Of which 28,089 were customers of the Union Light, Heat & Power Company in the Kentucky cities. In addition to which, industrial consumers—industrial plants—using a considerable volume of gas, 81 of the Union Gas & Electric Company in Cincinnati, and 9 of the Union Light, Heat & Power Company in Kentucky.

Q. How much gas was supplied to those domestic consumers during 1919? I am speaking now of both companies.

A. I understand. The consumption of domestic customers for the year 1919 was 12,400,000,000, and the consumption of the industrial consumers, 1,800,000,000.

Q. Did you supply any public institutions, such as court houses, poorhouses and hospitals?

A. Yes, sir; we have quite a number of those institutions; in addition to which, when gas is available—which it is in all except the cold winter months—the city water works plant in Cincinnati is operated on gas under their boilers, and the water works and municipal plant in Norwood. Also, the Cincinnati General Hospital, which is a very large public institution.

1050 Q. What was your experience last winter in supplying your consumers? Did you have a sufficient gas supply for your consumers?

A. No, in cold weather we were short; and in some weather so short that there was a great deal of discomfort on the part of consumers who were dependent upon natural gas for cooking and heating. That has been the situation in almost every winter—the exceptions being an exceptional very mild winter. I may say, if you will permit, that our situation in Cincinnati with regard to the shortage of gas in the winter is relieved, in comparison with the situation in some other cities, by reason of the fact that we use about 10,000,000 feet of gas daily in our electrical power house, as fuel, in place of coal. The fact that we have that steady market for 10,000,000 feet of gas daily enables us to obtain that supply throughout the year, and put that additional supply of 10,000,000 feet a day to the service of domestic consumers in cold weather. That fact improves our situation materially; but notwithstanding that, we are exceedingly short of gas when the weather is cold; and that condition exists for a good many days in each winter.

Q. Is that condition getting worse from year to year, from
1051 winter to winter?

A. It is, by reason of the fact that the number of consumers is increasing, and the company has no authority to restrict the consumption of gas by consumers. Also, the company is not able to increase its supply of gas. Therefore, the condition will inevitably become some worse with each succeeding year, under similar conditions of weather.

Q. Do you supply any of the factories or industrial consumers in cold weather, or do you cut them off entirely?

A. We cut them off absolutely; our own power plant being the first industrial consumer always to be cut off.

Q. All of the gas you obtain then in cold weather is used for the domestic consumers?

A. Absolutely, in so far as we are able to control the situation. We believe it is. I may say also that all industrial consumers all the year around pay the same price for gas as the domestic consumers.

Q. Have you made efforts, and are you making efforts, to obtain gas from other sources, if possible?

A. Well, we know from our experience that it is not possible. With regard to the supply of gas from the Ohio Fuel Supply Company, the contract under which we have been obtaining such supply runs out in 1921, and we have no rights in that contract to a
1052 renewal. With regard to the supply from the Columbia Company, the limit of that supply is the capacity of the transportation line, and we have been obtaining for years the maximum supply which that line will carry. So that our position is that we have reached the absolute limit that we can expect to secure.

Q. Is there any other territory within the vicinity, or tributary to Cincinnati, to which lines could be laid?

A. No available territory of which we have any knowledge. We think we know what the situation is.

Q. As a matter of fact, have you made investigations with a view to obtaining a supply of gas for Cincinnati, if possible, by inquiries, and so forth, throughout the territory that would be tributary to Cincinnati?

A. Yes, sir, we have exhausted all of the available information with that thought in mind, and have been unable to find any additional supply.

Q. And if the gas supply from West Virginia were cut off from Cincinanti, as I understand your testimony then, you would have no gas at all for Cincinnati?

A. None, excepting a very small supply of artificial gas, which we are manufacturing and mixing with the natural gas, to relieve the situation in cold weather.

1053 Q. I was referring, of course, to the natural gas.

A. We would have no supply of natural gas, outside of what might possibly be obtained from the Ohio Fuel Supply Company, from Ohio fields. But the entire supply which we get from the Ohio Fuel Supply Company is a very small proportion of our total gas supply? And even that supply from the Ohio Fuel runs down to almost nothing, in extremely cold weather now.

Q. What is the investment of the Union Gas & Electric Company, in its distributing system, and so forth—its total investment? Include in that, that of the Union, Light, Heat & Power Company.

A. We had the gas property of the Union Gas & Electric Company appraised by Nortonburg & Whitman, Engineers, of Chicago and New York, as of September 20, 1917. Their valuation as of that date of the physical property only, pertaining to the gas department of the Union Gas & Electric Company, was $18,778,920; the unit values which were used by the appraisers for that purpose were based on values and costs prior to the war period, so that that valuation would be increased at least fifty, and more probably one hundred per cent, if the unit values were changed to correspond to costs at the present time of corresponding property.

1054 Q. And what was the total?

A. $18,778,920. That covers the property of the Union Gas & Electric Company only in Cincinnati. The valuation of the

gas property of the Union Light, Heat & Power Company as of that date would approximate $500,000 additional.

Q. In your distributing system, you deliver your gas to the consumer at what point on the street?

A. Our point of delivery——

Q. Is it at the curb or is it at the house line?

A. Yes, sir, our service ends at the curb; from that point on the consumer furnishes the equipment, with the exception of the meter which we provide, that is in the premises.

Q. Now, each consumer builds the line from the curb, and also puts in the lines and appliances in his own——

A. In his own property.

Q. In his own property or in his own house?

A. Yes, sir; with the single exception of the meter, which we furnish.

Q. Now, what would you estimate to be the average cost of those appliances for burning natural gas, including the lines and the special appliances used for natural gas, as well as burners, grates, cooking appliances, and so forth?

1055 A. For the domestic consumer?

Q. Yes, about what would be the average cost per consumer?

A. The investment of the consumer probably ranges from a minimum of perhaps $20—taking the small customer who uses gas only for incidental cooking, the pipe—to the residence that has a complete gas range and gas furnace, running into an investment of probably $400. We have about 3,000 consumers in Cincinnati who use gas for heating their houses and have those complete equipments. The range, I should say, would be from a minimum of $20 to perhaps a maximum of $500, per customer.

Q. And that includes what?

A. That includes the expense to them of placing the gas service in the house, the piping in the house, and their interior equipment; including a gas furnace for the heating of the house, and a gas range in the kitchen, and a hot water boiler for hot water equipment, and so on.

Q. I presume in Cincinnati the consumers to whom you supply natural gas simply readapted their appliances, which they had used theretofore, to the use of natural gas?

A. That was true, to a very large extent. We have been in past years encouraging—especially the larger domestic consumers—to install new and thoroughly modern gas furnaces in their homes; leaving their coal furnace interconnected, so that in extremely

1056 cold weather when the gas is short, they can use coal on an efficient basis, and during the balance of the year use gas on an efficient basis. That has been purely from the point of view of conversation. But it is true that originally most of them simply converted their apparatus to the use of natural gas.

Q. Since the Columbia Gas & Electric Company began to supply gas to Cincinnati through these other subsidiary companies, is it not true that substantially all of the available gas supply of the

Columbia was transported from the field direct to Cincinnati, without supplying any other towns or villages, except that metropolitan district to which you refer?

A. That is true, substantially, of the Columbia Gas & Electric Company; yes, sir. It had some contracts for minor supplies of gas at intermediate points, which it has been compelled to fulfil, but the chief function of the Columbia Gas & Electric Company, in so far as its own gas fields are concerned, is to supply the Cincinnati demand.

Mr. Hoffheimer: I move to strike out that statement as to
1057 the chief function of the Columbia Gas & Electric Company, as a statement of opinion or a conclusion of the witness, and as incompetent, irrelevant and immaterial.

The Commissioner: Note the motion.

Here a recess was taken until 1:30 o'clock, p. m.

1058 Tuesday Afternoon, July 6, 1920.

And now, the hour of 1:30 o'clock, p. m., having arrived, hearing resumed, pursuant to adjournment.

W. W. FREEMAN resumes the stand.

Direct examination (continued).

Mr. Weil:

Q. Mr. Freeman, among all these companies that you named this morning, of which the Columbia Gas & Electric Company seemed to be the Poobah, you omitted the Cincinnati Gas Company?

A. The Cincinnati Gas & Electric Company. Yes, I think I failed to make any mention of that company in my testimony.

Q. The Cincinnati Gas & Electric Company has the title to all the physical property in Cincinnati, which is leased to the Union Gas & Electric Company under a ninety-nine year lease, which became effective in 1906.

Q. That is, the Union Gas & Electric Company has for ninety-nine years the use of the property which you described this morning—that is, the distributing plant, and so forth?

1059 A. Yes, sir; the use and control of the property; and the property which I testified to under the name of the Union Company is owned by the stockholders of the Cincinnati Gas & Electric Company, but under the ninety-nine year lease, is controlled and operated by the Union Company.

Q. The title to it is in the name of the Cincinnati Gas & Electric Company?

A. The Cincinnati Gas & Electric Company.

Q. Take 1919, the calendar year. You gave us the quantity of gas distributed by the Union Company?

A. Yes.

Q. Now, give us the amount of that that was supplied to you by

the Ohio Fuel Supply Company—the amount out of its own production of the Columbia Gas & Electric Company, and the amount obtained from and through the United Fuel Gas Company?

A. From the Ohio Fuel Supply Company, the amount was approximately 3,400,000,000. From the fields of the Columbia Company—The United Fuel Company supplied to the Columbia Company, for transmission to Cincinnati, 7,400,000,000 feet; the Columbia Company supplied from its own fields 8,100,000,000 feet. Those two figures, combined with the 3,400,000,000 feet from the Ohio Fuel Supply Company, represent the total volume of gas
1060 bought. The difference between the total of those three figures and the figure which I gave as to the gas sales, is accounted for in the loss in transmission between West Virginia and Cincinnati.

Cross-examination.

Mr. Hoffheimer:

Q. How long have you been connected in an official capacity, as an employee, with the Union Gas & Electric Company, the Columbia Gas & Electric Company, and the Cincinnati Gas Transportation Company?

A. Since 1913.

Q. When was the Union Gas & Electric Company organized?

A. According to my best recollection, about 1906. I have not the official record with me, but approximately 1906.

Q. The Columbia?

A. About the same time.

Q. The Cincinnati Gas Transportation Company?

A. About the same time.

Q. The Cincinnati Gas & Electric Company?

A. The Cincinnati Gas & Electric Company is successor to the Cincinnati Gas, Light & Coke Company, and has been in existence in the gas business in Cincinnati for sixty years or more.

1061 Q. It was an artificial gas company?

A. Originally it was; yes, sir.

Q. And I assume that the Cincinnati Gas & Electric Company took over the old company's plant?

A. Yes.

Q. When was that?

A. I can't give from recollection the exact date of formation——

Q. Well, approximately the same time as the organization of the Columbia and Union Companies?

A. No, the Cincinnati Gas & Electric Company was in operation prior to that.

Q. It also was an artificial gas company?

A. Yes.

Q. And I suppose an electric——

A. As an electric Company too.

Q. But the Union Gas & Electric Company has no territory—that is, no gas fields, wells or transmission lines?
A. None whatever.
Q. So far as the gas business is concerned, it is a distributing company pure and simple?
A. It is.
Q. It has no consumers outside of the State of Ohio?
A. No.
1062 Q. Except by way of distribution through its subsidiary, the Union Light, Heat & Power Company?
A. Well, the Union Light, Heat & Power Company is not a subsidiary of the Cincinnati Gas & Electric Company. It only enters into the general situation through lease of the Union Light, Heat & Power Company to the Columbia Company.
Q. Was the Union Light, Heat & Power Company also an artificial gas company?
A. It is.
Q. And I suppose that when the Cincinnati artificial plant was taken over, and the Union Light, Heat & Power plant, in the Kentucky territory, the gas lines,—that is, the main lines and service lines, distributing lines in Cincinnati and the Kentucky territory,—which had previously been used for artificial purposes, were used for natural gas distribution and service?
A. Yes; with such changes as were necessary.
Q. What changes?
A. Changes that were necessary to convert from the artificial gas to the natural gas, but in general the distribution system was the same.
Q. Well, what were the changes?
A. Why, I am not prepared to testify specifically as to
063 what they were; I know there were some modifications.
Q. You used the old pipes——
A. The old pipes, yes. There were considerable changes in the plants for measuring devices, and different devices that are required for the natural gas from artificial gas—changes were made in the plants in the measuring stations; considerable additional equipment was installed.
Q. Measuring stations, meters and reducers, and that sort of thing?
A. Yes. Also, there have been very substantial additions to the distribution system, to meet the increase in the use of gas.
Q. The artificial gas you mention was the old gas made by retorts?
A. Yes, sir.
Q. Out of coal?
A. Yes.
Q. You gave us some figures as of November 30, 1919, with regard to West Virginia property of the Columbia Gas & Electric Company, giving us the number of wells, operated and unoperated acreage, the field lines, compressor stations and the gasoline sta-

tions. Will you give us those figures for previous years, beginning with 1910?

A. No, I can't give you the figures as to that, the reason
1064 being that this valuation of the property was made as of that date, and we haven't any previous valuations for comparison.

Q. Well, I don't want valuations, I am trying to get the number of wells.

A. Oh, we can give you the number of wells for previous years.

Q. And the number of acres, operated and unoperated?

A. Yes, we can give you those figures.

Q. The length of field lines, and that sort of thing?

A. Yes, we can give you those figures for the previous years.

Q. I will supplement that question in this way: I want those items for West Virginia, and also outside of West Virginia.

A. The number of gas wells at the end of 1912, or at the beginning of 1913, was 117; 1914, 133; 1915, 152; 1916, 183; 1917, 202; 1918, 225; 1919, is given—239; 1920, the first of the year, 255.

Q. Are you giving me figures on all gas wells of the Columbia, wherever situated?

A. Those are West Virginia only.

Q. Will you give me similar figures outside of West Virginia?

A. The Columbia Company is not now operating any gas
1065 wells outside of West Virginia, and previously had only one or two such wells, which have been abandoned—one well, which has been abandoned.

Q. They were in Kentucky?

A. In Kentucky—just one well.

Q. Now, will you give us the acreage, year by year, in West Virginia and elsewhere, if any,—operated and unoperated?

A. The operated acreage in the year 1915 was 19,424 acres; in 1916, it was 20,966; these figures are all West Virginia—1917, 23,048; in 1918, it was 28,165; 1919, 28,737.

Q. What about the period from 1910 to 1915?

A. We haven't those figures; they are not available. The unoperated, during the same years: in 1915, in West Virginia, it was 216,357, and in Kentucky, 44,965. 1916, in West Virginia, 203,975; in Kentucky, 44,084.

Mr. Weil:

Q. These figures all mean acres?

A. Acres. 1917, 204,517; in Kentucky, 44,084. 1918, West Virginia, 184,594; in Kentucky, 42,249. In 1919, West Virginia, 180,932; Kentucky, 39,774.

Q. You didn't divide that into operated and unoperated?

1066 A. Yes, I did; I gave the operated first. These that I have just given are the unoperated, divided between West Virginia and Kentucky. All of the operated was in West Virginia.

Mr. Hoffheimer:

Q. Then I understand that the Columbia Company does not have, and during the years indicated has not had, any operated acreage in Kentucky?

A. That is correct, with the exception of one well that was operated there temporarily, and has since been abandoned.

Q. You gave us the total consumption of the Union Gas & Electric Company, including, as I understand, the Union Light, Heat & Power, for the years from 1910 to 1919?

A. Yes, sir.

Q. As I understand you, the Union Gas & Electric Company supplies consumers only in Ohio?

A. In Ohio is right.

Q. The Union Light, Heat and Power Company only in that limited Kentucky Territory?

A. That is right.

Q. What consumption did the Columbia Gas & Electric Company have during those years, by direct service to consumers?

1067 A. None in Cincinnati or in Kentucky. Its only consumption is in some intermediate points between West Virginia and Cincinnati.

Q. Well, does it have, or did it have, any consumption in West Virginia?

A. I think so.

Q. Can you give me those figures from 1910 to 1919—in West Virginia and out of West Virginia?

A. In the year 1910, the total gas sold direct to consumers by the Columbia Company was 88,911,000 cubic feet, practically all of which was sold in Kentucky—the chief consumer in Kentucky being the Maysville Gas Company, which is served by the Columbia Company and retails throughout Maysville. In 1911, the total of such gas sales was 158,672,000 feet; in 1912, 255,614,000; 1913, 363,792,000; 1914, 396,908,000; 1915, 374,224,000; 1916, 500,796,000; 1917, 755,975,000; 1918, 957,364,000; 1919, 872,289,000. Practically all of those sales, however, are in the State of Kentucky, chiefly in Maysville.

Q. In so far as sales to consumers in West Virginia are included in those figures during those years, where were and are those consumers located?

A. The points of sale in West Virginia are Branchland, Griffithsville, West Hanlon,—that is all.

1068 Q. I wish you would refer to Pennsylvania Exhibit No. 22, the map of the properties of the United Fuel Gas Company, and tell me from what gas mains that gas locally distributed in West Virginia is taken?

A. From the transmission lines of the Cincinnati Gas Transportation Company at the three locatonsi mentioned. (Indicating on map)—Those three locations are served from the transmission lines of the Cincinnati Gas Transportation Company.

Q. Those are the same transmission lines of the Cincinnati Gas

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Transportation Company which you mentioned in your evidence this morning?

A. They are the lines, yes.

Q. You pointed to certain lines as lines of the Cincinnati Gas Transportation Company indicated by broken lines on the map. Are those part of the lines there laid down as lines of the Columbia Gas & Electric Company?

A. They are. Those lines are operated by the Columbia Gas & Electric Company under this lease of that company.

Q. How is that gas which is supplied locally in West Virginia taken off of those trunk lines?

A. They are tapped with the regulator stations at those lo-
1069 cations.

Q. The purpose of the regulators being to reduce the pressure which is carried in the main trunk lines?

A. To obtain the proper pressure at those locations.

Q. How about the line from Ball's Gap to Kenova, what local consumption do you have along that line?

A. The consumption over that line is very nominal, and so small that we haven't kept particular record of it. It is a very nominal consumption.

Q. But what does it consist of, in a general way?

A. Individual customers that are served under the lease—individual customers that have been served in compliance with requests for service from such customers on the line.

Q. Then I suppose you tap that line and use regulators for the reduction of pressure, the same as you have previously indicated?

A. Yes.

Q. You gave us figures of the number of consumers, and quantity of gas consumed by consumers of the Union Gas & Electric Company and the Union Light, Heat & Power Company, for June 1, 1920; in respect to the number of consumers, and for 1919, in respect to quantities. Will you give me the figures for the year 1910, to the last available date, year by year,—making a separation by do-
mestic, industrial, and any other classification which you
1070 carry?

A. Both as to the number of consumers and the consumption?

Q. Yes.

A. I can give you the consumption from 1913 on.

Q. You may do that then.

A. 1913, Union Gas & Electric Company: domestic, 7,736,000,000 cubic feet; industrial, 4,195,000,000 cubic feet; total, 11,932,000,000 cubic feet. Union Light, Heat & Power Company: domestic, 1,155,000,000; industrial, 572,000,000; total, 1,727,000,000.

1914, Union Gas & Electric: domestic, 8,710,000,000; industrial 4,095,000,000; total, 12,805,000,000. Union Light Heat & Power: domestic 1,342,000,000; industrial, 655,000,000; total, 1,997,000,000.

1915,Union Gas & Electric: domestic, 9,342,000,000; industrial, 3,168,000,000; total, 12,510,000,000. Union Light, Heat & Power

Company: domestic, 1,508,000,000; industrial, 641,000,000; total, 2,149,000,000.

1916, Union Gas & Electric: domestic, 9,896,000,000; industrial, 3,649,000,000; total, 13,545,000,000. Union Light, Heat & Power: domestic, 1,741,000,000; industrial, 789,000; total, 2,530,000,000.

1917, Union Gas & Electric: domestic, 11,585,000,000; industrial, 3,131,000,000; total, 14,716,000,000. Union Light, Heat &
1071 Power: domestic, 2,291,000,000; industrial, 519,000,000; total, 2,810,000,000.

1918, Union Gas & Electric: domestic, 10,493,000,000; industrial, 1,987,000,000; total, 12,480,000,000. Union Light, Heat & Power: domestic, 2,549,000,000; industrial, 397,000; total, 2,946,000,000.

1919, Union Gas & Electric: domestic, 10,057,000,000; industrial, 1,485,000,000; total, 11,542,000. Union Light, Heat & Power: domestic, 2,368,000,000; industrial, 320,000,000; total, 2,688,000,000.

I should perhaps say, in reference to the rapid falling off in the sales of so-called domestic gas, that in the early years of this period, the company had an industrial schedule, under which gas was sold for industrial purposes at lower than the domestic rates, and the gas then was classified according to the rates—in other words, every consumer who was on the industrial rates was treated as an industrial consumer, and the others domestic. Since the rates have been the same for both classes, we have endeavored to segregate the larger industrial consumers, irrespective of the fact that they are paying the same rate. And the use of gas for industrial purposes, through those increased rates, has fallen off.

1072 Q. Well, in regard to your smaller industrial consumers, you may have some industrial consumption in your domestic figures?

A. That is doubtless true, to some extent.

Q. Do the two classes, domestic and industrial, embrace all of the Union Gas & Electric Company's consumption?

A. All of the Union Gas & Electric Company's consumption. In addition to this consumption, there is that of the Union Gas & Electric Company in its own powerhouse, which is purchased from the Columbia Company, and which, as I explained before, is used when the gas is available only.

Q. That is, that approximate 10,000,000 a day?

A. When it is available, yes.

Q. What is the nature of the consumption of gas which you include in your industrial classification? What are the general purposes for which it is used?

A. That industrial list represents the larger consumers of industrial gas, and is segregated both for statistical purposes and also that is the list that is told to shut off when gas is short. And it represents rather large industrial plants, including the General Hospital in Cincinnati and the City Water Works, and some other large manufacturing plants that use gas when it is available.

Q. What is the general nature of those manufacturing
1073 plants?

A. There is the Boldt Glass Company, the Le Blond Ma-

chine Tool Company, Cincinnati Shaper Company, the City Ice Company.

Q. What do they use gas for?

A. In their boilers, for fuel.

Q. How is that?

A. Under their boilers, for fuel, in place of coal.

Q. Boilers and fuel, in manufacturing processes?

A. Yes. The total of that in 1919 represents about 12 per cent of the total.

Q. You gave us the figures for 1919, deliveries by the Columbia Gas & Electric Company and the Ohio Fuel Supply Company to the Union. Can you give us similar figures, year by year, from 1910 to 1919?

A. I think so. 1910, gas furnished by the United Fuel Company was 3,901,000,000 feet. That furnished by the Columbia Company direct, 4,593,000,000; furnished by the Ohio Fuel Supply Company 2,600,000,000.

1911, United Fuel, 6,094,000,000; Columbia, 6,165,000,000; Ohio Fuel, 2,008,000,000.

1912, United Fuel, 7,191,000,000; Columbia, 7,110,000,000; Ohio Fuel, 2,298,000,000.

1913, United Fuel, 6,322,000,000; Columbia, 8,356,000,000; Ohio Fuel, 2,508,000,000.

1074 1914, United Fuel, 6,068,000,000; Columbia, 9,923,000,000; Ohio Fuel, 2,775,000,000.

1915, United Fuel, 6,422,000,000; Columbia, 9,180,000,000; Ohio Fuel, 3,003,000,000.

1916, United Fuel, 7,980,000,000; Columbia, 9,960,000,000; Ohio Fuel, 3,140,000,000.

1917, United Fuel, 10,231,000,000; Columbia, 10,510,000,000; Ohio Fuel, 3,378,000,000.

1918, United Fuel, 8,570,000,000; Columbia, 9,010,000,000; Ohio Fuel, 3,423,000,000.

1919, United Fuel, 7,431,000,000; Columbia, 8,192,000,000; Ohio Fuel, 3,459,000,000.

Q. When you speak of United Fuel Gas, you refer to the gas delivered by the United Fuel Gas Company to the Columbia Gas Company?

A. To the Columbia at Ball's Gap.

Q. Where does that gas of the Ohio Fuel Supply Company come from?

A. Ohio and West Virginia.

Q. Where is delivery made by the Ohio Fuel Supply Company?

A. In the City of Cincinnati, at the measuring station in Norwood.

Q. Are the lines of that company shown on this map to which we have referred, Pennsylvania Exhibit No. 22?

1075 A. Apparently not. This map shows one of the lines of the Ohio Fuel Supply Company.

Q. Where?

A. This map shows the point of delivery from the United Fuel

Company to the Ohio Fuel Supply Company, at Spencer, West Virginia.

Mr. Weil:

Q. Not at Spencer?
A. At Ravenswood, West Virginia.

Mr. Hoffheimer:

Q. Then the Ohio Fuel Supply Company itself has no production in West Virginia?
A. Not to my knowledge.
Q. Has it its own production in Ohio?
A. Yes, it has its own production in Ohio.
Q. What proportion of the Ohio Fuel Supply Company's gas is from Ohio, and what proportion in West Virginia?
A. That is not within my information.
Q. How is that?
A. That is not within my knowledge. It is an internal matter of their own, in which we have no particular interest. We buy from them in Cincinnati.

1076 Q. You do know, as a matter of fact, that relatively small quantities of gas come from, or are produced in, Ohio by your company, do you?
A. Personally, I am not advised as to the quantity of our supply from them which they obtain in Ohio.
Q. And I assume then that you don't know anything about the direct consumption, if any, of the Ohio Fuel Supply Company in West Virginia or elsewhere?
A. No, I have no knowledge on that.
Q. Are you an officer of the Ohio Fuel Supply Company?
A. No.
Q. Who are the officers?
A. Mr. George Crawford is president——
Q. George W. Crawford?
A. George W. Crawford, yes,—is president of the Ohio Fuel Supply Company. There is no financial connection whatever between the Ohio Fuel Supply Company and the Columbia Gas & Electric Company.
Q. Who are some of the other officers of the Ohio Fuel Supply Company?
A. Mr. Girard is vice president and general manager, I think, located in Columbus; I think Mr. Fred Crawford is the vice president. Mr. John M. Girard is the active executive, I think.

1077 Q. From whom did the Columbia Gas & Electric Company acquire its West Virginia property?
A. I can't answer that, from personal information. I have no knowledge on that point. I presume they acquired that property the same as every other gas company did—taking up leases and acquiring property in the usual way.

Q. Are you testifying to that, or is that your supposition?
A. That is my opinion.
Q. Have you any information on it?
A. Not firsthand information.
Q. Where did you get the information that the Columbia acquired its territory and pipe lines in West Virginia in 1906?
A. From the records of the company, to which I have access, and to which I have very frequent occasion to refer.
Q. And in getting that date, you didn't take the trouble to find out from whom or how it was acquired.
A. No.
Q. Where did you get your figures on the investment of the Columbia Gas & Electric Company in West Virginia?
A. From our records.
Q. As of what date did you give that investment?
A. The date I testified to,—November 30, 1919.
1078 Q. What did you include in that investment?
A. The items to which I testified,—the wells, operated and unoperated acreage, field lines, compressor stations, gasoline station.
Q. On what basis do you value your acreage, operated and unoperated?
A. At $200 per acre, operated; at $10 per acre, unoperated.
Q. On what theory did you place those valuations on that property?
A. Based on the best engineering experience and advice that is obtainable, combined with the exercising of our own business judgment and experience as to such values.
Q. Who is some of that best engineering advice?
A. We have our own staff of engineers, in addition to which we employ extra advice whenever it seems desirable or advisable.
Q. Who else besides Mr. Samuel S. Wyer?

Mr. Weil: The witness has not testified to Mr. Samuel S. Wyer; I don't know whether he was consulted or not. I would like to have the witness state whether Mr. Samuel S. Wyer was consulted among others.

The Witness: Dr. R. C. White, State Geologist of West
1079 Virginia, has advised us on matters. I may say we wouldn't refuse to accept a figure, even though it were suggested by Mr. Wyer, if it were correct in our judgment.

Mr. Hoffheimer:

Q. Let me see if I understand you correctly. When you talk about an investment of $11,000,000, are you talking about the amount of money invested in the property, or are you talking about a valuation placed upon the property?
A. I am not undertaking to say what the actual cash invested by the Columbia Company was, because that information is not obtainable; we have no means of ascertaining the actual amount of money which was put into this property by the Columbia Company, but in all of our property——
Q. Why have you not?

A. The figures are not available.
Q. Why are they not?
A. There are no records to give that information.
Q. As a matter of fact, you would have to go back into the records of some pre-existing companies which made the original investment?
A. Well, we whould have to have records which do not exist, so far as we know. We have endeavored to the utmost of our abil-
1080 ity to ascertain that information. It is not available. We have undertaken also to value the property, as conservatively and fairly as possible, based on the best engineering opinion.
Q. And the reason you don't have the information is due to the fact that there were previously existing companies who held the property that was taken over by the Columbia Gas & Electric Company, and the record of those previous companies the Columbia Company does not have?
A. Well, I am not prepared to say what was or what was not. All I know is, we haven't the records, and we can't get them.
Q. Were there previous companies who owned that property?
A. I don't know. I only know what our limitations are; all the reasons for the limitations, I am not willing to surmise even.
Q. Your mind is a total blank on that subject then?
A. No; my mind is by no means a blank. I know what we have got, and what we haven't got; you want me to say why we haven't got it.
Q. So far as you know then, there were no pre-existing companies?
A. I am not undertaking to testify whether there were or were not. I am trying to testify as to facts I know about, and not
1081 presume as to facts I don't know about.
Q. Now, then, to come down to a fact, suppose you answer his directly: Does the $11,000,000 which you gave us as the investment of the Columbia Gas & Electric Company in West Virginia represent money invested, or does it represent valuation of property?
A. It probably represents both, as near as we can arrive at it.
Q. Leaving out the probabilities, which is it?
A. My judgment is that it is both. I know the property couldn't be reproduced for that. My judgment is it cost that, as near as we can arrive at the facts.
Q. What do you understand by "investment"? Do you mean money invested in property, or do you mean the value of the property itself?
A. They ought to correspond, if there has been the exercise of proper business judgment in the development of the property.
Q. Well, how much of that $11,000,000 represents money put in, and how much is represented by value of property?
A. I think, as I said, it represents a fair valuation of the property, and it indicates the probabilities as to the actual money that was put
Q. In other words, you regard the $11,000,000 as representing
82 fair value, and as probably representing the investment. Is that it?
A. Yes, sir.

Q. Well, how about the figures you gave us on the Union Gas & Electric Company? Were they arrived at in the same way?

A. Arrived at in the same way. I stated these were the valuations determined by engineers, the most competent engineers we could employ, for the purpose of arriving at the probable investment and the fair value of the property at that date; and, as I testified, the values, arrived at in the same way, today would be anywhere from 50 to 100 per cent higher than those figures.

Q. Then in the same way, that Union Gas & Electric Company investment which you gave us, was what you regard as actual value and what you regard as probable investment?

A. Yes.

Q. What the actual investment is you don't know?

A. No. No one else, so far as I am able to discover.

Q. That is what I want to get at. On what basis was that investment of the Union Gas & Electric Company, or its property value, ascertained?

A. On a basis of replacement as of this date in 1917—September 20, 1917, and that figure excluded any property acquired by the company and the amount of money expended to acquire it, which had been abandoned in the meantime.

1083 Q. Then as you figure, it would cost so much to purchase and lay so many miles of pipe?

A. To reproduce it in its present condition at that date.

Q. How much was included for going value?

A. Nothing. That was actual physical value. Intangibles were not included. I can give you a valuation on the intangibles—with intangibles in, if you would like it.

Q. I asked you in a previous question, which I think you overlooked in answering it——

A. I am sorry.

Q. I asked you as to the number of consumers of Union Gas & Electric Company——

A. In those preceding years?

Q. Yes.

A. I am afraid I haven't that information available. We could ascertain it, but I didn't anticipate that, and I didn't bring a volume of records which would contain that. We of course keep those statistics. I may say that the growth of consumers in Cincinnati has been normal since I have been personally connected with the company, and the rate of growth has been small, because property has been practically saturated for years, and Cincinnati has not been a community that has had very material growth, so that probably five per cent, and less than five per cent, per year, would rep-

1084 resent the growth in the number of customers,—I say, since I have been with the company, since 1913. Of course, there was a very rapid growth in the number of customers between those using artificial gas and those using natural gas, best indicated by the fact that the maximum output capacity in the old artificial plant was 7,000,000 feet a day,—now, in the winter, we frequently run as high as eighty-five to ninety million feet a day.

Q. What you had to say as to the basis of valuation or investment of the Union Gas & Electric Company I assume applies equally to the Union Light, Heat & Power Company?

A. Yes.

Q. You were speaking of the consumption of your power house; what is your average daily consumption?

A. Of gas?

Q. Yes.

A. About 10,000,000 cubic feet.

Q. That is an electric power house?

A. It is for the manufacture of electric current, yes.

Q. You supply power where?

A. Throughout the territory, chiefly in Cincinnati. We have some transmission lines running as far as Hamilton, Middletown.

Q. Does that include electricity for illumination?

1085 A. Yes, illumination and power. The power also goes over to Kentucky, and furnishes service to the Union Light, Heat & Power Company, to the Cincinnati, Newport & Cunningham Street Railway Company; and also some of that current, through transmission line, goes to Indiana.

Q. During how much of the year do you consume that 10,000,000 feet a day at the power house?

A. From about April until October, rather steadily. After that time we have to keep a certain number of the boilers operating under coal, so as to be quickly able to handle the service, and during the late spring months and the early winter months, or the fall months, we use partly coal and partly gas. Then from, perhaps the 15th of November, when the demand for gas is such as to exhaust the supply, we practically cut off gas entirely throughout the balance of the winter.

Q. Well, from the 15th of November on, during the cold weather——

A. To the 15th of March, we use coal exclusively, you might say.

Q. How much gas do you use daily from the first of October to the 15th of November, in that power house?

A. That depends altogether on weather conditions. We 1086 might use a million feet a day, and we might use up to three or four million feet a day; it all depends. Our use of the gas is primarily for the benefit of our gas consumers, in order that we may maintain that volume of supply throughout the year and have it available. There isn't any gas company that could purchase 10,000,000 feet of gas a day between November and March, and not use that gas throughout the remaining portion of the year.

Q. In other words, you are trying to equalize your peak load by using that gas?

A. It is not quite that. That peak load would not be obtainable at all, unless we found we could use it in our own property, or a market for that gas, during the balance of the year, so that we can go out and purchase gas for all year round. And our use of gas is not for economical reasons in our electric plant anything like as much

as it is for the protection of our domestic gas consumers in the winter.

Q. Where did you say the gas is delivered by the Columbia Gas & Electric Company to the Union Gas & Electric Company?

Mr. Weil: You mean to the Cincinnati Gas Transportation Company?

1087 Mr. Hoffheimer:

Q. I understand that the Columbia Gas & Electric Company leases the Cincinnati Gas Transportation lines; is that it?

A. Yes. The point of delivery to the Union Company is at the station there in Cincinnati, on the Ohio River side of the Cincinnati Gas Transportation line, where it connects with the distribution system.

Q. I am right in thinking, am I not, that the delivery is made by the Columbia Gas & Electric Company——

A. Yes.

Q. —through the Cincinnati Transportation Company's leased lines?

A. Exactly. That has no relationship with the supply of the Ohio Fuel Supply Company.

Q. When you spoke of deliveries being made at that point, I suppose you have no permanent arrangement of any kind with the Columbia Gas & Electric Company for the delivery of gas to the Union Gas & Electric Company?

A. It was done under contract.

Q. Do you have a contract?

A. Yes.

Q. How long has that contract been in force?

A. Since the delivery began.

1088 Q. What is it—in writing?

A. Oh, yes.

Q. That is the instrument under which these deliveries are made and have been made in the past?

A. Yes, sir.

Q. Who is the custodian of that contract?

A. It is in the office of the Columbia Gas & Electric Company, and a copy in the office of the Union Gas & Electric Company.

Q. Where?

A. In Cincinnati.

Q. Who is the officer having it in charge?

A. I presume it is in my custody. The secretary of the company has direct custody of the files. I have access to the contract whenever I choose to see it.

Q. Does that contract fix the amounts, times, terms and prices of delivery?

A. Yes.

Q. You have neither the original nor a copy of it here with you in Pittsburgh?

A. No.

Mr. Weil: In order to simplify this,—if counsel for the defendant desire that this contract be produced, so that they can
1089 offer it if they so desire, we will undertake to have a copy of it produced at our next hearing.

Mr. Hoffheimer: In that event, we would be glad to avail ourselves of the suggestion of counsel.

The Witness: It isn't necessary to have the original. There are printed copies of it. I did not deliberately omit bringing one; it just did not occur to me.

Mr. Weil: I will just say this: A copy with an affidavit to the effect that it is a copy will be sufficient—or do you want the original, to compare?

Mr. Hoffheimer: We will accept the professional statement of Mr. Alderdice, the counsel of the company, that it is a correct copy.

Mr. Hoffheimer: Let me ask, in the same connection, is it practicable to have a similar arrangement with regard to the Ohio Fuel Supply Company's contract?

Mr. Weil: I will consult with the officers of the Ohio Fuel
1090 Supply Company, and ascertain from them whether or not they have any objections to the production of that contract, and if there is none on their part, we will undertake to get a copy of it for you. There will be officers of the Ohio Fuel Supply Company on the stand before we get through with the hearing.

Mr. Hoffheimer:

Q. As I understand, there is a contract under which deliveries of gas are made, and have been made, by the Ohio Fuel Supply Company to the Union Gas & Electric Company?

A. There is such a contract, yes.

Q. That contract, I assume to be in writing and in the same custody to which you have referred in relation to the——

A. That is true, as to our copy, yes.

Q. How long has that shortage of gas in Cincinnati and the territory supplied by the Union Light, Heat & Power Company been experienced?

A. It has always existed during my connection with the company, since 1913. There has been a shortage in each year. I don't think my coming to the company had anything to do with it.

Q. And according to your information, it existed before?
1091 A. Yes.

Q. That shortage is gradually increasing?

A. Yes. The situation is becoming more acute.

Q. You recognize that the time is approaching when, by some means or other, the consumption will have to be cut down in the territory served by you?

A. The demand will have to be regulated so as to apportion the available supply of gas in such manner as will correct the present unfortunate conditions in extreme weather.

Q. Your present plan is to limit the purposes for which the gas is consumed?

A. The plan that has been in operation is to curtail industrial

consumption; which does not meet the situation, only ameliorates it slightly.

Q. Why do you say that?

A. Because the shortage is due to the fact that the demand for gas for domestic purposes alone exceeds the available supply in extreme weather. Therefore, if all the industrial gas is cut off, you have not solved the question.

Q. As a matter of fact, from an operating standpoint, you recognize it as almost necessary to keep your industrial consumption during the periods when the weather is not coldest, when the
1092 domestic consumption is not at the greatest?

A. It is absolutely necessary to maintain the company in business until such time as rates are fixed for industrial gas that will enable the company to operate——

Mr. Weil:

Q. You mean, for domestic?

A. —for domestic gas, as will enable the company to operate on a domestic basis.

Mr. Hoffheimer:

Q. What you mean to imply is this: To cut off the industrial consumption would require the domestic rates to be raised very considerably?

A. Very materially. Very materially, if the company is to meet its operating expenses.

Q. And that is because, if you didn't have the industrial consumption, you would have a considerable portion of the year when a good deal of your plant, or the capacity of your plant, would be standing idle?

A. Exactly; and at the time when your plant was being used to its capacity, its maximum capacity, there wouldn't be sufficient revenue to meet the expense of operating.
1093

Q. And putting it the other way: Your industrial consumption keeps down the price to the domestic consumer and helps to pay your operating expenses?

A. It does, absolutely.

Q. Well, if the cutting off of the industrial consumption is not the remedy for your gas shortage, the only other remedy, as I understand, is to limit the purposes for which the domestic gas supply is used,—is that right?

A. The whole problem could be covered automatically.

Q. How?

A. By proper price schedule, which would not in express terms prohibit any use of gas, would permit the free use of gas to any extent for which the consumer was willing to pay the price.

Q. Then you come back to this: If you make your domestic rates sufficiently high, the consumer himself will cut down his own consumption?

A. Exactly. The industrial consumer will take care of himself.

Q. Well, taking into consideration the past experience with gas hortage, and the known fact that you have not been able to dis- over any other available territory, and are not going to get any further gas supply, as far as you know, are you going to
094 reach a day or a time when you won't have enough gas for all of your domestic consumption?

A. If the price fixed were correct, we would, in my judgment, be ble to maintain a sufficient supply of gas in Cincinnati, to meet he demand which would come to us, at a proper schedule of rates. believe the shortage probably would be solved. I believe the con- mers would be satisfied, because they would be receiving a com- nodity at a price lower than any corresponding is available. The ompany would continue in the gas business for a good many years n a satisfactory basis.

Q. Putting it in another way: The increase of the domestic rates ill eliminate enough consumers or consumption to leave sufficient as for the domestic purposes of those who are left?

A. It will eliminate enough consumption. That elimination will rgely be in the matter of conserving and in economy of consump- on, rather than a wasteful consumption of gas. I don't mean it ill eliminate customers, but it will promote an efficiency in the se of gas that will enable the consumers to get a satisfactory rvice from the volume which we think we can produce in our territory.

095 Q. From that point of view, what will be eliminated in the way of consumption?

A. Very much more efficient apparatus will be used.

Q. What else?

A. The wasteful use which comes from indifference, because of e cheapness of the product.

Q. When that time of elimination of wastefulness comes, what mestic uses will be left, as you understand it?

A. It will be used very generally for cooking purposes, for in- dental uses of gas in the household, and for heating in moderate ather.

Q. And in weather which you do not describe as moderate, what uld have to occur?

A. The consumer would use coal.

Q. That is, people would have to instal coal furnaces?

A. A duplicate system—if they want to use gas at all.

Q. In that eliminated consumption—or economical consumption uation which you have in mind, do you include the use of natural s for lighting purposes?

A. To any extent desired by the consumers, yes.

Q. The truth about it is, that the greater proportion of the people Cincinnati today use electric light, do they not?

A. No, not the greater proportion. We have approximately
096 120,000 natural gas consumers within the city limits of Cincinnati, and we have about—less than 40,000 electric sumers. The greater portion do not use electricity.

Q. Are there any other electric light companies in Cincinnati?

A. None.

Q. Did I correctly understand you to say that your company regarded itself bound to extend its service of gas to whoever applied for it within the territory served by it?

A. Well, if they are on our lines. If they are on our lines, we feel compelled to give them service. We are not compelled to make extension of service, except upon grounds that are reasonable.

Q. But you are compelled to extend your lines within a reasonable distance which your territory covers?

A. We are acting on that theory.

Q. You understand that to be your obligation under the Ohio law?

A. Personally, I do not understand we are obligated to make other than the service on the lines of our system. I do not understand that under the laws we are compelled to make an extension. But we do make extensions on a basis which we think is reasonable.

1097 Redirect examination.

Mr. Weil:

Q. Mr. Freeman, in the interesting theory you have expounded for preserving and continuing the opportunities for supplying gas to consumers—domestic consumers—you stated that it would depend upon the question of price. Did you contemplate or intend thereby that you would have different prices for the different domestic uses to which the gas would be applied?

A. No, different quantities—for the different volumes of gas. We would like the basis of charging for gas to follow the plan which Mr. Daly has put into operation in a number of communities served by the East Ohio Gas Company, whereby a block of gas commonly fixed at 5,000 feet per month is the minimum price, with an increase of five cents or more per thousand cubic feet on the succeeding block or consumption of 5,000 feet in a month. The idea of that being that a normal volume of gas for consumption in a month should be guaranteed to the people generally, at the minimum rate—that wasteful and extravagant use of gas should be penalized, in fact, and to the maximum extent possible prevented, by these higher rates for increased consumption—going up perhaps as high as a dollar or higher per thousand feet. Not with the idea that the Gas
1098 Company would be selling the gas at those high prices, but would be conserving gas through the customer voluntarily omitting to use the gas because of that high price.

Q. And that first block, as you term it, would be established without reference to the size of the house or the purposes for which the gas was to be used by the individual consumer?

A. That has been the case where that plan has been put into effect. It has generally been a block of 5,000 feet.

Q. Do they use natural gas for lighting purposes in Cincinnati?

A. Yes, to a considerable extent; with its Welsbach mantles.

Q. And you supply it for that purpose?

A. Yes.

Q. Is there any artificial gas being supplied now in Cincinnati by your company, or any other, for lighting purposes?

A. None exclusively—none that is used of itself for lighting purposes; but we have an artificial plant which we constructed some three or four years ago, with the hope of relieving the situation in extreme weather, and we are able to produce approximately 10,000,000 feet of gas a day, through that plant, which is mixed with the natural gas and distributed in that way. There is no
1099 artificial gas as such used.

Q. And that artificial gas is run into your lines and distributed?

A. Yes, fed out as a mixed gas.

Q. For all purposes?

A. For all purposes?

Q. You gave us some unoperated territory owned by the Columbia Gas & Electric Company in the state of Kentucky, also a certain quantity in the state of West Virginia?

A. Yes.

Q. Directing your attention, in the first instance, to the unoperated territory in Kentucky, is that territory proven gas acreage?

A. I should say that it could hardly be regarded as proven gas territory at present, in view of the fact that there are no wells being operated. It is property that the Columbia Company controls and thinks it is advisable to hold for further development purposes. It can hardly be regarded as proven territory today.

Q. In other words, that is what you would call wildcat or prospective territory, is it not?

A. It is prospective territory.

Q. On which you hope at some time to produce gas?

A. We hope so, or we wouldn't hold the leases.

1100 Q. Is the same true of the unoperated territory which you hold in West Virginia?

A. It is generally true—Of course, any gas company that hasn't any very considerable area of reserve territory would very soon be out of gas, because every well runs down from the day it is started. It is considered by the Columbia Company a reasonable reserve of acreage, which it will develop as rapidly as occasion requires.

Q. And is that territory proven territory?

A. It is, to some extent; there are wells adjacent.

Q. Are there portions of it which are the same as you have described, with reference to the Kentucky territory?

A. There would be a portion of that.

Q. Have you considered, as one of the means of conservation, the adoption of an absolute limit of a certain quantity as the maximum that any domestic consumer can use?

A. The serious difficulty of such a limitation, in my judgment, aside from its perhaps being inequitable to consumers, would be the difficulty of its enforcement. If our company were expected to police 120,000 consumers and undertake to engineer their use of gas, that would be an undertaking that we could not assume. Our feeling is that people ought to be entitled to use the gas if they are willing to

pay the price of gas for that use, with due regard to the inter-
1101 ests of all concerned. And any plan that can be put into effect automatically and fairly to all is a very much better plan than some theoretical limitation which is impractical in enforcement. We feel we should not undertake to enforce—we should not be the policemen for 120,000 consumers; we couldn't undertake the job and couldn't execute it if we did.

Q. Have you considered, among the other means of conservation, the plan of limiting the specific uses to which the gas may be put by the domestic consumer, as, for example, to prevent its use for heating purposes, except as incidental to the use of the cookstove, a certain grate, for running instantaneous water heaters, and the like, and prohibit its use in the heating furnaces of the domestic consumer?

A. We have given some thought to that suggestion, and are rather of the opinion that a prohibition of that sort might be successfully attacked in the courts as unconstitutional. It has seemed a question whether the State or the authorities have the right to say to a man, "You can use gas for one use, but your neighbor can't use it for a different use." So we think there are serious legal difficulties in-
volved in that, and that it is preferable to have a plan of pro-
1102 cedure that is free from those objections, that does not deny any man the use of gas as he elects, providing he pays a proper price for it, and does not injure anybody else's interests in the gas supply.

Q. You have considered then substantially all of the methods that have been suggested in recent years for conserving of gas, by preventing or by reducing its consumption, have you not?

A. We have, indeed. Of course, the trouble, Mr. Weil, is that we have the problem on our hands and perhaps give it the most thought—that we have no authority to act in the matter. We are operating under a rate ordinance which is effective until next year, until next fall, whereby a maximum price of 35 cents is fixed. The authority in this matter is vested in the Common Council of the City of Cincinnati, and thus far we are doing all the thinking and they are doing nothing, and until they take the bull by the horns and assume a little responsibility for solving this question, present conditions will continue. We hope they will take the matter up in a broad way, with due regard to all the conditions, and attempt to apply the proper remedy. If they put it in our hands, we think we could solve it very quickly.

Q. Have you made any estimate, after these methods of
1103 conservation to which you have referred are adopted, as to the length of time you would be enabled to continue in the natural gas business, and supplying gas to domestic consumers?

A. We think that with our reserve acreage—speaking of the Columbia—we hope, at least, that we can continue about the present volume of gas, to Cincinnati and our Kentucky territory, for a good many years. That will, of course, be dependent on our ability to raise the necessary capital to do the additional drilling, the cost of which has gone up enormously—and all of that falls back upon your

being able to sell your product at such a rate as will yield a return to meet all of those necessities, and with a rate that will justify securing needed capital for extensions, with proper conservative practice, and a rational rate schedule, maintaining the actual demand with about the present volume of supply, it is our expectation that we will be able to continue about that supply for a considerable period to come.

Q. Have you made any estimate——

A. That would be absolutely impossible. If we were to meet increased demands from other quarters—and were it not for the fact that we have in our own property considerable reserve acreage.

1104 Q. Taking all of those things into consideration as you have done, have you made any estimate on the length of time, even under those conditions, that you could continue to supply your present domestic consumers?

A. Not when it comes down to figure at a certain number of years.

Q. That is what I mean.

A. Conditions have changed so much in the natural gas business in my comparatively brief experience in it that it would almost seem that any man who undertakes to be a definite prophet is likely to fool himself. I think it would be unwise to undertake to say what would be the exact condition even ten years from now, not to say twenty or twenty-five; but I think the situation, with proper remedies applied, is rather hopeful for a reasonable period of time at least.

Q. Ultimately, however, unless new gas fields are discovered and new sources of supply developed, the supply of natural gas as at present conducted, for even domestic consumers, will end?

A. Ultimately, yes, beyond a doubt.

Q. The time that you don't want to even guess at, at the present time?

1105 A. I would rather have Mr. Daly guess at that than that I should try to; he has been in the business a great many years in comparison with the number of years I have been in it.

Recross-examination.

Mr. Hoffheimer:

Q. Mr. Weil asked you about your unoperated acreage. Is that some of the acreage which is carried in that valuation or investment account to which you referred?

A. Yes. The figure that is put on that is based on average conditions. If that were proven territory, it would not be put in at $10 an acre, it would be put in at the higher figure of $200 an acre. Those considerations are average, in the valuation.

Q. That applies both to Kentucky and West Virginia?

A. It does, yes.

Q. How is that unoperated territory carried by your company—by the Columbia?

A. On its books?

Q. Yes.

A. Well, it is all included in the Plant and Property account. It is not segregated in the books.

Q. Where do your delay rentals come from, out of your operating income?

1106 A. Rentals are paid out of operating income, yes.

Q. Charged up as an operating expense?

A. Yes.

Q. That is true as to operated acreage also?

A. Yes.

Q. It always has been since you have been in the company?

A. It always has been.

An adjournment was here taken until Wednesday, July 7, 1920, at 10 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

COMMONWEALTH OF PENNSYLVANIA
vs.
STATE OF WEST VIRGINIA.

STATE OF OHIO
vs.
STATE OF WEST VIRGINIA.

Proceedings of Wednesday, July 7, 1920.

1107 And now, Wednesday, July 7, 1920, the hour of 10 o'clock, A. M., having arrived, hearing resumed pursuant to adjournment.

JAMES H. REED, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Reed, you are an officer of the Philadelphia Company?
A. At the present time, I am vice president; senior vice president, I believe they call it.
Q. And you are also an officer of the Equitable Gas Company?
A. Vice president.
Q. You were at one time president of the Philadelphia Company, were you not?
A. Yes, sir.
Q. From what year until when?
A. From about March, 1899, until the spring of 1919. I can't tell you the date exactly, but it was about March or April,
1108 1919, when I resigned. Twenty years in all.
Q. Prior to that time, were you connected with the Philadelphia Company in any capacity, as director?
A. No, sir.
Q. Were you counsel for the company?
A. No, sir.
Q. The Philadelphia Company owns the stock of the Equitable Gas Company, does it not?
A. Yes, sir.
Q. All of the stock of the Equitable Gas Company?
A. Yes, sir.

Q. And the Equitable Gas Company is the natural gas holding company of the Philadelphia Company, or one of them?

A. It is one of them. It operates, under lease, the holdings of the Philadelphia Company; the lines that have been constructed by the Philadelphia Company, and the territory owned by the Philadelphia Company in Pennsylvania. It also operates the lines in West Virginia, through the Pittsburgh & West Virginia Gas Company; and through the ownership, by the Pittsburgh & West Virginia, of the Monongahela Gas Company, it operates that company. Practically, the Equitable Gas Company is the operating company.

Q. The Philadelphia Company originally supplied what
1109 places?

A. I think I would like to correct that a little. The Pittsburgh & West Virginia Gas Company operates itself and furnishes the gas at the state line, to the Equitable Gas Company.

Q. The Philadelphia Company originally supplied what places with gas, what cities and towns?

A. Well, if you will let me state the history——

Q. Sir?

A. If you will let me start it in Mr. Westinghouse's time, in my own way, I can tell you.

Q. I would be very glad to have you do that.

A. About some time in the year 1883 or 1884, George Westinghouse drilled a well on his place at Homewood, in the City of Pittsburgh, and he developed a very large volume of gas, for which he had no use. He was drilling for his domestic purposes and he had more gas than he could possibly use. He then to dispose of it bought the charter of the Philadelphia Company. That company was organized under a special law passed in 1871, and was originally known as the Empire Contract Company. It had all the powers conferred upon a Pennsylvania company by statute. There were about seven or eight of those special acts passed in 1871; prior to the adoption of the present Constitution of Pennsylvania, which did away with Special Acts, and the Empire Contract Company had a variegated career. Among other
1110 things, it was used as a contracting company, and built the Mexican National Railway. At all events, he found the charter and acquired it and reorganized the company and gave it the name of the Philadelphia Company—which don't mean anything—and first obtained an ordinance of the City of Pittsburgh to himself and his associates, for the purpose of supplying natural gas to people in Pittsburgh. He transferred that ordinance to the Philadelphia Company—It was worded so it could be transferred—made to him and his associates and assigns—and proceeded to organize his company and go into business. He laid lines at various places in the City of Pittsburgh and then set about to acquire the holdings of other companies. The first lines he laid—Well, he acquired a number of little companies; I have forgotten the names now—but the first lines he laid were to Murrysville and

up the Allegheny River into the Armstrong County field; and he went actively into the business of supplying gas for domestic use and to some manufacturers that he could reach with his lines. The Philadelphia Company afterwards acquired the holdings of the Hostetter people; I think that was called the Fuel Gas Company, but I don't remember definitely. It acquired the
1111 holdings of the Carpenter Gas Company, and the Acme, and a company that had been formed for the purpose of bringing gas down the Allegheny River to the mills, and up along the river, around 33rd Street, and from there up to the City Line, including the Carnegie plants at 33rd Street, and he generally branched over the City of Pittsburgh. The company subsequently acquired the controlling interest in the Allegheny Heating Company, a majority interest of the stock, and made a contract with the Allegheny Heating Company, which opened up the City of Allegheny, where they supplied a large number of domestic consumers. They subsequently made a sort of operating agreement with the Chartiers Valley Natural Gas Company, which had run a line across the Allegheny River and was supplying the mills down below the "Point"—the La Belle Steel Company, I think it was, and Lindsay & McCutcheon. And that was about the condition we found it in, in 1899. Their principal gas supply at that time came from the Murrysville Field and the Armstrong County field.

Q. The Murrysville field was in what county?

A. Westmoreland County. I should have said that in 1887, the Philadelphia Company bought the controlling interest in the Pennsylvania Natural Gas Company, through which they were able to reach some territory in Washington County as well as ac-
1112 quire additional distributing lines. In 1889 or 1890, the Philadelphia Company laid a line to the Bellevernon field on the Monongahela River.

Q. In what county?

A. Well, I think that is Fayette County—Yes, Fayette County. In 1894 or 1895, the company began to acquire leases in Greene County, Pennsylvania, and they also took some leases in Wetzel County, West Virginia. In 1894, the Company began erecting pumping stations and compressing stations. They had one at Canonsburg, one in Armstrong County and one in Murrysville. I don't know whether I am putting this in just as you want it.

Q. That is all right. Go right ahead.

A. In 1895, the Philadelphia Company of West Virginia was organized, all of the issued stock being held by the Philadelphia Company; and that company laid nearly 34 miles of line in West Virginia, which, from Mr. Westinghouse's annual report, reached territory that they had acquired through the purchase of the Devonian and Victor Oil Companies.

Mr. Hoffheimer:

Q. What was that first company?
1113 A. The Devonian.

Mr. Weil:

Q. Just one moment there, judge, please. At that time, when you went into West Virginia, were your——

A. The company went in. I wasn't with them.

Q. When the company went into West Virginia, were the Pennsylvania gas fields becoming exhausted at that time, or insufficient to supply the demands of the company, if you know?

A. Well, judging from the records of the company, its reports, and so on, they were; not exactly exhausted, but they were insufficient to supply the number of consumers which the Philadelphia Company had taken on.

Q. Now, go ahead with your story.

A. Well, I find that in 1895 and 1896, the company constructed a line from its lines in Greene County to the Big Moses well, in Tyler County, West Virginia; and Mr. Westinghouse mentions the necessity of borrowing money for further extensions in West Virginia—further extensions of lines in West Virginia, in 1896 and 1897. The people that I represented acquired the stock of the Philadelphia Company, the controlling interest, practically all of it—there were a few people who stood out—in 1899; and they
1114 put in a new board of directors, and I was elected president; and we began to push the business more actively than had been done before. We extended lines, increased the number of consumers, leased additional territory, largely to the southwest of Pittsburgh, in Greene County and Washington County, and in West Virginia. As I remember it, the company had about 16,000 consumers at that time, mostly domestic, in number; although in quantity probably 40 per cent of its output went to manufacturers. When I left the company, it had about 140,000 domestic consumers and perhaps 550 or 600 manufacturing consumers—I don't remember that exactly.

Q. Well, now, at the time you were elected president of the company, what was the situation as to the Philadelphia Company having sufficient gas in the State of Pennsylvania for the supply of its consumers?

A. Well, we didn't have enough gas in sight in Pennsylvania. We had to depend on West Virginia at that time, and our efforts were directed to raising money and extending lines into West Virginia.

Mr. Hoffheimer:

Q. What date did you fix in that question, Mr. Weil?

Mr. Weil: 1899, when he was elected president of the
1115 Philadelphia Company.

The Witness: In 1899.

(Pennsylvania Exhibit No. 23 shown witness.)

Q. I show you a map marked for identification Pennsylvania Exhibit No. 23, and ask you if that correctly represents the natural gas

property of the Philadelphia Company in Pennsylvania and West Virginia, as of January 1, 1920?

A. In a general way, I would say it does. It is apparently a reduced copy of the working map of the Philadelphia Company.

Q. It shows, according to the legends, the natural gas distributing plants, compressing stations, the general direction of the gas flow, and the gas fields?

A. Yes, sir.

Mr. Weil: I offer Exhibit Pennsylvania No. 23 in evidence, as a map of the Philadelphia Company's natural gas property in Pennsylvania and West Virginia.

(No objection.)

1116 Mr. Weil:

Q. Judge, when was the first compressing station built in West Virginia?

A. In 1901.

Q. And at what point?

A. Delaney No. 10 was the name given; in Wetzel County.

Q. And at that time, how many compressing stations were operating in Pennsylvania?

A. Five.

Q. Now, what was the first gas company you acquired in West Virginia, and when?

A. The Fairmont & Grafton Gas Company.

Q. At what time?

A. Bought in 1905. I might say that its name was changed and it is the company known now as the Pittsburgh & West Virginia Gas Company.

Q. Do you remember when that was, the date when the name was changed?

A. In 1913.

Q. When did you acquire the property of the Monongahela Natural Gas Company?

A. That was acquired at the same time, and that name was changed, and the stock of the Monongahela Natural Gas Company was bought by the Pittsburgh & West Virginia, and its own
1117 obligations given for it.

Q. Now, I think you stated that all of the stock of the Pittsburgh & West Virginia Gas Company is owned by the Equitable?

A. No, the Philadelphia Company.

Q. By the Philadelphia Company?

A. Yes, sir.

Q. What did you say about it being leased or operated by the Equitable?

A. I first said it was operated, but that is wrong. It is operated separately, and sells its gas at the state line to the Equitable for delivery.

Q. And it is owned then, all of the stock, is owned by the Philadelphia Company?

A. Yes, sir.

Q. And all of the stock of the Equitable is owned by the Philadelphia Company?

A. Yes, sir.

Q. Now, at the present time, how many compressing stations are you operating in West Virginia and how many in Pennsylvania?

A. Thirteen compressing stations in West Virginia and ten compressing stations in Pennsylvania. Before we leave that—I don't think I stated that in 1896, at about the time of the organization of the Philadelphia Company of West Virginia, 6,000 acres of
1118 gas territory were acquired in Tyler County, West Virginia, and thirty-three—practically thirty-four miles of pipe line laid in West Virginia, and 76 miles of pipe line in Greene County, to connect with that property. And also, Mr. Weil, the Philadelphia Company, after we took hold, bought the Union Gas Company of McKeesport—that was in 1900—which connection was for a large domestic consumption in that city.

Q. Can you give us the amount of money expended by the company in West Virginia, since the beginning of operations, approximately, separating the amount expended for improvements and the amount expended for leases, rentals, pay rolls, taxes and other items?

A. Well, it would be more or less an estimate, but I think we have expended over probably—over $20,000,000 for the first item. Then I presume as we operated at that time, an equivalent amount for the second item that you detail there in your question.

Q. In other words, that would be $20,000,000 then for improvements, about, and about $20,000,000, did you put it, for leases, rentals, pay rolls, taxes and other items?

A. Yes, sir, roughly speaking, we run about "fifty-fifty."

Q. About what?

1119 A. About fifty-fifty. You know what that means—about half and half.

Q. What?

A. Half and half.

Q. All right; I think we understand fifty-fifty better. Judge, have you prepared, or had prepared, an acreage statement of the property of the company in Pennsylvania and West Virginia, from the year 1910 to the year 1919, inclusive, of the unoperated, operated and the total?

A. Yes, sir.

Q. Will you give us the amount of the unoperated and operated acreage of the company in Pennsylvania, and the total; also, in West Virginia, of the unoperated and operated and the total, from the year 1910 to 1919?

A. (Reading:)

1120 *Acreage Statement.*

Pennsylvania.

Year.	Unoperated.	Operated.	Total.
1910	99,674½	39,536¾	139,211¼
1911	95,300¾	38,540½	133,841¼
1912	99,427¾	40,335	139,762¾
1913	95,933¾	43,008¾	138,942½
1914	115,402¼	53,505¾	168,908
1915	105,762	49,769½	154,531½
1916	85,266¼	55,648½	140,914¾
1917	75,298¼	57,222½	132,520¾
1918	74,123¼	58,859¾	132,983
1919	78,695⅝	60,268	138,963⅝

West Virginia.

1910	424,355⅞	47,240¾	471,596⅝
1911	386,649⅞	56,354¾	443,004⅝
1912	290,695⅛	67,710½	358,405⅝
1913	289,565⅜	73,168¾	362,734⅛
1914	294,009⅞	77,544	371,553⅞
1915	287,449⅜	83,594	371,043⅜
1916	267,696¼	92,035¾	359,732
1917	232,072¾	99,489¾	331,562½
1918	214,962¼	106,266¼	321,228½
1919	209,127¾	108,198¼	317,326

1121 Q. Now, judge, have you a statement of the number of gas wells in Pennsylvania and West Virginia, and the total thereof, from the year ending March 31, 1911, down to December 31, 1919?

A. Yes, sir.

Q. Being nine months of 1918, and the twelve months of 1919?

A. Yes, sir.

Q. Will you read that into the record, please?

A. (Reading):

Gas wells. Year Ending	Penna.	West Va.	Total.
3-31-11	488	487	975
3-31-12	491	588	1,079
3-31-13	514	721	1,235
3-31-14	695	803	1,498
3-31-15	659	837	1,496
3-31-16	636	938	1,574
3-31-17	673	1,067	1,740
3-31-18	694	1,170	1,864
9 mos. 12-31-18	726	1,217	1,943
12-31-19	756	1,238	1,994

Q. I presume, judge, the difference betwen the number of wells one year and the next shows the number drilled during that year?

A. Well, it shows the number drilled, and of course, less
1122 the number abandoned, would make the net increase.

Q. That was not my question. The question was the number drilled.

A. Well, then, that statement does not show the number drilled.

Q. That is what I mean. This statement shows the number of wells—the increase in the number of wells each year, but does not take into consideration the number that were abandoned?

A. No, sir.

Q. So that to the difference between the amount of the previous year should be added the number abandoned, to show the number that were drilled during that year?

A. Yes, sir.

Q. Have you any list showing the number actually drilled during each year?

A. No.

Q. Could you prepare such a list?

A. We can.

Q. I would like you to show the number of wells drilled each year.

A. In West Virginia and Pennsylvania?

Q. Well, both, if you have them; both West Virginia and
1123 Pennsylvania. Have you prepared a statement of the mileage of the pipe lines for each year from March, 1911, to the end of 1919, inclusive?

A. Yes, sir.

Q. Will you read that into the record, please?

A. (Reading:)

Mileage of Pipe Lines.

	Penna. miles.	West Va. miles.	Total miles.
Year ending 3–31–11.....	1,968.76	614.68	2,583.44
3–31–12.....	2,006.70	748.42	2,755.12
3–31–13.....	2,060.85	926.71	2,987.56
3–31–14.....	2,294.33	993.64	3,287.97
3–31–15.....	2,304.88	1,059.00	3,363.88
3–31–16.....	2,322.88	1,111.84	3,434.72
3–31–17.....	2,344.91	1,172.61	3,517.52
3–31–18.....	2,373.71	1,234.09	3,607.80
9 mos. 12–31–18.....	2,385.45	1,263.17	3,648.62
Year ending 12–31–19.....	2,408.03	1,287.92	3,695.95

Q. Judge, this only shows the main transmission lines, does it not? Or rather, the transmission and transportation lines. It does not show the gathering lines or the distributing system?

A. It does not show the distributing lines.

1124 Q. Does it show the gathering lines?

A. It shows some part of the gathering lines. We are unable to separate it absolutely.

Q. Without going into great detail, judge, can you tell us the sizes of some of your larger transportation lines?

A. We have three 16-inch lines running from West Virginia fields, and as they approach Pittsburgh they increase to 20-inch and 36-inch lines; and in addition, there is a 10- and 12-inch line from the State of West Virginia to the Pennsylvania state line.

Q. How many lines have you crossing the state line from West Virginia into Pennsylvania, and give us the sizes of those lines, respectively?

A. We have three 16-inch lines, one 12- and one 10.

Q. The sizes of these lines are put down on this map, Pennsylvania Exhibit No. 23?

A. Yes, sir. An examination of the map will show that it is hard to answer your question, because they are all tied into each other, and one or two short lines run over the state line and connect into them in Pennsylvania. It is all tangled up.

Q. This mileage of pipe line which you have given us, beginning in 1911, of course that is cumulative each year and takes in all the lines laid in the previous years?

1125 A. Yes, sir.

Q. And this change here, where you have "9 mos.," I suppose is due to the fact that you changed your accounting system or something at that particular time?

A. The change was made at that time to conform to the rules of the Public Service Commission, which fixes the calendar year as the fiscal year. Before that time, our fiscal years, of all the companies, ended on the 31st of March.

Q. Have you prepared a statement of the quantity of gas sold, beginning in the same way in March, 1911, for the year ending March, 1911, down to December 31, 1919; both in West Virginia and in Pennsylvania and the total?

A. Yes, sir.

Q. Will you please read that into the record?

A. (Reading:)

Gas Sold.

	West Va. Cu. ft.	Penna. Cu. ft.	Total. Cu. ft.
Year ending 3–31–11	2,300,746,000	35,840,726,000	38,141,472,000
3–31–12	2,880,255,000	34,659,575,000	37,539,830,000
3–31–13	2,410,838,000	38,054,144,000	40,464,982,000
3–31–14	2,099,790,000	38,055,195,000	40,154,985,000
3–31–15	1,828,911,000	36,575,950,000	38,404,861,000
3–31–16	2,305,928,000	42,660,206,000	44,966,134,000
3–31–17	2,323,213,000	45,759,489,000	48,082,702,000
3–31–18	3,374,258,000	43,821,743,000	47,196,001,000
9 mos. 12–31–18	2,730,170,000	28,278,705,000	31,008,875,000
Year ending 12–31–19	3,678,154,000	32,328,270,000	36,006,424,000

6 Mr. Hoffheimer:

. That is gas sold by the Philadelphia Company and the other panies?
. Yes, sir.

Mr. Weil:

. To clear that: That is gas sold by the Equitable Gas Com- y and the Pittsburgh & West Virginia Gas Company?
. Yes, sir.
. And the Monongahela Gas Company?
. Yes, sir.
. Now, have you prepared a statement of the amount of gas pur- ed each year for the same period, both in West Virginia and in nsylvania and the total?
. Yes, sir.

Q. Will you please read that into the record?
A. (Reading:)

Gas Purchased.

		West Va. Cu. ft.	Penna. Cu. ft.	Total. Cu. ft.
Year ending	3–31–11	2,441,718,000	656,407,000	3,098,125,000
	3–31–12	5,556,579,000	708,347,000	6,264,926,000
	3–31–13	11,243,651,000	579,727,000	11,823,378,000
	3–31–14	11,777,356,000	540,483,000	12,317,839,000
	3–31–15	8,561,388,000	520,345,000	9,081,733,000
	3–31–16	5,131,514,000	731,695,000	5,863,209,000
	3–31–17	6,155,714,000	923,102,000	7,078,816,000
	3–31–18	10,301,041,000	1,061,024,000	11,362,065,000
9 mos.	12–31–18	7,644,648,000	987,418,000	8,632,066,000
Year ending	12–31–19	8,128,324,000	1,657,243,000	9,785,567,000

Q. Have you a statement of the amount of gas produced for the
r ending March, 1915, up to December 31, 1919, for each year,
West Virginia and Pennsylvania, and the total?
A. Yes, sir.
Q. Will you read that into the record, please?
A. (Reading:)

Gas Produced.

		West Va. Cu. ft.	Penna. Cu. ft.	Total. Cu. ft.
Year ending	3–31–15	17,690,724,000	11,632,404,000	29,323,128,000
	3–31–16	32,595,425,000	6,507,500,000	39,102,925,000
	3–31–17	31,689,709,000	9,314,177,000	41,003,886,000
	3–31–18	26,253,466,000	9,580,470,000	35,833,936,000
9 mos.	12–31–18	16,197,877,000	6,178,932,000	22,376,809,000
Year ending	12–31–19	18,743,236,000	7,477,621,000	26,220,857,000

Q. Have you prepared a statement of the number of domestic consumers in West Virginia and Pennsylvania for the year ending March 31, 1911, up to the year ending December 31, 1919?

A. Yes, sir.

Q. Showing the number in West Virginia and the number in Pennsylvania, and the average consumption per consumer?

A. Yes, sir.

Q. Will you kindly read that into the record?

1129 A. (Reading:)

Number of Domestic Consumers and Average Consumption.

West Virginia.

Year ending.	No.	Avg. consump.
3-31-11	2,977	147,500 cu. ft.
3-31-12	3,064	157,800 " "
3-31-13	3,288	135,000 " "
3-31-14	3,078	148,600 " "
3-31-15	3,225	130,900 " "
3-31-16	3,348	134,200 " "
3-31-17	3,610	132,900 " "
3-31-18	3,918	147,200 " "
12-31-18-9 mos.	4,021	80,300 " "
12-31-19	4,250	130,400 " "

Pennsylvania.

3-31-11	104,121	134,400 " "
3-31-12	107,936	132,200 " "
3-31-13	113,867	125,000 " "
3-31-14	119,866	128,600 " "
3-31-15	123,675	126,000 " "
3-31-16	129,573	127,100 " "
3-31-17	135,589	136,600 " "
3-31-18	139,358	155,600 " "
12-31-18, 9 mos.	137,764	76,500 " "
12-31-19	144,963	128,100 " "

1130 Q. At the end of the year 1919, on December 31, you had 4,250 consumers in West Virginia, and 144,963 consumers in the State of Pennsylvania, as shown by this statement?

A. Yes, sir.

Mr. Hoffheimer:

Q. Judge Reed, is that average consumption the average per annum?

A. Yes, sir, it is the average per annum.

Mr. Weil:

Q. Have you the list of the cities and towns supplied by your company in the State of Pennsylvania, in Allegheny County, Arm-

strong County, Greene County, Washington County and Westm
land County; also the cities and towns in the State of West Virgi
supplied; and also the gas supplied from trunk lines to custo
whose post office addresses are given?

A. I have.

Q. Will you read that into the record, please?

1131 A. (Reading:)

Cities and Towns in the State of Pennsylvania Supplied.

Allegheny County.

Aiken Station.	Allison Park.	Aspinwall.
Barking Station.	Bellevue.	Birdville.
Boquet.	Bower Hill.	Boyce Station.
Brackenridge.	Braddock.	Bridgeville.
Bruceton.	Carnegie.	Carrick.
Cheswick.	Clinton Terrace.	Coal Valley.
Crafton.	Crafton Heights.	Crafton Terrace.
Creighton.	Dormont.	Duquesne.
East Bellevue.	East McKeesport.	East Pittsburgh.
Edgewood.	Ellisdale.	Elrama.
Emsworth.	Etna.	Ewing Station.
Ewingville.	Fite Station.	Floreffe.
Glendale.	Glassmere.	Glenfield.
Greentree.	Harmarville.	Hawkins.
Hays Borough.	Heidelberg.	Hite.
Hoboken.	Homestead.	Homestead Park
Homeville.	Hulton.	Ingram.
Knoxville.	Large.	Leasdale.
Lincoln Place.	Lockton Station.	Logans Ferry.
Milltown.	Millvale.	Montrose.

1132

Mt. Lebanon.	Mt. Oliver.	McKeesport.
McKees Rocks.	Munhall.	New England.
New Texas.	North Braddock.	Oakmont.
Option.	Perrysville.	Pitcairn.
Pittsburgh.	Port Perry.	Port Vue.
Rankin.	Redman's Mills.	Rosevale.
Rosslyn.	Ross Station.	St. Clair Boro.
Sandy Creek.	Sharpsburg.	Springdale.
Swissvale.	Tarentum.	Thornburg.
Turtle Creek.	Verona.	Versailles.
Wall.	Walton Station.	West Elizabeth.
West Homestead.	West View.	West Red Rave
Westwood.	Whitaker.	Wilkinsburg.
Williamsburg.	Willock.	Wilmerding.
Woodville.	Broughton.	Epton.
Fairhaven.	Gill Hall.	Miller's Road.
Rodfield.	Snowden.	Surgeon's Hall.
Spring Garden Boro.		

Armstrong County.

Atwood.
Cochran's Mills.
Freeport.
Neale.
Shay.
Blanket Hill.
Elderton.
Kelly Station.
Rockville.
Stonehouse.
Clinton.
Ford City.
Mossgrove.
Sagamore.
Whitesburg.

1133

Greene County.

Ashtree.
Clarksville.
Dunn Station.
Gump.
Holbrook.
Jollytown.
Nettle Hill.
Pine Bank.
Spraggs.
Woodruff.
Brave.
Deep Valley.
Fordyce.
Harveys.
Hoover's Run.
Kirby.
New Freeport.
Rogersville.
Sycamore.
Brocks.
Delphine.
Garrison.
Hero.
Jefferson.
Ned.
Oak Forest.
Sand Rock.
Waynesburg.

Washington County.

Amity.
Canonsburg.
Coal Centre.
Elrama.
Greenlee Station.
Pleasant View.
Baidland.
Courtney.
Dunkirk.
Finleyville.
Hackett.
Mingo.
Beallsville.
Cecil.
Donora.
Ellsworth.
Khedive.
Scenery Hill.
Centerville.
Charleroi.
East Bethlehem.
Frekerickstown.
Ivanhoe.
Vanceville.
Bentleyville.
Claysville.
Eldora.
Gastonville.
Monongahela.
Speers.
Coal Bluff.
Deemston.
Eighty-four.
Ginger Hill.
Kammeron.
Venetia.

1134

Westmoreland County.

Meadow Brook.
Trafford.
Murrysville.
Vandergrift.
Paranassus.

Cities and Towns in the State of West Virginia Supplied.

Blueville.
Boothsville.
Burton.
Colfax.
Daybrook.
Enterprise.
Fetterman.
Flemington.
Grafton.
Gypsy.
Haywood.
Hutchison.
Lumberport.
Pruntytown.
Rosebud.
Rosemont.
Shinnston.
Thornton.
Worthington.

Gas is also supplied from trunk lines to customers, whose po
office addresses are as follows:

Addison.	Freemansburg.	Prospect.
Anthem.	Glover Gap.	Roanoke.
Artisan.	Hundred.	Ross.
Bridgeport.	Jane Lew.	Salem.
Bristol.	Kodal.	Sedalia.
Broomfield.	Littleton.	Simpson.
Brown.	Logansport.	Smithfield.
Camden.	Lost Creek.	Tevebaugh.

1135

Clarksburg.	Mannington.	Uniontown.
Dola.	Metz.	Viropa.
Everson.	Middleton.	Wales.
Fairmont.	Moorsville.	Watson.
Fairview.	Monongah.	Weston.
Farmington.	Pleasant Valley.	West Union.

Mr. Hoffheimer:

Q. Those trunk line consumers, to whom you refer, are in We
Virginia, are they not?
A. Yes, sir.

Mr. Weil:

Q. Does your company supply the public buildings and the d
mands of the municipal subdivisions in various sections in which yo
supply gas?
A. Yes, sir.
Q. What public buildings are supplied by you in the City of Pitt
burgh for the United States Government, Allegheny County, an
the city and state?
1136 A. (Reading:)

Public Buildings Supplied.

City of Pittsburgh.

United States Government:
United States Bu u of Standards.
United States Pu . Health Hospital, No. 39.
United States Ma e Hospital.
United States Post Office and 13 Sub-stations.

Allegheny County:
City-County Building.

City:

Public Safety Buildings	2	
City Market Houses	3	
Electric Light Plant (N. S.)	..	
City Play Grounds	10	
City Comfort Stations	4	
City Asphalt Plants	2	
Hospitals	11	(3 City)
Water Pumping Stations	4	
Water Department (Misc.)	23	
Fire Engine Companies	43	
Police Stations	11	
Miscellaneous City Buildings	22	
1137 Lamps for Street Lighting	90	
Public School Buildings	93	

State:

Western State Penitentiary	..	
Charitable Homes	34	

Q. And also give us the supplies for the fire departments, public schools, hospitals, post offices, and water pumping stations of the Cities of McKeesport, Braddock, East Pittsburgh, Carnegie, Homestead, McKees Rocks, Sharpsburg, Crafton, Verona, Tarantum, Chartiers Township, Bridgeville, Scott Township, and Stowe Township, in Pennsylvania?

	Fire departments.	Public schools.	Hospitals.	Post offices.	Water pump stas.
McKeesport	4	15	1	1	2
Braddock	2	8	1	1	1
East Pittsburgh	2	2	..	1	1
Carnegie	2	4	..	1	..
Homestead	2	4	1	1	..
McKees Rocks	4	5	1	1	..
Sharpsburg	9	8	..	2	4
Crafton	2	2	..	1	..
Verona	2	2	..	1	1
Tarentum	4	6	1	2	..
Chartiers Township	1	3	..	..	..
Bridgeville	1	1	..	1	..
Scott Township	1	2	..	..	..
Stowe Township	2	2	..	..	1

1138 Q. Now, judge, can you give us the location of the com pressing stations in Pennsylvania and West Virginia, the tota hose power capacity, and the displacement capacity every twenty four hours?

A. I can. (Reading:)

Compressing Stations.

West Virginia.

Name.	No.	Location.	Total H. P. capacity.	Displacemen capacity 2 hrs. cu. ft.
Dulaney....	10	Situated on the Dulaney Farm, near Pine Grove, Grant District, Wetzel County.....	3,200	9,220,00
Hundred ...	12	Situated on Company Lot, near Hundred, Church District, Wetzel County.....	1,650	7,310,00
Sedalia.....16		Situated on Company Lot, near Sedalia, McClellan District, Doddridge County....	1,800	3,525,00
Downs 17		Situated on the Brand Farm, Lincoln District, Marion County	4,850	10,740,00
Reed.....	18	Situated on Company Lot, near Weston, Freeman's Creek District, Lewis County.....	3,200	7,160,00
Shirley.....	19	Situated on Company Lot, near Shirley, McElroy District, Tyler County	1,600	3,580,00
Sycamore...	22	Situated on Company Lot, near Lynch Mines, Clark District,		
1139		Harrison County	3,300	7,160,00
Skin Creek .	26	Situated on Company Lot, near Brownsville, Court House District, Lewis County.....	5,100	10,750,00
Mann	28	Situated on the Riffle Farm, Booth's Creek District, Taylor County	120	956,00
Central.....	30	Situated on Company Lot, near Central, Central District, Doddridge County.....	3,300	7,160,00
Burnsville...	31	Situated on Company lot, Burnsville, Salt Lick District, Braxton County.....	3,300	7,160,00
Basnettville .	32	Situated on Columbia S. Lowe Farm, Pawpaw District, Marion County	495	987,00
Big Isaac ...	34	Situated on Company Lot, on E. V. Hudkins Farm, Greenbriar District, Doddridge County	480	1,690,00

Pennsylvania.

Name.	No.	Location.	Total H. P. capacity.	Displacement capacity 24 hrs. cu. ft.
Canonsburg	2	Situated on Company Lot, Chartiers Township, Washington County	200	4,096,000
Banks Farm	3	Situated on Company Lot, near Kelly Station, Kittanning Township, Armstrong County	800	9,220,000
Martin Farm	7	Situated on Martin Farm, near Pittsburgh, Ohio Township, Allegheny County	50	4,120,000
Pratt Farm	13	Situated on the Harvey Pratt Farm, near Waynesburg, Franklin Township, Greene County	800	2,665,000
Wise Farm	14	Situated on the Wise Farm, near Zollarsville, West Bethlehem Township, Washington County	850	2,865,000
1140				
Murrysville	20	Situated on Company Lot, Murrysville, Franklin Township, Westmoreland County	350	2,900,000
Myers	24	Situated on Company Lot, near Bentleyville, Somerset Township, Washington County	350	2,900,000
Local	27	Situated on Esther Rhodes Farm, near Local, Bethel Township, Allegheny County	180	1,590,000
Rogersville	29	Situated on Company Lot, on Church Farm, near Rogersville, Center Township, Greene County	3,300	7,160,000
Freeport	33	Situated on the Way Farm, near Freeport, South Buffalo Township, Armstrong County	60	530,000

Q. Judge, I call your attention to the fact that in 1919,—the end of 1919, as shown by the statements you have produced and read into the record, you produced in West Virginia, for the year ending December 31, 1919, 18,743,236,000 cubic feet of gas, and in Pennsylvania, 7,477,621,000 cubic feet; or a little over a quarter of your total production was produced in Pennsylvania. And of your gas purchased, you purchased in West Virginia 8,128,324,-

000 and you purchased in Pennsylvania 1,657,343,000; or yo
purchased in Pennsylvania, in round numbers, about a little ov
one-sixth of the gas you purchased in West Virginia. What woul
be the effect upon the operation of your company if the gas fro
West Virginia should be shut off or greatly curtailed?

A. Well, naturally it would reduce the operations of t
1141 company to the extent it was cut off or curtailed. It woul
be impossible to furnish the present consumers from o
Pennsylvania supply alone.

Q. What would be the effect of such curtailment occurring on t
coldest periods of the year, as to the operation of your company

A. It would practically put the company out of business, b
cause you wouldn't have enough pressure, I take it, to supply eve
the few consumers that— Well, to put it differently, you wouldn
have enough pressure to supply everybody, and you wouldn't ha
enough gas to supply everybody, and you couldn't discriminate b
tween consumers, so that the company would be practically out
business, as far as supplying gas is concerned.

Q. Could you practically continue the operation of your com
pany if, upon the coldest periods of the winter, the gas which yo
now obtain from West Virginia was diverted to other uses in We
Virginia?

Mr. Hoffheimer: That is objected to, as calling for an opinio
or conclusion of the witness; as speculative, and as incompetent, i
relevant and immaterial.

1142 The Commissioner: Note the objection and take the a
swer.

A. You could not practically continue it?

Q. What is the investment of the Philadelphia Company in i
natural gas interests in the State of Pennsylvania? You gave
the investment in West Virginia. In round numbers, what woul
you estimate it?

A. That is very hard to answer, Mr. Weil, without an examin
tion of the records, which I can have made and furnished. W
had expended up to April 1, 1915, over $21,000,000 in the exte
sion of lines and drilling wells and things of that sort, no part
which had we charged to capital account, or appeared on our boo
at all. It was charged right out of either operations or incom
Now, that was partly in West Virginia and partly in Pennsylvani
That did not include the payment of rentals, which always ha
been charged as operating expense. The policy of the compan
when we took it over, was to try to make our extensions, our ord
nary extensions, and do our well drilling, including the laying
connecting lines, out of earnings. And of course at times that b
came too heavy, and we could not do it. If we were going to la
a long line, which would cost a million or a million and
1143 half dollars, we couldn't do that out of earnings; we woul
generally borrow the money and either sell stock to meet
or pay it out over a term of years. About 1906, the controlling i
terest in the company was purchased by what is known as th

United Railways Investment Company of New Jersey; and there was more or less of a difference of opinion between us, a friendly difference, on that subject; and we finally changed our policy to the extent of charging against capital, or to capital,—I don't know which you would say—the laying of lines, including service lines, distribution lines, and the materials that went into the wells; all the labor of drilling and of taking up lines and relaying them was still charged against income. Now, nobody else but the Controller can separate these things and give you the answer you want.

Q. Well, could you give us a rough estimate? Or, if you cannot——

A. I really wouldn't like to do it.

Q. Well, now, can you give us what is your present investment, total investment, in natural gas interests in Pennsylvania?

A. The last balance sheet of the Philadelphia Company attached to the annual report—which is certified to be correct, and
1144 no doubt is—the balance sheet shows for all the companies: that is, the Philadelphia Company, the Equitable Gas Company, the Allegheny Heating Company, the Monongahela Natural Gas Company, the Pittsburgh & West Virginia Gas Company, the Philadelphia Company of West Virginia, and also includes the Philadelphia Oil Company, a total of forty-five million, in round figures, of investment in properties that pertain to the natural gas department.

Q. How much of that was the oil?

A. About $2,000,000, as I remember.

Q. Well, there was about $43,000,000 then——

A. About $43,000,000; yes, sir.

Q. And that was what year, did you say?

A. That was December 31, 1919. In addition to that, of course there has been a very large amount expended in extensions, that does not appear on the balance sheet. It is safe to say, I think it would be a very conservative estimate, to say $60,000,000.

Q. What do you estimate would be the wreckage value of your gas lines, plants, distributing systems, and so forth, in the event of the natural gas supply failing completely?

Mr. Hoffheimer: This is objected to, on the ground stated
1145 in the last objection.

The Commissioner: Note the objection.

A. Well, that is an impossible question to answer, offhand. Of course, the pipes, compressing station machinery, the rigging and other things connected with a gas well, have a junk value; but against that, you would have the cost of taking them out of the ground and moving them from, in some cases, almost impossible locations; so that any statement I would make would be—wouldn't even be an estimate, it would be a guess. But I should say that the investment in West Virginia would be practically wiped out when you got through with it, and to a certain extent, that in Pennsylvania, in the large lines that were laid to connect with the distributing systems.

Q. What about your distributing system in your various towns and cities, and so forth? Would the cost of lifting the same be more than the value of the pipe and stuff would get out?

A. It not only would be that, but it would be a practically impossible situation. Most of the streets in which those lines are laid have been paved, and you couldn't dig up paved streets and take out distributing lines successfully.

Q. Then according to your judgment——

1146 A. I might say the great bulk of the lines in the cities,—the City of Pittsburgh and Allegheny—were laid when the streets were not paved with asphalt, as they are now; but in many cases were not paved at all, and in other cases paved with cobblestones that could be easily lifted and put back. So that the whole situation is changed from the time the lines were laid.

Q. Then if I understand you correctly, according to your opinion, if these distributing systems could not be used for some other purposes, the whole investment, in the event of the termination of the natural gas supply, would be practically lost?

Mr. Hoffheimer: The same objection.

The Commissioner: Note the objection.

A. As to the gathering and transporting systems, yes. As to the distributing systems in the cities, it is possible—I say it is possible, I don't know whether it is practicable to construct plants that would furnish a heating gas, which might be used for some domestic purposes, and in that way use the distributing systems. But that would involve such an expenditure of money that it is practically impossible.

1147 Q. Up to the present time——

A. That is, to do it all. You can furnish some of your customers, where you had the dense—density of traffic, as they say among railroads—a number of consumers bunched together, you might supply them, but you couldn't go all over this territory with manufacturing gas, in my judgment.

Q. The experiments that have been made heretofore in supplying a manufactured gas for heating purposes, have not been practically successful, have they?

A. I think that is correct. I don't know that in any case a company has been able successfully to carry the whole heating load,—house heating and cooking and laundry stoves and things of that sort. I don't know of any case where they do it.

Q. Your company has made some experiments, has it not, in the line of manufacturing gas mixed with natural gas?

A. Yes, sir.

Q. Tell us what you did.

A. Well, we built a producer plant, which was not successful in carrying out the purpose for which it was designed, but was operated in a sort of half-hearted way last winter at the periods

1148 of coldest weather. We are constructing a water gas plant, which I believe is not yet completed—which is not yet completed, and the success of which is more or less problematical. I

ld like to say there, Mr. Weil, if you will let me, that from the ladelphia standpoint, the situation is very critical, in my judg- it. With 150,000 domestic consumers, to say nothing of the ufacturing customers, I don't see how the company, with the ng off of gas supply, is going to be able to take care of its busi- . To build even by-product plants, which I suppose today is most successful form of furnishing heating gas, involves such gantic expenditure. When you come to figure on furnishing 00,000 feet of gas a year, it runs into figures I don't understand to the cost of the investment. From a by-product oven, you produce about five or six thousand feet, between five and six sand feet of gas, to the ton of coal. So I will leave it to your gination to figure how many tons of coal that would require, how much investment it would require to produce that, to build e plants. It is an impossible situation, as I see it, and it will uire the greatest conservation of natural gas to prolong the pres- ent service. When this company went into the gas business, 9 it was the expressed intention of Mr. Westinghouse, and has been as long as I was with the company, the policy of the com- y to take care of its domestic trade; treating its manufacturers as rt of "by-product" or by-consumer, to whom you sold your sur- . Now, we have built up in these communities together with other natural gas companies, that serve some part of them, a sort aith and reliance in the natural gas supply and in the furnish- of a heating gas by these companies, over a period of the last nty-five years, which practically put every householder out of the it of using coal. The houses are not equipped for it, and it will duce an immense disturbance when the time comes that he has to back to the use of coal or coke. And of course if you shut off West Virginia supply, you have brought that condition about much sooner, and I am rather glad that I am out of the active, onsible management of the Philadelphia Company at the present e.

. Judge, has the Philadelphia Company undertaken to obtain itional gas territory? Has it maintained a force for that pur- e?

A. Yes, sir, for years.

0 Q. Has it now available, or does it know of any new gas fields, from which it can obtain a supply of natural gas?

. I would say no.

. The field of the Philadelphia Company now being operated hat company is being fast depleted, is it not?

. Yes, sir.

. Have any estimates been made by the management of your pany, as to the length of time, at the present rate of depletion, the present consumption, that the natural gas supply which have at present would last?

. Of course, you have a theoretical situation. You have a long to your gas fields, in the sense that there is gas there, but you 't get it out. At the present rate of consumption, well, if it lasts years I would be very much surprised.

Q. I suppose the amount would be reduced from time to time, during that period of course,—from year to year?

A. Oh, yes; there would be a constant falling off, until you get to the place where it isn't practical; you have got no pressure and you have got no volume,—yet you may have gas theoretically.

Q. About how many stockholders have you in the Philadelphia Company?

1151 A. Well, I haven't looked for some time. Common and preferred stockholders, probably six or seven thousand. The reason it isn't larger than that is that the United Railway Investment Company owns the majority of the stock. It might be more than that. I would like to look at that, if it is important, to give you the correct number.

Q. No, it isn't important. Is the control of your company in any way in any of what are commonly known as the Standard Oil Companies, or any of its affiliations?

A. No, sir. May I explain what the United Railway Investment Company is?

Q. Certainly.

A. One of the branches, operations, of the Philadelphia Company was the ownership of stock of the Pittsburgh Railways. The same people who bought the controlling interest in 1906 owned the control of the stock of the San Francisco Street Railways. They had a company called the United Railway Investment Company, formed under the laws of New Jersey, which owned all of the stock of the San Francisco Railways; and they thought it would be a profitable operation to extend their field into other cities, and they bought the controlling interest in the Philadelphia Company,—common

1152 stock. And it was their intention to go and acquire ownership of railways in other cities, but the San Francisco earthquake so crippled them that they were never able to go farther. While they own the controlling interest in the Philadelphia Company, it is not in any way affiliated with the San Francisco Street Railway System. The two are held through stock ownership and operate entirely independently; and no part of our earnings, except through the ordinary dividend, have gone in any way to help the San Francisco situation. Now, the ownership of the United Railway Investment Company is scattered around in all directions. Ladenberg, Thalmann & Co., who are bankers in New York, represent the controlling interest in the investment company, and that stock is very much scattered and, to my knowledge, no person connected with any of of the Standard Oil interests has any interest, to the best of my knowledge, in any of these companies.

Q. Now, Judge, have you any suggestion to make as to any information you think we ought to have, with reference to this situation? If so, we would be glad to have you make it.

Mr. Hoffheimer: I object to the form of the question.

1153 (Qestion withdrawn.)

Cross-examination.

Mr. Steptoe:

Q. If I correctly understood you, Judge Reed, the gas end of your Philadelphia Company had its inception with the acquisition by George Westinghouse of a franchise in the City of Pittsburgh?

A. Yes, sir.

Q. Do you recall the date of that franchise?

A. It was about the year 1885. Well, it must have been a little before that, because he says they purchased the stock of the Philadelphia Company in 1884. I will say 1884 or 1885 they obtained the ordinance.

Q. And was it before or after that that the control of the Philadelphia Company was acquired?

A. By him?

Q. Yes.

A. Well, he first drilled his wells in probably 1883, or the fall of 1883; and in July, 1884, he acquired the Philadelphia Company. Now, my recollection is that his ordinance was passed before that, from the fact that it was made to George Westinghouse and
1154 his associates and assigns. And then he followed that up by acquiring this charter. There was a good deal of difficulty at that time; two or three men had undertaken to use charters under the General Corporation Law of Pennsylvania applicable to artificial gas, and which at that time gave artificial gas companies exclusive privileges. His problem was to get into the city of Pittsburgh with some kind of a charter, but he couldn't get one under the general incorporation law, so he looked around and found this special charter, as we call it, and purchased it for that purpose, and then went on and laid his lines. Afterwards, the Supreme Court decided that the Artificial Gas Act did not apply to natural gas companies, and then in 1885—you see all this came pretty close together—in the session of 1885, the Legislature enacted what we know as the Natural Gas Act, under which companies could be incorporated, for the purpose of supplying natural gas for fuel and the like, and the use of natural gas was declared a public use, and it was provided that any company that had been formed under the manufactured gas act, could, by going through certain forms, become chartered under this act that I speak of. I can't give you the exact dates of all that, but it all happened there within two years.

Q. And that was followed by the laying of the lines and the acquisition of certain other companies?

1155 A. Yes, sir.

Q. You referred to the Fuel Gas Company, the Carpenter Gas Company and the Equitable Gas Company. When were those companies acquired, and what was their business?

A. The Fuel Gas Company—Will you let me read from his report? That will maybe give you what you want.

Q. Yes.

A. The company began operations on October 9, 1884, on a line

from Tarentum to Hoboken, and a line from Murraysville into the City of Pittsburgh; and in 1885, the company bought the rights and property of the Allegheny Natural Gas Company, which was a company operating on the Allegheny River, on the Pittsburgh side of the Allegheny River, and furnishing gas to the mills in the neighborhood of 33rd Street. And they next purchased the Acme Gas Company, which supplied gas in the neighborhood of Braddock and to the Edgar Thomson Steel Company, as I remember. Then they bought the Carpenter Natural Gas Company, which had been formed by some people in McKeesport, and supplied the National Tube Company and the W. D. Wood mill. In 1885, some time in the summer of 1885, they purchased the Hostetter interests. He had laid lines from Murraysville into Pittsburgh, and he had companies known as the Penn Fuel Company, the Fuel Gas Company and I
1156 think Pew, Emerson & Company, Limited—I think he owned that. And he sold all those to the Philadelphia Company. Some time later than that, they bought the companies that were being promoted by H. Sellers McKee. I have forgotten the names of them, and I don't know the date. They were not very large. The Equitable Gas Company was purchased by us after we acquired the company. It had been operating for a good while, under a contract with the Philadelphia Company to supply gas. I can possibly give you the date of that later.

Q. Were the companies you have mentioned all companies engaged in the production and supply of natural gas?

A. Yes, sir.

Q. With the Equitable Gas Company always engaged in the natural gas business?

A. Yes, sir.

Q. If I correctly understood you, there was no authority prior to 1885, for the public service of natural gas in the cities and towns of Pennsylvania—for the incorporation of companies for that purpose?

A. That is correct.

Q. And there was no natural gas served by any such companies within the limits of the City of Pittsburgh prior to that date?

A. Prior to 1885?

1157 Q. Yes.

A. Oh, there was before that. There was gas served here prior to 1885, by companies who were acting under color of title, so to speak.

Q. But not incorporated?

A. They were incorporated under the Manufactured Gas Act. It took some two or three years for them to find out they could not do it. I don't think there was any gas supplied prior to 1880.

Q. You refer now to natural gas, do you?

A. Yes, sir, natural gas.

Q. Were there local distributing companies acquired by the Philadelphia Company in the City of Pittsburgh?

A. You mean, originally? At any time during its history?

Q. Along about the time of the franchise or soon after.

A. Yes, sir; they very soon acquired the controlling interest in

the stock of the Allegheny Heating Company, which was entirely a distributing Company in the City of Allegheny. I might add to that, the Low Pressure Gas Company, supplying consumers in the Boroughs of Homestead and McKees Rocks; the Union Gas Company, of McKeesport, was partly furnishing its own gas, but mainly buying it, so that it was partly a distributing company. That was acquired some time in 1900.

1158 Q. The map you have here filed as Pennsylvania Exhibit No. 23 has the legend that it is a map of the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia. As a matter of fact, this map shows as a whole the several and separate holdings of the Pittsburgh and West Virginia Gas Company, and of the Equitable Gas Company, does it not?

A. And of the Monongahela Gas Company.

Q. The connection of the Philadelphia Company consists in its ownership of the capital stock of the companies you have mentioned?

A. Yes, sir; so far as West Virginia is concerned.

Q. It is a holding company?

A. It is partly a holding and partly an owning company. It owns lines and wells in the State of Pennsylvania, it owns compressing stations in Pennsylvania, and it is a holding company of the stocks of companies in West Virginia.

Q. The West Virginia companies are at present the Pittsburgh & West Virginia Gas Company, handling the gas end, and the Philadelphia Oil Company, owning the oil?

A. Well, there is still another company there, the Philadelphia Company of West Virginia, which was the original investment of the Philadelphia Company. It owns territory and lines. Let

1159 me go back to that again, to get it straight. The Philadelphia Company of West Virginia was formed somewhere about 1896, to take over gas holdings and to lay lines in West Virginia; was supplied with money by the Philadelphia Company for that purpose ,and acquired quite a lot of territory and lines. The Pittsburgh & West Virginia is the old Fairmont & Grafton Gas Company, which had been acquired by the Philadelphia Company somewhere about 1905 or 1906, I think. We changed the name of the Fairmont & Grafton to the Pittsburgh & West Virginia Gas Company, leased to it all of the property of the Philadelphia Company of West Virginia, and made it the operating company in West Virginia.

Q. So that, boiled down, the Philadelphia Company of West Virginia is the lessor of properties it owns and the Pittsburgh & West Virginia Gas Company is the lessee and operating company?

A. Yes, sir.

Q. And the Philadelphia Oil Company represents the oil interests?

A. Yes, sir.

Q. And are all three of those West Virginia corporations?

A. I can't tell you offhand about the oil company, but I think they are. Two of them are; the gas companies are West Virginia corporations, and my impression is the oil company is.

1160 Q. When was the Fairmont & Grafton Gas Company incorporated?

A. I don't know, sir. It was in existence when we purchased it.
Q. It was a domestic West Virginia corporation?
A. Yes, sir.
Q. Do you know what towns it supplied?
A. Most of Grafton and some small line into Fairmont and smal towns adjoining.
Q. Are you able to tell us what gas territory and pipe lines th Fairmont & Grafton Company had at the time of the acquisition o its stock by the Philadelphia Company interests?
A. Well, I guess, to avoid delay, I can say that I cannot, but wil furnish it if you desire.
Q. If you can ascertain that during the noon hour, judge, I wis you would do that.
A. Yes, sir.
Q. Do you know whether the Fairmont & Grafton Gas Company under its present changed name of Pittsburgh & West Virginia Ga Company, yet owns and holds the property it held at the time th Philadelphia interests acquired control?
A. My impression is that it does, except so far as the territory ha been exhausted and leases surrendered.

Q. That territory and property was not transferred to th
1161 Philadelphia Company of West Virginia, was it, or any o it, Judge Reed?
A. I don't think so. There was no intention to transfer it.
Q. You may answer from the data you have in your possessio now.
A. I find that at the time the Fairmont & Grafton Gas Compan was taken over, it had 24 gas wells, and it owned leases amountin to 18,617 acres.
Q. Does your memoranda show where that territory is located
A. It does not.
Q. And where the gas was being sold?
A. That I will have to get for you.
Q. Now, just what date was that, when the stock of the Fairmon & Grafton Company was purchased? The exact date, if you are abl to give it.
A. Well, it was bought between the 31st of March, 1905, and th 31st of March, 1906.
Q. What other local natural gas companies in West Virginia wer acquired by the Philadelphia Company of West Virginia, or by th Pittsburgh & West Virginia Gas Company—the latter under it original name or changed name?
A. Well, if you go back to the year 1895, they acquired those tw companies that I spoke of, the Devonian and Victor Oil Companie Other than that I don't remember any companies they acquired i West Virginia.

Q. Do you recall that the Fairmont & Grafton Gas Com
1162 pany, along in September of 1906, purchased a considerabl body of gas territory, wells, pipe lines and accompanyin equipment, from one M. A. McMullin, who in turn had a few day

prior thereto purchased it from the Home Gas Company, a local utility serving Mannington, West Virginia, and other communities?

A. I remember such a transaction, but I can't give you the details of it at this date.

Q. Could you, in the same way you suggested awhile ago, advise us of that this afternoon?

A. I will take a memorandum of that.

Q. In the statement you have given us of the gas sold for the years 1910 to date, you have not separated the sales of the Pittsburgh & West Virginia Gas Company from those of the Equitable Gas Company, have you?

A. Wasn't that separated between West Virginia and Pennsylvania?

Mr. Weil: Yes, you will find that is separated.

Mr. Steptoe:

Q. Do I understand that the figures given for West Vir-
1163 ginia would be the figures for the Pittsburgh & West Virginia Gas Company?

A. Yes, sir, that would be bought through the Pittsburgh & West Virginia Gas Company.

Q. And the Equitable Gas Company does no business in West Virginia at all?

A. No, sir.

Q. Of the gas sold in Pennsylvania, by the Equitable Gas Company, are you able to give us the amounts sold for domestic purposes and the amounts sold for industrial purposes?

A. In West Virginia?

Q. In Pennsylvania. I am speaking of the Equitable Gas Company.

A. We have that month by month. What period do you want?

Q. We would like for you to cover the same period covered by the statements which you have already filed, namely, 1910 to date.

A. That is, sold to the domestic consumers and gas sold to industrial consumers of Pennsylvania by the Equitable Gas Company?

Q. Yes. I would like the same figures for the Pittsburgh & West Virginia Gas Company in West Virginia.

A. Yes, sir.

1164 Q. Will you give us the same figures for the Monongahela Natural Gas Company?

A. Yes, sir. Now, I will have to qualify that. We can only go back to the time that we acquired the Monongahela, because they didn't keep their books as we do. I have forgotten what that date was—somewhere along in 1912 or 1913.

Q. Is the Equitable Company the only company that supplies gas to the Allegheny Heat & Light Company?

A. The Allegheny Heating Company?

Q. The Allegheny Heating Company.

A. Yes, sir.

Q. Then the latter company is purely a distributing company?

A. Yes, sir.

Q. Will the figures which we have asked for cover the amount industrial gas and the amount of domestic gas that is supplied that distributing system?

A. Yes, sir.

Here a recess was taken until 1:30 o'clock, P. M.

1165 Afternoon Session.

And now, the hour of 1:30 P. M. having arrived, hearing r sumed, pursuant to adjournment.

JAMES H. REED resumed the stand and Cross-examination co tinued by Mr. Steptoe:

Q. Judge Reed, in the numerous statements which you have re into the record on direct examination, there was no separation, w there, of the business done by the several constituent or subsidia companies?

A. No, sir.

Q. In order that we may get the record straight, I will ask y if, in the statement of the gas sold it is not a fact that all gas so in West Virginia was by the Pittsburgh and West Virginia G Company and all that in the State of Pennsylvania was by t Equitable Gas Company and the Monongahela Natural Gas Co pany or other Pennsylvania subsidiaries?

A. Yes, that is correct.

Q. And with regard to the gas purchased, the Pittsburgh a West Virginia Gas Company was the purchaser of all of the g bought in the State of West Virginia?

1166 A. That is right.

Q. And the purchases in Pennsylvania were by the Eq table Gas Company and the Monongahela Natural Gas Compan

A. That is correct.

Q. With reference to the mileage of pipe lines, the pipe lines West Virginia are either owned by the Pittsburgh and West V ginia Gas Company or owned by the Philadelphia Company West Virginia and leased to and operated by the Pittsburgh a West Virginia Gas Company?

A. Yes, sir.

Q. Did those pipe lines stop at the State line insofar as co cerns the ownership and operation by the Pittsburgh and West V ginia Gas Company?

A. Yes, substantially at the State line. They may have go over a few hundred feet but that was the intention.

Q. With regard to these pipe lines, what sizes of lines are i cluded in your statements—the minimum sizes?

A. That answer I will have to supply later.

Q. The gas wells on your statement assigned to West Virgi are the gas wells of the Pittsburgh and West Virginia Gas Co

pany, either owned by it or operated by it under a lease from
1167 the Philadelphia Company of West Virginia?

A. That is substantially correct.

Q. The operated and unoperated territory of West Virginia is owned by the Pittsburgh and West Virginia Gas Company or operated by it under lease from the Philadelphia Company of West Virginia?

A. Yes.

Q. The gas produced in the state of West Virginia was produced by the two West Virginia companies that we have mentioned, namely, the Pittsburgh and West Virginia Gas Company and the Philadelphia Company of West Virginia?

A. Yes, sir.

Q. On your statement of cities and towns in the State of West Virginia, served, what company or companies furnished that service?

A. Pittsburgh and West Virginia Gas Company entirely, I think.

Q. And the statement as to the number of domestic consumers and average consumption assigned to West Virginia relates solely to the Pittsburgh and West Virginia Gas Company?

A. Yes, sir.

1168 Q. All the compressing stations in West Virginia belong to the Pittsburgh and West Virginia Gas Company either outright or under lease from the Philadelphia Company of West Virginia?

A. Yes.

Q. As a matter of fact, the Pittsburgh and West Virginia Gas Company and the Philadelphia Company of West Virginia own no property and transact no business outside of the State of West Virginia?

A. That is right.

Q. Of the several lines meeting at the State line between Pennsylvania and West Virginia, which of those in the State of Pennsylvania are owned and operated by the Equitable Gas Company and which are owned or operated by the Monongahela Natural Gas Company?

A. It is hard to tell from the map. The Monongahela Company has one line which I think is a twelve inch line—ten or twelve inch line. They are all so close together and interlaced that it is pretty hard to tell which is which; but they had one line that ran down toward the State line and that line was extended after it was acquired by the Philadelphia Company and worked into one of the West Virginia lines.

1169 Q. The gas taken through that line owned by the Monongahela Natural Gas Company is purchased by that company or by the Equitable Company at the State line?

A. I think it is all purchased by the Equitable.

Q. Still referring to this line of the Monongahela Natural Gas Company, where is the gas taken through that line served?

A. Well, it was originally served at the time of the purchase and for some little while afterwards to the Oliver mills and some

surrounding properties. Today my impression is that it goes in the general system. So far as there is any, it goes into the Equitable system.

Q. Where are the Oliver mills you refer to?

A. On the South Side of the city of Pittsburgh, just a short distance above the Panhandle Railroad Bridge—perhaps six or eight squares above.

Q. Up until the last few years, the gas supplied through that line went almost entirely to the industrial use; did it not?

A. When the Monongahela was owned separately, yes.

Q. That was as late as 1917, was it not?

A. I don't think it went that far. There were some
1170 contracts with the Oliver people that we felt we had to carry out, but I don't think it went as late as 1917. It was for several years after the purchase. Of course, that might be qualified by the fact that there was more gas sent through the Monongahela pipes after its purchase during periods of cold weather and during the great industrial activity, when every line was in use. There was more gas sent through that line than the Monongahela wells could supply, but I think to that extent it was delivered to the other people than the Olivers.

Q. To refresh your recollection somewhat in the form of a leading question, is it not correct that up until the year 1917, at least all of the gas that went through that line to the Monongahela Natural Gas Company was supplied to the Oliver Iron and Steel Company, A. M. Byers & Company, Republic Steel Company, Dilworth Porter & Company and a few similar industrial consumers?

A. That might be, Mr. Steptoe. I don't think they were all customers of the Monongahela, though. Some of them were customers of the Philadelphia Company or the Equitable. They were served through that line.

1171 Q. But the gas that went through that line was practically confined to industrial service?

A. That may be. I couldn't answer that definitely.

Q. Was that true all the year round?

A. I don't know.

Q. What is the character of the industrial consumers who are supplied either by the Equitable Company or the Monongahela Natural Gas Company now, and during the years past, in a general way?

A. Well, they are of all kinds; steel plants for certain heating furnaces and during the earlier days they sold gas to those plants for boiler use but that was discontinued some years ago, largely on account of the price. They couldn't burn it against coal. It was used in a great many small manufactories, both for industrial purposes and for heating their plants. It is used by glass companies. I don't know that I can give you the list; it is almost every industry in the city of Pittsburgh.

Q. Including quite a number in the vicinity?

A. In the vicinity, yes.

Q. Has your Company among its industrial consumers any plants

which are, by reason of their character, obliged to have a certain amount of service of natural gas at all times?

A. Only small consumers.

1172 Q. For example?

A. Small consumers in the iron and steel business that make fine goods, where they use comparatively small fires. The glass companies have to have continuous service. I don't know of anything else. The large iron and steel plants we always reserved the right to shut off or shut down on them when domestic requirements were involved.

Q. Are those deliveries to the Equitable Gas Company at the State line made pursuant to any contract or agreement between the Equitable Company and the Pittsburgh and West Virginia Gas Company?

A. In my time, no fixed agreement—no formal agreement. The gas was taken and paid for in an accounting between the companies at varying rates—enough to enable the Pittsburgh and West Virginia to maintain itself and continue its improvements,—maintain its service.

Q. Was not there a contract in writing, at least one, in existence in the year 1917?

A. I rather think you are right. There was a contract made in 1917—not a very formal one, perhaps—not so formal as if we had been dealing with strangers.

Q. Was that contract in writing and executed by the two companies?

A. If there is one—yes, sir.

Q. Is it still in existence and are all of the deliveries made at the State line by the Pittsburgh and West Virginia Gas Company
1173 to the Equitable Gas Company made pursuant to that contract and its terms and conditions?

A. Yes, sir.

Q. Was not there, on or about the year 1917 or 18, a modification of that contract, also in writing?

A. If it was made in 1917, I don't think there was. My recollection is that we had no formal contract prior to that time, and we paid the Pittsburgh and West Virginia Gas Company an amount which by a sort of common agreement between the controller and the general manager and myself sometimes we agreed would keep that Company in funds to enable it to carry itself on and do its drilling and all that sort of thing. Since you have suggested it, I think there was a contract made—I am pretty sure there was a contract made about 1917, but I don't know of any modification of it.

Q. Will you be good enough, Mr. Reed, to produce for us the contract referred to between the Equitable Gas Company and
1174 the Pittsburgh and West Virginia Gas Company, together with any modifications thereof that may exist?

A. Yes, sir, we will do so.

Q. You assigned an investment valuation of something like $43,000,000 in the gas industries or investments of the Philadelphia Company?

A. Yes, sir.

Q. That valuation included all of its gas holdings in all its various subsidiaries or companies controlled by it, both in the State of Pennsylvania and in the State of West Virginia?

A. It was a combined balance sheet, showing the investments of all the companies in both states, so far as the subjects stated under "Property and Plant" showed it. There was no valuation put on leases and a very large amount of the work that had been done, as I explained this morning, never was put on the balance sheet to the extent that it includes all the companies.

Q. What was or is the valuation assigned to the properties of the Pittsburgh and West Virginia Gas Company?

A. That I will have to get for you.

Q. You do have a separate valuation on capital investment for that particular company, do you not?

A. That can be ascertained; yes, sir.

Q. And the same is true with reference to the Philadel-
1175 phia Company of West Virginia.

A. Yes, sir.

Q. And also true of the Philadelphia Oil Company, the Equitable Gas Company and the Allegheny Heating Company?

A. Yes, sir.

Q. I direct your attention, Mr. Reed, to Pennsylvania Exhibit No. 23, being a map of the transmission lines and some gathering lines of the systems, both of the Pittsburgh and West Virginia Gas Company and the other associated companies?

A. Yes, sir.

Q. Let me ask you what cities or communities are served in the State of West Virginia by the Pittsburgh and West Virginia Gas Company, along the line commencing on the East at Thornton and thence running Westwardly to a point in Harrison County near Enterprise? Are the towns and villages served by your company shown on this map?

A. They are, as far as I know; yes, sir.

Q. And does your company serve consumers, domestic and industrial, along the line or lines running Northeastwardly from the extreme southerly portion of the line?

1176 A. Down in Gilmer County?

Q. Yes.

A. There seem to be no towns, unless that list shows some which I can identify. They serve, as I understand it, farmers and domestic consumers along the line.

Q. How are the connections made for service along the lines, to the transmission lines or the gathering lines?

A. Both, as the parties may be.

Q. The list of towns, cities and villages in West Virginia, which you gave on direct testimony, are located at various points along the routes of your several lines in the State of West Virginia, are they not?

A. Yes, sir.

Q. As a matter of fact, the Pittsburgh and West Virginia Ga

Company is now, and has been for many years past, serving the public of the State of West Virginia, domestic and in some cases, industrial gas?

A. That is correct.

Q. It does file and has filed its report through the Board of Public Works of the State of West Virginia as a public utility in the natural gas business?

A. Yes, sir.

Q. And the rates charged and the prices the company receives in the state of West Virginia, are and have been, for some years
1177 past, fixed by the Public Service Commission of the State of West Virginia?

A. Yes, sir.

Q. Have any applications for increasing rates for domestic and industrial service in the state of West Virginia been made and received by the Pittsburgh and West Virginia Gas Company?

Mr. Weil: Within what time?

Mr. Steptoe: The question is general.

A. I think so, yes, sir. We had a case there that seems to be a rate case—No. 458, an application to increase rates. That was in 1917—I think it must have been 1917. This shows the accrued earnings up to March 31st, 1916.

Mr. Steptoe:

Q. The increased rates applied for were granted on the occasion you refer to, in the year 1917?

A. That is my recollection.

Q. Can you recall some of the principal franchises the Pittsburgh and West Virginia Gas Company holds, either direct or as an operating company of the properties of the Philadelphia Com-
1178 pany in the State of West Virginia?

A. I cannot at the present time. I can get it.

Q. There are a number of those franchises?

A. There are.

Q. Some of them were granted by the cities or towns themselves and others by the county courts where they are not incorporated,—or are you informed on that?

A. If you say so, I will say yes. I am not familiar with that.

Q. These principal transmission lines of your company shown on the map go across the public roads of the State of West Virginia in many instances, and in some instances, along the roads?

A. Yes, sir.

Q. Are those rights exercised under permission or authority granted by the proper state and county authorities in the State of West Virginia?

A. Well, I assume so. I never heard of anything to the contrary. They are there and are being operated.

Q. As a matter of fact, a considerable proportion, especially of your larger transmission lines, or the rights of way for the laying

of the same, were acquired by condemnation proceedings in
1179 the State of West Virginia, were they not?

A. Some of them. I don't know that any considerable amount were. My recollection was that they went down there and paid merely whatever they had to, to get them. Of course, I have no doubt they had condemnation cases.

Q. Where they were unable to agree, they surveyed a route through a particular farm, by condemnation?

A. Yes, sir.

Q. Has the Philadelphia Company of West Virginia or the Pittsburgh and West Virginia Gas Company ever transported any natural gas other than that owned by them?

A. Owned or purchased by them, you mean?

Q. Yes.

A. I don't think so.

Q. Only such gas as they owned by production or purchase?

A. I think that is correct.

Q. Have either of those companies ever professed or held themselves out as willing to transport the gas of other parties?

A. I don't think they have; we didn't consider that practicable.

Q. Have either of them professed to be common carriers
1180 at any time?

A. Not any more than any other gas company that carries its products. If you mean common carriers in the railroad sense of carrying other people's property, no.

Q. Well, if I understand you correctly, neither of these companies does or ever has carried gas belonging to other people?

A. Why, there might be specific cases where it was convenient to take some gas from some company and deliver it an equivalent at some other point as a matter of convenience. That would be practically buying the gas at one point and delivering other gas at another point, but as to carrying other people's gas and delivering that specific gas or its equivalent, no.

Q. Could you tell us where such examples of exchanges of gas or buying at one point and selling it at another occurred?

A. I can't tell you offhand, but there has been a practical give and take among the companies for purposes of convenience.

Q. That is done among all large companies?

A. Yes, and there are some cases where it has occurred.

1181 Q. Going back one moment to the matter of the investment of the Pittsburgh and West Virginia Gas Company, it is true, notwithstanding the relations between that company and the other subsidiaries, that a separate valuation and capitalization and investment valuation has been and is assigned to the properties of the Pittsburgh and West Virginia Gas Company in West Virginia not only for taxation purposes, but for the fixing of rates for gas?

A. For all company purposes.

Q. And the management of the Pittsburgh and West Virginia Gas Company is, to a very large extent, conducted from its offices in the City of Clarksburg, West Virginia, is it not?

A. The local management, yes.

Q. That is your field superintendence?
A. Yes. The administrative management and the general management is from the Pittsburgh office.
Q. Did I understand that the company's territory in the State of Pennsylvania is owned and operated by the Equitable Gas Company?
A. Operated by it under a lease. It has some small holdings of its own, but the bulk—practically all of that territory and the lines are owned by the Philadelphia Company.
1182 Q. That Philadelphia Company is the original Philadelphia Company?
A. Yes.
Q. The Philadelphia corporation?
A. Yes.
Q. What was the first field they acquired?
A. The Philadelphia Company?
Q. Yes.
A. Well, it started, as I said this morning, with George Westinghouse's well in Homewood.
Q. That was about the year 1884 or 1885?
A. Yes.

Mr. Weil:

Q. That well was in his back yard?
A. Yes, it was near his greenhouse, and nobody slept in the neighborhood for weeks.

Mr. Steptoe:

Q. I refer more especially to the company's territory you mentioned as lying in the counties of Armstrong and Westmoreland.
A. According to their first report, their territory seems to have been in the Murrysville field and in the Armstrong field,
1183 and they went off to the east of the city.
Q. Those are in what counties of Pennsylvania?
A. Well, Armstrong field is in Armstrong County mainly and Murrysville is in Westmoreland County. Then they went to the Grapeville field, practically where the town of Jeannette is, this side of Greensburg.
Q. Can you give the approximate date or dates of going to the Grapeville field?
A. I can; they had a well in Grapeville December 26th, 1887, so they must have been in there by that time.
Q. It what county is the Grapeville field?
A. Westmoreland County.
Q. Can you give us, in a general way, the successive territories or field entered by your Company and about the time?
A. Well, between '85 and '87, they were in the Murrysville field, what I call the Armstrong field. I have forgotten the name of it. They were in the Grapeville field and through other parts of Pennsylvania,—in the field around Canonsburg, Washington County.

Q. For what years?

A. Those wells were completed between 1886 and 1887—in those two years. They were at a place called Lyons Run, which
1184 is southeast of McKeesport a little ways—went in there in 1885 or 1886. I think they got that through the Carpenter Gas Company. Through the Chartiers Gas Company, they were in the Hickory field, in which the wells were drilled between February and October, 1887. The Hickory field, I think is in Washington County; I am not sure In 1888, they seemed to have leased lands in the neighborhood of Belle Vernon.

Q. In what county?

A. Belle Vernon is in Fayette County. Mr. Westinghouse said they struck one of the most violent wells in the district in the Belle Vernon territory.

Q. When did your company acquire an entry into the development of the fields in Greene and Fayette Counties, Pennsylvania?

A. Well, they seem to have had leases in 1894 in Greene County and in Wetzel County, West Virginia, so they must have been begun acquiring leases before that time.

Q. I understood you to testify it was shortly after that when a line was run down to Big Moses well?

A. Yes, sir.

Q. And the territory of the counties of Monongalia, Marion, Harrison, Lewis and Gilmer were acquired along, through what years, successively?

1185 A. I don't know when they went into Monongalia County. I can't find any record of it.

Q. Did they go into Marion County and have holdings there prior to the purchase of the Fairmont and Grafton Company?

A. I rather think so, yes. I find here, Mr. Steptoe, in the report of March 31st, 1901, which would cover the year from March 31st, 1900, a statement to the effect that the company had acquired 30,693 acres of leases of productive gas territory in Lewis and Gilmer Counties. Those were acquired as early as 1901. It is pretty hard to tell you, without reference to the records of the Company. They were leasing up and down all over that country as fast as they could.

Q. I understood you to refer this morning to the insufficient supply and developing at an early date. When did that insufficiency of supply begin to manifest itself?

A. As far back as 1891, he began to talk about the necessity of extending a line southward, and in 1892 he began to talk about the necessity of a fuel gas plant. He thought he could get a dollar or ninety cents a thousand for cooking purposes, and so on. The next year, he said the developments in the various gas territories indicates as good a supply in the next few years as in the past; however, the company had now accumulated a cash fund for the
1186 purpose of manufacturing gas when the necessity arises. In 1894, he stated he had bought Brunot Island for the purpose of erecting a plant. I think the answer to you perhaps is that he had a sufficient supply of gas for the business that he had, but his business increased so fast that he had to go further south to get

more gas. In other words, he had enough gas to take care of the five or six thousand consumers that he had in the first five or six year, but when they got up to fifteen or sixteen thousand, he didn't; he had to reach further out. There were the good days when they used to blow the gas off on Sundays to get rid of it.

Q. You are referring rather frequently to "he," and are consulting a book. Will you clear your testimony by stating to whom you refer and what is that book?

A. George Westinghouse, President of the Philadelphia Company, and what I have read from here are his annual reports to the stockholders.

Q. Was the insufficient supply of the fields being used from year to year accompanied with any depletion or going down of supply?

A. I can't answer that, except as I have done; that the increased business required him to go further for the gas. He said in his report of May 1, 1896, "The discovery of natural gas in large
1187 quantities in Greene County, in this state, and in Wetzel and Tyler Counties, made it advantageous for the company to spend the money to continue the supply of natural gas, and will thereby defer the erection of a fuel gas plant."

Q. Do you or do you not know of any depletion or decrease in the volume of gas produced in the earlier discovered and earlier operated fields, and if so, when that decrease commenced to make itself manifest?

A. I can't answer that from recollection. I know that the Philadelphia Company at one time—their supply ran down until it was very difficult to get a supply—that was somewhere during 1890 that the supply during the winter was short, and they raised money by a series of long-time serial notes—raised enough money to build a line to West Virginia. I don't know what year that was, but I know it was considered a necessity. It might have been later than that.

Q. I understand you to mean that the tendency of the gas wells to fall off in production became manifest as far back as 1890?

A. I didn't intend to go back that far. I think about 1894 or 1895, or somewhere along there.

Q. There was a falling off in the well production apparent
1188 at that time, was there?

A. Yes, sir. I find in the report of 1894 they say: "The wells drilled during the past year have had a smaller capacity than those formerly drilled, so that nearly as many wells have been required for the past year's service, notwithstanding there has been some decrease in the gas supplied." In 1897, they had raised the money and built a line into West Virginia, a distance of 150 miles, which has been justified by the results, and which he says will defer the erection of a fuel gas plant.

Q. Did this decrease in the individual wells which you have referred to, extend to the fields generally that were first operated, or the oldest operated?

A. I think they did.

Q. There was a constant decrease both in volume and in the field

production which first manifested itself as early as 1894, in the State of Pennsylvania?

A. Yes, if not sooner.

Q. And as a result of that, your company gradually extended its own acquisition of other fields and other territory?

A. Yes, sir.

Q. Would it be correct to say, as a general statement, that the acquisition of new territory and the development of additional territory has been southward in point of time?

1189 A. That is correct. Of course, you know they would go back into the older fields and occasionally get a good well and bring up the production for awhile, but in a general way the development was southward.

Q. When did the shortage in supply first become manifest? I mean now to refer to the inability which you mentioned to supply the consumers.

A. Well, I am speaking of something now I have not thought of for years. In a general way, I judge about 1894 or '5. The Murrysville field I think was pretty nearly exhausted, and the Grapeville field went down pretty fast. I think that was about the time.

Q. And as the successively acquired fields tended to exhaustion, you were compelled to push further afield and further south for additional supply?

A. Yes, sir.

Q. Did I understand you to say that during the time you were president of the company, your company was unable to take care of its domestic consumers in the cold weather?

A. No, I wouldn't say that happened until 1916.

Q. There was a shortage in that year?

A. There was a lack of pressure; no definite shortage, but there was a lack of pressure that in some cases resulted in what the user of the gas called a shortage. It was rather pronounced at the

1190 ends of the lines. It was bad in Allegheny City. Sometimes that was due to small service lines and small street lines that had been laid, as part of the older plant, but the cause of that, I think, was the very large continuous requirements by the manufacturing plants during the pre-war excitement, when everybody was running night and day, when the wells had no chance to rest up, and we went into a very cold winter following,—everything combined.

Q. Did you experience a shortage in the years succeeding 1916?

A. Well, the 1917 and 1918 winter, it was pretty cold, and that winter it kept us right busy to keep them warm—keep up the supply; but 1918 was not a bad winter.

Q. What was it in 1919?

A. 1919 we had, I think, a moderate supply in very cold weather I wouldn't say there was a shortage.

Q. Have you observed a decrease in your supply each year?

A. Yes, I would say so.

Q. An increasing difficulty in taking care of your consumers?

A. Yes, sir; the wells were coming in smaller and it takes more of them to supply the consumers. The supply is decreasing.

Q. From your past experience, do you anticipate that that
1191 shortage or decrease in supply—whichever you choose to term it—will continue?

A. I would think so.

Q. In other words, there is a limit to the amount of gas and that amount is continually decreasing. Isn't that about the sum and substance of it?

A. I wouldn't like to swear to that exactly. We might find some new fields in West Virginia or Greene County that would help out this field considerably. Nobody knows, I guess. We might strike a lower sand; but I suppose in a general way, what you say is correct. The limited supply and the indefinite demand are going to exhaust it. The natural growth of cities will increase it. Taking on three or four thousand additional houses in Pittsburgh, you are going to have an increased demand.

Q. And that demand or increased call upon you is increasing in Pennsylvania as well as West Virginia?

A. Yes, sir.

Q. I understood you to state this morning that your company kept a staff of men for the purpose of investigating possible new fields for gas supply, and you have no new field in prospect at the present time?

A. I think that is correct—no large field.

Q. You referred on direct examination to the impossibility
1192 or impracticability of apportioning the gas among the consumers, where there was not enough to go around?

A. I still think that is right. You can't satisfy a man by giving him 50 per cent of his requirements. His wife can't cook with it, and his house is cold. He either wants all or nothing.

Q. The fact is, that to properly supply a thousand consumers is better than to improperly supply 2,000; is that the fact?

A. That is the fact; yes, sir.

Q. Did I understand you to advocate or approve the suggestion of conservation by limiting the supply of gas for domestic purposes to cooking and hot water heating?

A. You didn't understand me to say that. I don't know what you ought to do. It may get to that.

Q. If the domestic supply from time to time becomes and is insufficient, why does your company continue the furnishing of gas for industrial purposes?

A. Well, there are two or three reasons for that. Through the summer months, when the domestic demand is low, you supply them because you need the money, and probably, in many cases, if you don't do it, your competitors will take it out and supply it to somebody else. That is the main reason, I guess. Besides, you
can't well refuse them. It is a public use, and you can't well
1193 refuse to supply a man in the summer time if you have the gas. I think you have a right in the winter time to shut off your manufacturer and take care of the domestic supply; but in the

summertime I don't see how you can refuse to supply them, if they are willing to pay the price.

Q. Do you mean to say that if the company has the gas it is legally bound to serve that gas to domestic or to industrial, or to both, depending upon whether it has the supply?

A. If it has enough supply for both, it is bound to supply them both. If it has not, then under its tariff it has the right to cramp down the manufacturer and give it to the domestic consumer, and he takes it on that understanding; but if it has plenty of gas in the summer time and the consumer demands it, I think they are bound to give it to him and let next winter take care of itself.

Q. As a matter of fact, the gas companies generally sell that industrial gas, when they have a surplus supply, because it is one of the remunerative ends of the business?

A. Well, of course, they are in business to make some money, if they can, but it is remunerative in those months when the domestic demand is low.

Q. Isn't it a fact that if no industrial gas were sold, the domestic consumer could not be supplied at the present rate?

1194 A. That is undoubtedly right, because a portion of your overhead and a portion of your drilling and expense of that sort are taken care of by the sales to manufacturers.

Q. On direct examination, Judge Reed, you referred to the effect upon the operating or distributing end of your company, if a portion of its supply was taken off or diverted to other uses or to other points. Let me ask you how large a supply diverted from the State of Pennsylvania would affect your company or make it difficult or impossible to serve your consumers adequately?

A. I can't answer that question satisfactorily. I think anything you take off—For instance, last year they sold 32,000,000,000 in Pennsylvania, and 3,600,000,000 in West Virginia, or about 36,000,000,000 in all, and they practically reduced—they evidently needed every foot of it, whatever it was. It would be entirely guesswork for me to attempt to answer that question.

Q. Answer it in a general way. Since your company needs all of its supply, the diversion of any portion would affect you in the way suggested; is that correct?

A. Yes, the more diverted, the more severe the effect.

Q. And every increase in the amount furnished or supplied in the State of West Virginia would, to that extent, affect the con-

1195 sumers in the State of Pennsylvania, or your ability to supply them?

A. Of course, it would seem to follow; but as I understand the situation today, the Philadelphia Company and the Pittsburgh & West Virginia Company are supplying consumers along its line just about as efficiently as the Equitable Company is supplying the Pennsylvania consumers. In other words, to shut off a part of our gas in West Virginia wouldn't help West Virginia very much, because as I understand it, we are supplying the people along the Philadelphia Company lines in West Virginia just about as well as we are in Pennsylvania. I may be wrong, but that is the way it looks to me.

Q. Were you in close touch with the operating end and service
d of the company?
A. No, I was not; I knew, in a general way, what they were do-
g. I was over there every day and talked with them.

(The Witness produces statements asked for upon the earlier ex-
mination, being "X Y Z-1 and X Y Z-2," and are as follows:)

96 *Gas Sold in Cubic Feet.*

West Virginia.

Year ending March 31st.	Domestic.	Industrial.	Total.
1911.....	439,012,000	1,861,734,000	2,300,746,000
1912.....	483,482,000	2,396,773,000	2,880,255,000
1913.....	443,809,000	1,967,029,000	2,410,838,000
1914.....	457,586,000	1,642,204,000	2,099,790,000
1915.....	422,347,000	1,406,564,000	1,828,911,000
1916.....	449,406,000	1,856,522,000	2,305,928,000
1917.....	479,877,000	1,843,336,000	2,323,213,000
1918.....	576,736,000	2,797,522,000	3,374,258,000
mos. ending ec. 31, 1918...	322,961,000	2,407,209,000	2,730,170,000
ear ending ec. 31, 1919...	554,350,000	3,123,804,000	3,678,154,000

Pennsylvania.

1911.....	13,995,333,000	21,845,393,000	35,840,726,000
1912.....	14,271,143,000	20,388,432,000	34,659,575,000
1913.....	14,237,707,000	23,816,437,000	38,054,144,000
1914.....	15,416,964,000	22,638,231,000	38,055,195,000
1915.....	15,592,164,000	20,983,786,000	36,575,950,000
1916.....	16,475,997,000	26,184,209,000	42,660,206,000
1917.....	18,532,772,000	27,226,717,000	45,759,489,000
1918.....	21,685,539,000	22,136,204,000	43,821,743,000
mos. ending ec. 31, 1918...	10,537,586,000	17,741,119,000	28,278,705,000
ear ending ec. 31, 1919...	18,569,553,000	13,758,717,000	32,328,270,000

1197 *Wells Drilled.*

Pennsylvania.

Year ending.	Gas.	Purchased.	Dry.	Tota
3/31/11	37	3	5	45
3/31/12	25	4	5	34
3/31/13	40	4	13	57
3/31/14	59	3)	12	74
		158) M.N.G.		158
3/31/15	26	0	7	33
3/31/16	42	3	8	53
3/31/17	80	3	17	100
3/31/18	66	2	17	85
12/31/18 9 mos.	41	1	8	50
12/31/19	52	1	10	63

West Virginia.

3/31/11	107	2	14	123
3/31/12	113	3	15	131
3/31/13	136	7	13	156
3/31/14	82	9	14	105
3/31/15	75	1	12	88
3/31/16	129	28	15	172
3/31/17	154	15	42	211
3/31/18	140	4	45	189
12/31/18 9 mos.	77	2	19	98
12/31/19	69	2	29	100

Q. In the statements you furnish of the gas sold, in cu
1198 feet, for domestic and industrial purposes in 1911, to da
with reference to West Virginia and Pennsylvania s
arately, does the statement for West Virginia cover only the serv
of the Pittsburgh & West Virginia Gas Company?

A. Yes, sir.

Q. And the statement as to Pennsylvania refers to service
the Equitable Gas Company and affiliated subsidiaries?

A. That is correct.

Q. Is the same true with reference to the statement of w
drilled in the State of West Virginia and in the State of Penns
vania, respectively?

A. It is.

(Four papers produced by the witness.)

Q. You have now produced copies of sale agreement betw
the Equitable Gas Company and the Pittsburgh & West Virgi
Gas Company with modifications. The four papers are da

severally July 31, 1914, May 3, 1916, October 1, 1917, and June 6, 1918, are they not?

A. Yes.

1199 Mr. Steptoe: We offer in evidence these several contracts, agreeing that the photostatic copies supplied to us may be used in lieu of the originals, and be marked for identification respectively West Virginia Exhibit No. 3, West Virginia Exhibit No. 4, West Virginia Exhibit No. 5, and West Virginia Exhibit No. 6.

The Witness:

A. I thought the first contract was made in 1917 or '18. I find I was mistaken. There seems to have been a contract made in 1914, fixing the rate to be paid, and that was modified in 1916,—May 3, 1916, and again modified on October 1, 1917, and again on June 6, 1918. I think the modification is mainly in the change of rate that was to be paid. At the same time, substantially what I said is correct, that the controller and general manager and myself would get together and fix about what the company ought to have, in order to perform its duties, until we came to the last, which was fixed, I think, in accordance with the West Virginia tariff rates, raising the price to 21 cents.

Q. The Pittsburgh & West Virginia Gas Company purchases a large portion of its supply of gas from the United Fuel Gas
1200 Company, at a point in Gilmer County, West Virginia, does it not?

A. Yes, contracted to purchase.

Q. Well, is that contract in writing and in force and effect at the present time?

A. So far as I know, it is still in effect. It was in writing, yes.

Q. Is that contract in your *position* or subject to your control?

A. The Pittsburgh & West Virginia Gas Company has its copy. It is in the control of the officers.

Q. Here in Pittsburgh?

A. Yes. I haven't it.

Q. Who is the officer who would have that in charge?

A. The secretary; W. B. Carson, secretary.

Q. Will you be good enough to produce the contract between the Pittsburgh & West Virginia Gas Company and the United Fuel Gas Company, to which we have just referred?

A. I will.

Mr. Weil: That may be supplied.

Redirect examination.

Mr. Weil:

1201 Q. Judge Reed, you stated in your cross examination about extending a line to the Big Moses well. That was in Wetzel or Tyler County—which?

A. Tyler County.

Q. At the time that well came in, it was estimated at a hundred million feet a day, was it not, generally?

A. It was a very large well; I don't remember the estimate. Mr. Westinghouse referred to it as one of the largest wells ever struck. It made quite an impression at that time.

Q. Do you recall that for a long time that well was not shut in, but it blew gas?

A. No, I don't recall that. I think it is very likely, but I don't recall it.

Q. Do you recall the fact that by the time you got your line laid to that well, that you obtained practically no gas from the well?

A. Mr. Weil, that was before I had anything to do with the company. I could only speak from the records. There is no doubt some one connected with the business who can tell you that better than I can.

Q. I call to your attention the map marked "Pennsylvania Exhibit 23." Will you look at that?

A. Yes, sir.

Q. There are two fields that extend across the state line
1202 between Pennsylvania and West Virginia?

A. Yes, sir.

Q. Do you know what those fields are called?

A. No, sir.

Q. Is it not a fact that the gathering line—the 8-inch line—extends down into West Virginia and to the lower end of that field and across the state line, and connects with your 16-inch line in Greene County, Pennsylvania?

A. Yes, the map shows that.

Q. Do you know what the other field is called, to the westward, that also extends across the state line?

A. That is called the Hundred Field.

Q. Now, the lines operated by the Pittsburgh & West Virginia Gas Company and the lines operated by the Equitable Gas Company, connecting at the state line, or somewhere near the state line, as you explained, form one continuous line of transportation, do they not?

A. Yes.

Q. Do you know where those measuring stations, if any, are located?

A. Well, there is one at the line. There is quite a system of pipes there; there is one at Blackville.

Q. That is Blackville in what state?

A. It is on the line; the line goes through the town. I
1203 understand the measuring station is in West Virginia.

Q. Where is the gas on the other line measured?

A. In Littleton, West Virginia.

Q. Where are your measuring stations in Pennsylvania, if any, for that gas?

A. For the West Virginia gas?

Q. Yes.

A. There is nothing in Pennsylvania for that gas.

Q. For some of this West Virginia gas that is transported into Pennsylvania, have you no measuring stations in Pennsylvania?

A. We have none, only those two. That 8-inch line you spoke about is a suction line that connects with a pipe and goes to the Rogersville pump station.

Q. Where is the Rogersville pump station?

A. It is up there at the center of Greene County—station No. 29.

Q. The suction line that extends into the other field in West Virginia——

A. That works down the other way, down to Hundred pump station, station No. 12.

Q. That is, the gas in West Virginia is brought down to West Virginia——

A. The gas in Pennsylvania is brought down to West Virginia and sent out through the main line again into Pennsyl-

1204 vania.

Q. Take the field on the east there, right near the state line. I observe a suction line there, so-called. That is down on the map as a 10-inch line. Where is that taken?

A. That seems to go to the Rogersville station. It goes through a measuring station at the state line.

Q. Where is the Rogersville station located?

A. It is up in the center of Greene County.

Q. The capital needed by the Pittsburgh & West Virginia Gas Company for its operations, I think you stated in your examination in chief, was furnished by the Philadelphia Company?

A. Yes.

Q. And the same as to the Equitable Company?

A. Yes.

Q. And the Philadelphia Company, I believe you stated, owned the capital stock of the Pittsburgh & West Virginia Gas Company, and all of the capital stock of the Equitable Gas Company?

A. That is correct.

Recross-examination.

Mr. Steptoe:

Q. In compliance with my request, Judge Reed, you have

1205 produced a letter from the Pittsburgh & West Virginia Gas Company, C. S. Mitchell, Comptroller, to Mr. E. D. Leland, Assistant General Manager, under date of July 7, 1920, purporting to give the information we desired touching the purchase by the Fairmont & Grafton Gas Company from M. K. McMullin. Are you willing to furnish the information from that letter, or file that letter as your answer?

A. Yes, sir.

Q. To clear the matter up, please give the information from the letter.

A. Well, the letter states that under articles of agreement made September 27, 1906, between the Fairmont & Grafton Gas Company

and M. K. McMullin, the said M. K. McMullin, by deeds of assignment, dated September 27, 1906, conveyed to the Fairmont & Grafton Gas Company certain gas wells, pipe lines, oil and gas in fee, and oil and gas interests, for the consideration of $375,000. This purchase includes 11,000 acres of gas leaseholds located in West Virginia, having drilled thereon ten gas wells, with an open-flow output of over 30,000,000,000 cubic feet.

Q. I understand that you have no recollection or knowledge as to whether that property was or was not the property of the Home Gas Company, a West Virginia corporation, prior to McMullin's purchase?

1206 A. No, sir, I have no independent recollection, except in a most general way, that McMullin sold some property to the Fairmont & Grafton Gas Company.

Q. Mr. Weil asked you about a short line connecting a diminutive gas field in the southwest corner of Pennsylvania with the Hundred compressing station. Can you tell us how long that line is?

A. Four or five miles, I guess. It seems there are a number of little gathering lines there shown by one line on the map.

Q. You don't know how much gas is acquired by that method?

A. No, sir.

Q. Mr. Weil also asked you about furnishing capital for the Equitable Gas Company and the Pittsburgh & West Virginia Gas Company by the Philadelphia Company. That was the parent company, was it not?

A. Yes.

Q. As a matter of fact, wasn't that indebtedness squared by the issuance of the capital stock of those two companies to the parent company?

A. It was at that time, but they have advanced them money since, and the company wasn't much richer by the stock.

Q. But upon the books of your company, the transaction was squared in that way, was it not?

A. Up to that date, 1914, I think, yes,—somewhere along there.

An adjournment was here taken until Thursday, July 8, 1920, at 10 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

COMMONWEALTH OF PENNSYLVANIA

vs.

STATE OF WEST VIRGINIA.

STATE OF OHIO

vs.

STATE OF WEST VIRGINIA.

Proceedings of Thursday, July 8, 1920.

1207 And now, Thursday, July 8, 1920, the hour of 10 o'clock having arrived, hearing resumed, pursuant to adjournment.

J. E. ANGLE, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Angle, with what natural gas company are you connected?
A. The Fayette County Gas Company.
Q. And what is your position?
A. General superintendent.
Q. How long have you held that position?
A. For a little more than three years.
Q. Prior to that time, what was your experience in the gas business?
A. My experience has been practically all of my life, Mr. Weil, since the age of fourteen. I am now thirty-eight years old. I have had an experience principally in the field producing gas on
1208 transporting lines and on the distributing systems.
Q. With what gas companies were you connected prior to your being connected with the Fayette County Gas Company?
A. With the Corning Natural Gas Company in Ohio, and with the Johnstown Fuel Supply Company, in Pennsylvania.
Q. You have had experience then, as I understand you, with every branch of the business?
A. Yes, sir—local.

Q. In the production, distribution, transportation, and so forth?
A. Yes, sir.
Q. The Fayette County Gas Company supplies gas to what territory?
A. To various towns and cities in Westmoreland and Fayette Counties, Pennsylvania.
Q. Give us the names of some of the larger towns or cities?
A. The operations of the Fayette County gas plant are divided into divisions; the Uniontown Division, consisting of Uniontown, New Salem, McClellandtown, Hopewood, Rocoe and Masontown. The Connellsville Division consists of Connellsville, Dunbar, Dawson and Vanderbilt. Those are all towns in Fayette County. The Scottdale Division consists of Scottdale, Alverton, Tarrs and Ruffsdale. The Mt. Pleasant Division consists of Mt. Pleasant,
1209 Youngwood and New Stanton, all towns in Westmoreland County.

(Pennsylvania Exhibit No. 24 shown witness.)

Q. I show you a paper marked for identification Pennsylvania Exhibit No. 24, being a map of the Fayette County Gas Company's Natural gas system, and I ask you, does that correctly represent the lines of the Fayette Company's system and the towns and localities supplied by it?
A. It does.
Q. This map has the legend, "Towns supplied by Fayette County Gas Company, shown thus (by a red dot); gas lines owned by Fayette County Gas Company, shown thus (by a red line); gas lines used to supply Fayette County Gas Company with West Virginia Natural Gas Company, shown thus (being a yellow line)." What do you mean there by "with West Virginia Natural Gas Company"? Should not that have been "Gas lines used to supply Fayette County Gas Company with West Virginia Natural gas"?
A. It should have been; yes, sir.
Q. And the word "company" there means nothing, does it?
A. Means nothing.
Q. And should be out?
A. It should be out.
1210 Q. Who laid that line from the Pennsylvania line to the points indicated here on the map as Hawkins compressing station and Wright compressing station?
A. The Fayette County Gas Company.
Q. When was that laid?
A. In about the year of 1903.
Q. And how long was that operated by the Fayette County Company?
A. Until May 1, 1910.
Q. What became of it then?
A. It was sold by the Fayette County Gas Company to the Hope Natural Gas Company.
Q. In 1910?
A. May 1st; yes, sir.

Q. Prior to that time, did the Fayette County Gas Company have any territory in Weets Virginia?

A. It did.

Q. And how many wells did it have at the time it sold to the Hope Company?

A. Thirty-five.

Q. And how much territory, approximately, in round numbers—I don't care for the exact acreage.

A. A little more than 18,000 acres.

Q. How much money did it expend, if you know, in the laying of the line and the development of that gas in West Virginia?

1211 A. I don't know the amount of money it expended in the State of West Virginia.

Q. Prior to the time of that development in West Virginia, where were your gas fields?

A. In Fayette County, Pennsylvania.

Q. And in what district, do you remember?

A. In German and Menallan Townships.

Q. What were the conditions of those fields as to exhaustion at the time that you went into West Virginia for your supplies?

A. Those fields and wells were rapidly exhausting; to the extent that the Fayette County Gas Company had gone farther southwest, into Greene County, and into West Virginia, taking up additional acreage for a future supply of gas.

Q. At the time that you made the sale of the gas line and territory and wells to the Hope Natural Gas Company, did you, the Fayette County Gas Company, make a contract with the Hope Company for a supply of gas to the Fayette Company from the Hope?

A. We did.

Q. That was by written agreement?

A. Yes, sir.

Q. A contract to supply?

1212 A. It was.

(Paper shown witness.)

Q. That agreement has already been offered in evidence in this case by the Hope Natural Gas Company, in connection with its testimony. I show you a contract and ask you if that is the contract?

A. That is the contract.

Q. This has already been offered in evidence in this case in the testimony of Mr. Sullivan, as Pennsylvania Exhibit No. 21. That is the contract under which the Fayette took its gas from the Hope Company?

A. Yes, sir.

Q. Did the Fayette Company continue to operate and obtain gas from its own production?

A. It did.

Q. And does yet?

A. Yes, sir.

Q. Mr. Angle, what is the quantity of acreage of the Fayette

County Gas Company, under date of December 31, 1909, to December 31, 1919? Have you prepared a statement of that?

A. Yes, sir.

Q. Will you let me have that copy?

A. Yes, sir.

Q. That shows the operated and unoperated acreage of the
1213 Fayette County Gas Company for those years?

A. Yes, sir.

Q. Will you please read that into the record?

A. (Reading:)

Fayette County Gas Company.

Summary of Acreage as of December 31, 1909, *to* 1919.

	Operated.	Unoperated.	Total.
1909	3,820	14,391	18,211
1910	1,409	2,399	3,808
1911	1,477	816	2,293
1912	1,447	964	2,441
1913	1,447	964	2,441
1914	1,477	662	2,139
1915	1,477	3,836	5,313
1916	1,477	3,983	5,460
1917	1,835	4,843	6,678
1918	1,960	4,966	6,926
1919	1,949	4,860	6,809

Q. How many gas wells did the Fayette County Gas Company have in the year 1919?

A. Twenty-five or twenty-six, I am not sure just which.

Q. Could you give us the number they had for each of those years, from 1909 down to 1919?

A. No, I can't give you that.

1214 Q. How many did they have in 1918?

A. Twenty-five.

Q. And in 1917?

A. Twenty-five.

Q. What was the investment of the Fayette County Gas Company, as of December 31, 1919, in its transporting division?

A. $601,278.37.

Q. And what did that include, in a general way?

A. Right of ways, right of way expense, pipe, couplings, fittings, labor, teaming, freight, superintendent and general expense, tools.

Q. Tools and miscellaneous?

A. Yes, sir.

Q. And what was its investment in its distributing system in the various towns and cities?

A. $266,753.96.

Q. What were its other investments?

A. If you will pardon me, I did not take into consideration in the

distributing investment the cost of service lines and improvements owned by the Fayette County Gas Company. That would mean an additional investment in the distributing division, amounting to $180,103.10; and in addition, the investment in the field.

1215 Q. What was that?

A. Field lines, wells, leases, and so forth.

Q. And how much in that?

A. Amounting to $519,313.72.

Q. Have you prepared a statement of the number of consumers supplied by your company in each division, from 1910 to 1919, inclusive?

A. Yes, sir.

Q. That statement shows the different divisions which you have already described in your testimony?

A. Yes, sir.

Q. And also shows the number of domestic consumers?

A. Yes, sir.

Q. Other consumers, number dependent, municipalities and public buildings?

A. Yes, sir.

Q. What do you mean by "other consumers," after "domestic consumers?"

A. It means manufacturing consumers.

Q. Industrial then?

A. Industrial.

Q. And what do you mean by "number dependent?"

A. All of the number of persons who are supplied.

Q. I don't understand that exactly. Do you mean by

1216 that, the population?

A. The population supplied.

Q. The number of people, therefore, estimated, I suppose, from so many to each domestic consumer, and so forth?

A. Yes, sir.

Q. Is that what you mean?

A. Yes, sir.

Q. And how did you arrive at those figures?

A. Taking about four and a half persons to the consumer.

Q. And what do you mean by "municipalities and public buildings?"

A. That means city halls, hose houses, school buildings and public buildings of that kind.

Q. Under that heading, "municipalities and public buildings," you give there the number of thousand cubic feet, do you not?

A. Yes, sir.

Q. And not the number of consumers?

A. No, sir.

Q. But under "domestic consumers," you give the number of consumers?

A. Yes, sir.

Q. And under "other consumers," which you describe as industrial, you give the number of consumers?

1217 A. Yes, sir.

Q. Will you please read that into the record, giving the information as you have described generally in your testimony, with reference to your consumption from 1910 to 1919, inclusive?

A. (Reading:)

1910.

Division.	Domestic consumers.	Other consumers.	Number dependent. (4½ persons per consumer.)	Municipalities & public bldgs. M. cu. ft.
Uniontown	3584	69	16,128	24,824
Connellsville	3449	23	15,520	2,788
Scottdale	2035	11	9,157	1,046
Mt. Pleasant	763	5	3,433	....
Total	9831	108	44,238	28,658

1911.

Uniontown	3492	63	15,714	54,332
Connellsville	3337	13	15,016	16,368
Scottdale	1631	16	7,339	7,968
Mt. Pleasant	1227	4	5,521	223
Total	9687	96	43,590	78,891

1218

1912.

Uniontown	3541	63	15,934	53,766
Connellsville	3468	14	15,606	17,214
Scottdale	1654	18	7,443	9,125
Mt. Pleasant	1278	4	5,751	973
Total	9941	99	44,734	81,078

1913.

Uniontown	3797	58	17,086	47,433
Connellsville	3674	13	16,533	17,277
Scottdale	1731	17	7,789	8,627
Mt. Pleasant	1349	4	6,070	815
Total	10,551	92	47,478	74,152

1914.

Uniontown	3,852	53	17,334	51,219
Connellsville	3 652	19	16,434	19,977
Scottdale	1,777	18	7,996	9,059
Mt. Pleasant	1,392	6	6,264	1,190
Total	10,673	96	48,028	81,445

1219

1915.

Division.	Domestic consumers.	Other consumers.	Number dependent. (4½ persons per consumer.)	Municipalities & public bldgs. M. cu. ft.
Uniontown	3,864	54	17,388	50,275
Connellsville	3,775	44	16,987	18,155
Scottdale	1,811	17	8,149	5,919
Mt. Pleasant	1,434	4	6,453	1,275
Total	10,884	119	48,977	75,624

1916.

Uniontown	4,022	53	18,099	51,050
Connellsville	3,868	19	17,406	18,401
Scottdale	1,855	18	8,347	5,712
Mt. Pleasant	1,528	4	6,876	1,517
Total	11,273	94	50,728	76,680

1917.

Uniontown	4,147	50	18,661	46,377
Connellsville	4,010	19	18,045	17,741
Scottdale	1,942	16	8,739	5,449
Mt. Pleasant	1,551	4	6,979	2,071
Total	11,650	89	52,424	71,636

1220

1918.

Uniontown	4,278	46	19,251	39,016
Connellsville	4,112	19	18,504	12,596
Scottdale	1,903	15	8,563	3,525
Mt. Pleasant	1,611	4	7,249	1,875
Total	11,904	84	53,567	57,012

1919.

Uniontown	4,421	20	19,895	36,714
Connellsville	4,186	24	18,837	14,284
Scottdale	1,967	14	8,851	2,937
Mt. Pleasant	1,811	4	8,149	1,930
Total	12,385	62	55,732	55,865

The towns which comprise each division are as follows:

Uniontown Division.	Connellsville Division.	Scottdale Division.	Mt. Pleasant Division.
Uniontown,	Connellsville,	Scottdale,	Mt. Pleasant.
New Salem.	Dunbar,	Alverton,	Youngwood,
McClellandtown,	Dawson,	Tarrs,	New Stanton.
Hopewood,	Vanderbilt.	Ruffsdale.	
Roncoe,			
Masontown.			

1221 Q. Have you prepared a statement, Mr. Angle, by months, of the sales of your company of domestic, factory, and the total of the amount purchased by the Hope and the Peoples Company, of the amount purchased by the Fayette from others, produced by the Fayette, and the total gas to account for the years 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918 and 1919, inclusive?

A. Yes, sir.

Q. Now, for the year 1910, in the month of January, did the Hope Company furnish any gas to the Fayette?

A. Yes, sir.

Q. How much?

A. 84,060,000 cubic feet.

Q. And did the Fayette furnish any to the Hope?

A. Yes, sir.

Q. How much?

A. 125,445,000 cubic feet.

Q. Which the Fayette sold to the Hope?

A. Yes, sir.

Q. And in February of that year, did the Hope furnish any to the Fayette?

A. Yes, sir.

Q. How much?

A. 103,108,000 cubic feet.

Q. And did the Fayette sell any to the Hope?

1222 A. Yes, sir.

Q. How much?

A. 148,252,000 cubic feet.

Q. And in March, did the Hope furnish any to the Fayette?

A. Yes, sir.

Q. How much?

A. 38,320,000 cubic feet.

Q. And did the Fayette furnish any to the Hope in that month?

A. Yes, sir.

Q. How much?

A. 82,124,000 cubic feet.

Q. After that time—January, February and March—the Fayette furnished no gas to the Hope?

A. No, sir.

Q. But purchased gas from the Hope?

A. Yes, sir.

Q. Have you prepared a statement showing, as I asked you before, by months, the sales for domestic, factory and total; the amount furnished by the Hope Company to the Fayette Company for domestic, factory, and total; and the amount purchased by the Fayette Company from others, and the amount produced by the Fayette, and the total gas to account for; for each month for the years mentioned?

A. We have not furnished that complete statement for each month for all of those years. In the year 1910, and up until March of 1911, we did not keep a record of the amount of gas produced by
1223 the Fayette County Gas Company.

Q. Or purchased?

A. Or purchased.

Q. From others than the Hope?

A. At that time we were not purchasing any gas from others. Aside from that year and those months, we have prepared such a report.

Q. Will you read that into the record, please?

A. (Reading:)

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
1910.									
		39,554	39,554	.....	.....	.....	.....	.....	.....
January	160,502	58,956	219,458	.....	.....	.....	.....	.....	.....
		45,094	45,094	.....	.....	.....	.....	.....	.....
February ...	139,235	61,000	200,235	.....	.....	.....	.....	.....	.....
		43,804	43,804	.....	.....	.....	.....	.....	.....
March	114,548	67,433	181,981	.....	.....	.....	.....	.....	.....
April	90,396	106,016	196,412	.....	.....	.....	.....	.....	.....
May	69,881	132,589	202,470	69,881	177,072	246,953	.....	.....	.....
June	59,547	124,380	183,927	59,547	159,196	218,743	.....	.....	.....
July	41,647	94,930	136,577	41,647	130,806	172,453	.....	.....	.....
August	42,306	103,385	145,691	42,306	118,703	161,009	.....	.....	.....
September ..	48,008	135,976	183,984	48,008	136,400	184,408	.....	.....	.....
October	58,804	78,464	137,268	58,804	81,842	140,646	.....	.....	.....
November ..	115,362	84,423	199,785	115,362	80,337	195,699	.....	.....	.....
December ...	132,484	96,905	229,389	132,484	121,717	254,201	.....	.....	.....
	1,072,720	1,272,909	2,345,629	568,039	1,875,740	1,443,779	.....	.....	.....

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
1911.									
January	127,359	99,181	226,540	127,359	94,379	221,738	.....	.....	.....
February ...	107,785	86,015	193,800	107,785	92,905	200,690	.....	.....	.....
March	110,459	99,887	210,346	110,459	112,432	222,891	.....	23,467	246,358
April	103,996	93,695	197,691	103,996	73,151	177,147	.....	27,433	204,580
Mav	63,585	85,281	148,866	63,585	61,496	125,081	.....	32,596	157,677
June	43,871	81,349	125,220	43,871	60,153	104,024	.....	31,859	135,883
July	39,589	66,862	106,451	39,589	46,358	85,947	.....	29,474	115,421
August	41,872	79,866	121,738	41,872	50,403	92,275	.....	30,918	123,193
September ..	51,284	88,103	139,387	51,284	62,697	113,981	.....	30,448	144,429
October	65,981	100,740	166,721	65,981	97,133	163,114	.....	30,649	193,763
November ...	101,058	98,342	199,400	101,058	88,119	189,177	.....	29,631	218,808
December ...	112,596	105,101	217,697	112,596	82,650	195,246	.....	25,154	220,400
Total....	969,435	1,084,422	2,053,857	969,435	921,876	1,891,311	.....	291,629	.....

1226 *Fayette County Gas Company.*

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
1912.									
January	152,410	127,110	279,520	152,410	124,868	277,278	.....	24,366	301,614
February ...	142,808	112,801	255,609	142,808	102,523	245,331	.....	22,793	268,124
March	121,671	106,274	227,945	121,671	93,767	215,438	.....	26,896	242,334
April	83,727	102,764	186,491	83,727	89,702	173,429	.....	26,543	199,972
May	63,408	105,819	169,227	63,408	79,113	142,521	.....	28,092	170,613
June	52,646	77,225	129,871	52,546	54,695	107,241	.....	27,187	134,428
July	46,757	73,267	120,024	46,757	47,652	94,409	.....	24,918	119,327
August	49,561	78,043	127,604	49,561	56,559	106,120	.....	23,325	129,445
September ..	54,246	84,325	138,571	54,246	64,611	118,857	.....	23,367	142,224
October	72,085	101,268	173,353	72,085	109,137	181,222	.....	17,417	198,639
November ...	91,386	110,398	201,784	91,386	122,105	213,491	.....	16,663	230,154
December ...	115,246	113,067	228,313	115,246	107,744	222,990	.....	18,198	241,188
Total....	1,045,951	1,192,361	2,238,312	1,045,851	1,952,476	2,098,327	.....	279,735	2,378,062

Month. 1913.	Sales (M cu. ft.) Domestic.	Factory.	Total.	Furnished by Hope. Domestic.	Factory.	Total.	Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
January	114,565	104,610	219,175	114,565	91,194	205,759	.....	23,152	228,912
February ...	126,798	111,190	237,988	126,798	99,194	225,992	.....	17,136	243,128
March	104,598	117,398	221,996	104,598	104,153	208,751	.....	19,204	227,955
April	100,058	98,421	198,479	100,058	66,912	166,970	.....	18,325	185,295
May	70,681	98,502	169,183	70,681	70,551	141,232	.....	23,330	164,562
June	58,534	90,139	148,673	58,534	57,122	115,656	.....	24,005	139,661
July	44,862	88,098	132,960	44,862	61,017	105,879	.....	25,528	131,407
August	45,344	88,903	134,247	45,344	61,675	107,019	.....	26,259	133,278
September ..	60,704	88,648	149,352	60,704	75,340	136,044	.....	24,974	161,028
October	74,125	100,447	174,572	74,125	95,019	169,144	.....	25,109	194,253
November ...	104,063	111,691	215,754	104,063	102,786	206,849	.....	21,976	228,825
December ...	113,900	94,606	208,506	113,900	82,558	196,458	.....	25,978	222,436
Total....	1,018,232	1,192,653	2,210,885	1,018,232	967,521	1,985,753	.....	274,977	2,260,730

1228 *Fayette County Gas Company.*

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
1914.									
January	140,887	93,226	234,113	140,887	59,862	200,749	.....	25,074	225,823
February	134,892	86,112	221,004	134,892	69.255	204.147	.....	21.919	226,066
March	132,781	99,281	232,062	132,781	75,709	208,490	.....	23,954	232,444
April	99,781	92,566	192,347	99,781	63,077	162,858	.....	23,565	186,423
May	71,902	81,739	153,641	71,902	48,204	120,106	.....	24,913	145,019
June	54,870	66,989	121,859	54,870	33,083	87,953	.....	23,569	111,522
July	46,577	46,984	93,561	46,577	34,399	80,976	.....	25,568	106,544
August	48,659	57,322	105,981	48,659	46,147	94,806	.....	22,887	117,693
September ..	59,860	68,566	128,426	59,860	53,171	113,031	.....	25,167	138,198
October	66,449	81,785	148,234	66,449	74,546	140,995	.....	24,756	165,751
November ...	108,739	81,341	190,080	108,739	57,515	166,254	.....	23,443	189,697
December ...	123,954	79,573	203,527	123,954	60,858	184,812	.....	22,450	207,262
Total....	1,089,351	935,484	2,024,835	1,089,351	675,826	1,765,177	.....	287,265	2,052,442

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
1915.	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
January	131,991	81,520	213,511	131,991	16,569	148,560	.....	22,285	170,845
February	121,528	82,024	203,552	121,528	39,451	161,069	.....	22,093	183,162
March	123,237	96,468	219,705	123,237	71,882	195,119	.....	21,188	216,307
April	101,012	88,977	189,989	101,012	38,168	139,180	.....	23,608	162,788
May	68,478	106,846	175,324	68,478	75,894	144,372	.....	23,782	168,154
June	58,625	85,418	144,043	58,625	47,734	106,359	.....	23,557	129,916
July	49,617	60,671	110,288	49,617	39,734	89,351	.....	18,888	108,239
August	50,715	58,347	109,062	50,715	47,787	98,502	.....	14,773	113,275
September ..	54,721	68,081	122,802	54,721	53,029	107,750	.....	14,258	122,008
October	74,088	89,654	163,742	74,088	77,541	151,629	.....	14,402	166,031
November ...	99,400	114,400	213,800	99,400	97,744	197,144	.....	14,907	212,051
December ...	128,845	116,344	245,189	128,845	98,134	226,979	.....	19,291	246,270
Total....	1,062,257	1,048,750	2,111,007	1,062,257	703,757	1,766,014	.....	233,032	1,999,046

1230 *Fayette County Gas Company.*

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
1916.									
January	132,699	120,667	253,366	132,699	78,470	211,169	.....	28,967	240,136
February	122,689	120,649	243,338	122,689	101,770	224,459	.....	31,358	255,817
March	144,261	128,563	272,824	144,261	99,114	243,375	.....	32,557	275,932
April	100,495	115,930	216,425	100,495	85,825	186,320	.....	28,564	214,884
May	80,688	116,952	197,640	80,688	61,792	142,480	.....	31,488	173,968
June	62,033	85,672	147,705	62,033	41,901	103,934	.....	32,924	136,858
July	49,983	80,073	130,056	49,983	38,194	88,177	.....	35,396	123,573
August	48,817	88,216	137,033	48,817	53,119	101,936	.....	35,519	137,455
September ..	63,117	95,501	158,618	63,117	64,764	127,881	.....	33,247	161,128
October	83,295	112,992	196,287	83,295	85,400	168,695	2,795	31,104	202,594
November ...	105,641	118,936	224,577	105,641	88,687	194,328	7,177	35,976	237,481
December ...	133,324	102,655	235,979	133,324	84,537	217,861	4,495	28,249	250,605
Total....	1,127,042	1,286,806	2,413,848	1,127,042	883,573	2,010,615	14,467	385,349	2,410,431

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
1917.	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
January	150,084	117,693	267,777	150,084	82,354	232,438	7,235	28,946	268,619
February ...	157,066	97,378	254,444	157,066	68,737	225,803	4,621	21,377	251,801
March	129,285	120,759	250,044	129,285	97,465	226,750	.....	22,533	249,283
April	124,809	109,902	234,711	124,809	67,682	192,491	414	29,753	222,658
May	84,997	110,654	195,651	84,997	69,550	154,547	3,604	29,412	187,563
June	68,723	91,690	160,413	68,723	30,782	99,505	5,627	31,962	137,094
July	55,944	76,803	132,747	55,944	61,966	117,910	5,142	29,836	152,888
August	50,083	65,340	115,423	50,083	42,114	92,197	4,950	30,589	127,736
September ..	62,641	59,503	122,144	62,641	58,165	120,806	4,522	42,222	167,550
October	97,092	60,950	158,042	97,092	44,071	141,163	3,904	35,627	180,694
November ...	115,172	60,994	176,166	115,172	47,598	162,770	3,735	31,812	198,317
December ...	149,399	72,488	221,887	149,399	76,382	225,781	3,252	32,527	261,560
Total....	1,245,295	1,044,154	2,289,449	1,245,295	746,866	1,992,161	47,006	366,596	2,405,763

1232 *Fayette County Gas Company.*

Month.	Sales (M cu. ft.)			Furnished by Hope.			Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
	Domestic.	Factory.	Total.	Domestic.	Factory.	Total.			
1918.									
January	197,998	57,891	255,889	197,998	58,594	256,592	2,466	29,009	288,067
February ...	138,288	46,547	184,835	138,288	60,661	198,949	2,806	33,843	235,598
March	115,023	53,677	168,700	115,023	28,752	143,775	25,660	29,529	198,964
April	121,410	53,978	175,388	102,529	.....	102,529	37,962	29,360	169,851
May	80,818	46,926	127,744	77,781	.....	77,781	21,925	28,578	128,284
June	59,448	41,076	100,524	59,448	16,179	75,627	18,438	18,625	112,690
July	61,028	33,089	94,117	61,028	40	61,068	5,530	30,790	97,388
August	55,689	31,301	86,990	43,875	.....	43,875	4,788	35,260	83,923
September ..	69,855	27,971	97,826	58,145	.....	58,145	6,170	48,465	112,780
October	87,627	34,115	121,742	85,024	.....	85,024	3,330	40,848	129,202
November ...	108,645	32,452	141,097	108,645	10,331	118,976	6,072	38,983	164,031
December ...	127,691	28,763	156,454	127,691	16,726	144,417	679	29,868	174,964
Total....	1,223,520	487,786	1,711,306	1,175,475	191,283	1,366,758	135,826	393,158	1,895,742

Fayette County Gas Company.

Month. 1919.	Sales (M cu. ft.) Domestic.	Factory.	Total.	Furnished by Hope. Domestic.	Factory.	Total.	Purchased by Fayette from others.	Produced by Fayette.	Total gas to ac. for.
January	151,197	34,225	185,422	151,197	7,852	159,049	2,038	33,360	194,447
February	130,866	38,359	169,225	130,866	11,205	142,071	2,815	41,657	186,543
March	125,831	38,770	164,601	125,831	16,335	142,166	3,637	30,154	175,957
April	119,519	39,992	159,511	115,130	.....	115,130	2,726	36,354	154,210
May	93,008	49,232	142,240	93,008	2,552	95,560	2,644	43,394	141,598
June	58,952	43,753	102,705	58,952	6,825	65,777	2,479	42,428	110,684
July	54,601	49,636	104,237	54,601	17,853	72,454	2,561	40,270	115,285
August	54,081	76,825	130,906	54,081	50,895	104,976	2,259	39,902	147,137
September ..	67,638	83,206	150,844	67,638	55,839	123,477	2,016	38,133	163,626
October	78,672	96,382	175,054	78,672	76,752	155,424	1,897	37,223	194,544
November ...	106,846	96,185	203,031	106,846	97,165	204,011	1,622	31,329	236,962
December ...	*164,411*	*56,183*	*220,594*	*164,411*	*52,624*	217,035	1,488	28,531	247,054
Total....	1,205,622	702,748	1,908,370	1,201,233	395,897	1,597,130	28,182	442,735	2,068,047

Q. Under the year 1918, you have "Gas furnished for domestic, factory," and so forth, by the Hope and Peoples. Have you
1234 the amount of this gas that was furnished by the Peoples Company separated from the amount furnished by the Hope?

A. Yes, sir.

Q. Will you read that into the record, please?

A. (Reading:) Under gas furnished by Hope and Peoples during the year 1918, the following was furnished by the Peoples Company:

January,	40,317
February,	31,076
March,	33,681
April,	31,753
May,	31,130
June,	29,049
July,	61,068
August,	43,731
September,	40,791
October,	25,272
November,	8,885
December,	296
Total, 1918,	377,049

Q. During the year 1919, you obtained 1,597,130,000 cubic feet by purchase from the Hope Company, and you purchased from others 28,182,000, and you produced 442,735,000 feet of gas,
1235 as you have already indicated by the statement read into the record. From whom were those other purchases made? I don't care for the names, but where was the gas obtained from?

A. In Fayette County.

Q. From other producers in Fayette County?

A. Yes, sir.

Mr. Hoffheimer:

Q. Pennsylvania?

A. Pennsylvania.

Mr. Weil:

Q. Do you know of any other source from which you could obtain gas with which to supply the consumers of the Fayette Company, other than the Hope Company, at the present time?

A. I do not.

Q. Do you know of any gas territory or fields that would be tributary to the section supplied by you, or within a distance that you could run lines thereto, that could be obtained by the Fayette Company?

A. Not to produce a sufficient quantity of gas to take care of the consumers' requirements.

Q. If your gas supply was cut off, what percentage of
1236 wreckage or reclamation value would you estimate your plant would have?

Mr. Hoffheimer: That is objected to, on the grounds stated in objections to previous questions of similar character.
The Commissioner: Note the objection and let the witness answer.

A. I would not like to attempt to make such an estimate.
Q. Why?

Mr. Hoffheimer: The same objection.
The Commissioner: Note the objection.

A. Because the amount would be so small, in comparison to the cost, that it would be almost impossible for me to make such an estimate.
Q. Well, would it be of any practical value—a plant without a supply of natural gas?
A. It would be worth practically nothing.
Q. These figures that you have given on these statements that you have read into the record, are just so many million, or thousand thousand cubic feet?
A. Yes, sir.
1237 Q. You have not carried out, in other words, the figures to the thousands—only you have given the number of thousand cubic feet?
A. Yes, sir.
Q. In these statements which you have read?
A. Yes, sir.
Q. During the year 1919, and for several years previous, was there a shortage of gas upon your lines in your supply to consumers?
A. There was.
Q. Has that shortage been becoming more acute from year to year?
A. It has been.
Q. And were there any considerable periods, consecutively, during the last winter, where there were those shortages?
A. Yes, sir.
Q. Did you make an effort to get the gas from the Hope Company?
A. Sir?
Q. Did you make efforts to get the gas from the Hope Company, with which to supply your consumers?
A. Yes, sir.
238 Q. Do you know whether or not they had the gas to deliver?
A. They reported to me that they did not have the gas to deliver, and were giving us the very best possible service and the greatest volume of gas that they had obtainable for us.
Q. Do you know whether or not the Fayette County Gas Company is in any way connected or affiliated with any of the so-called Standard companies?

A. Not that I know of.

Q. I am speaking now of the Standard Oil Company, of course, when I say Standard companies?

A. I understood you as meaning such.

Q. And who are the present officers of the Fayette County Gas Company?

A. George W. Crawford, president; L. B. Denning, vice president and general manager; F. I. Falk, secretary and treasurer; W. W. Rathbun, assistant secretary and treasurer. Do you wish also the directors of the company?

Q. Yes, give us the directors also.

A. The directors are George W. Crawford, John E. Gill, John W. Donnan, J. N. Garrard, John F. Leasgang.

Q. What is the size of the line of the Hope Natural Gas Company at the present time, connecting with your line, of the Fayette County Gas Company?

1239 A. Twelve-inch.

Q. And what is the size of your line?

A. Twelve-inch.

Q. That, I believe, you testified was a line originally constructed by you?

A. Yes, sir.

Q. Into West Virginia?

A. Yes, sir.

Q. Is that line just one continuous line going from West Virginia through into Pennsylvania?

A. Yes, sir.

Q. And where is the measuring station?

A. In West Virginia.

Q. At what point?

A. About 2,000 feet from the state line of Pennsylvania.

Q. Where is the compressing station?

A. Of the Hope Natural Gas Company?

Q. Yes.

A. In West Virginia.

Q. At what point? It is shown here on the map at Hawkins and Wright; is that right?

A. At Hawkins station, yes, sir, about twelve miles from the state line of Pennsylvania.

Q. The Wright compressing station, how far is that from

1240 the state line?

A. I don't know.

Q. Where is your compressing station?

A. We have no compressing stations.

Q. None whatever?

A. No, sir.

Q. How far does your line extend from the Pennsylvania line to the northernmost part at Youngwood? About how long is that?

A. About eighty-five miles.

Q. And this map gives the size of the lines, of the main transportation lines, as 12-inch and 8-inch, 5-5/8, and so forth?

A. Yes, sir.

(Exhibit Pennsylvania No. 15 shown witness.)

Q. I show you a copy of Exhibit Pennsylvania No. 15, being the
ain lines of the Hope and Reserve Gas Companies, and ask you
look at that, and look at the line from Hawkins station to Wade,
here it connects with the Fayette County Gas Company, and call
our attention to the size of the Fairmont & Morgantown, within
comparatively short distance from that line, and ask you what
ould be the effect upon the transportation of gas through that
12-inch line, to supply the Fayette Company, if in the colder
241 days of winter any connection was made between that line
and Morgantown, or that line and Fairmont, for the purpose
supplying any deficit in those towns during those periods? What
ould be the effect upon your supply?

Mr. Hoffheimer: That is objected to, first, because it does not
ppear that the witness is qualified to answer the question. Secondly,
ecause the question calls for a mere opinion or conclusion of the
itness, and the answer called for would be entirely speculative in
haracter. Thirdly, because the evidence is incompetent, irrelevant
nd immaterial.

The Commissioner: Note the objection and let the witness answer.

A. It would, without any question of doubt, put the Fayette
ounty Gas Company out of business.

Cross-examination.

Mr. Steptoe:

Q. When was the Fayette County Gas Company incorporated?
A. In 1900.
Q. Under the laws of what state?
242 A. West Virginia.
Q. It is still a West Virginia corporation?
A. It is.
Q. And has been transacting its business by virtue of its charter
owers as such corporation at all times since its incorporation?
A. Yes, sir.
Q. Was the entire system shown on your map constructed by the
ayette County Gas Company?
A. It was not.
Q. What prior companies were taken over by or merged into the
ayette County Gas Company?
A. I don't know that I can name all of those companies, but one
them was the United Fuel—Not the United Fuel, but the Fayette
as Fuel Company.
Q. Any others?
A. The Hildred Oil Company and the Marietta-Stillwagon Gas
ompany.

Q. Where did those companies operate, and what towns did they serve?

A. Only one of those companies served any consumers, to my knowledge, and that was the Fayette Gas Fuel Company supplying gas to Uniontown, Connellsville and Scottdale.

Q. Did it have territory and production in Pennsylvania?

1243 A. It did have.

Q. And the same territory and production passed over to the Fayette County Company?

A. Yes, sir.

Q. What lines shown on your map were constructed by the Fayette Gas Fuel Company?

A. One of the 8-inch lines from Uniontown to Connellsville and the 8-inch line from Connellsville to Scottdale; and there may have been some of the smaller branch lines shown on that map.

Q. Were the remaining lines constructed by the Fayette County Gas Company?

A. Not all of them.

Q. But a majority of them?

A. A majority of them.

Q. Especially the larger transmission lines and distributing lines?

A. No, some of those larger lines were constructed before the Fayette Gas Fuel Company was organized. They were constructed by the Southwest Natural Gas Company.

Q. Well, did the southwest Company enter into the holdings of the Fayette Gas Fuel Company?

A. They did, through the sale of their properties to other companies and individuals. They were later bought by the

1244 Fayette County Gas Company.

Q. And that early company served natural gas to portions of your territory, did it?

A. Yes, sir.

Q. What sections?

A. To Scottdale, Connellsville and Uniontown.

Q. Your map does not purport to show any of the gathering lines, does it?

A. It does not show them completely.

Q. It does not show any of the well lines?

A. No, sir.

Q. As a matter of fact, there are a number of gathering lines and all of the well lines that are not shown, and they connect with and feed into the line sshown on the map at various points?

A. They do.

Q. It of course does not show your distributing systems in the towns and villages served?

A. No, sir.

Q. Where were you prior to your connection with this company?

A. In the southern part of Ohio.

Q. For how many years?

A. Employed by gas companies, do you mean?

1245 Q. Yes. How long were you in Ohio?

A. I was born and raised in the State of Ohio, and lived

there until I came to Pennsylvania with the Fayette County Gas Company, on July 23, 1901.

Q. 1901?

A. Yes, sir.

Q. And how long did you stay with the Fayette County Gas Company—until the present time?

A. No, until April 1, 1907, I was transferred to the Johnstown Fuel Supply Company, a company owned and controlled by the Tree, Crawford & Company interests. It was sold in December, 1909, to Mr. Emmett Queen and his associates. I remained in the employ of that company, together with the gas department of the Citizens Light, Heat & Power Company of Johnstown, which was artificial, until February 1, 1911. Then I came back with the Fayette County Gas Company, locating at Connellsville, and have been with the company since that time.

Q. Is the George W. Crawford, the president and one of the directors of your company mentioned by you, the same George W. Crawford that is interested in the Ohio Cities Gas Company?

A. I do not know that he is interested in the Ohio Cities Gas Company.

1246 Q. Or in the East Ohio Gas Company?

A. I don't know that he is interested in the East Ohio Gas Company?

Q. Is the John E. Gill on your board of directors the same person who was, or has been for some time, president of the Manufacturers Light & Heat Company?

A. He is.

Q. Do you or do you not know that George W. Crawford is vice president of the Northwestern Ohio Natural Gas Company?

A. I do not know that he is vice president of the company. I have heard that he has some connection with the Northwestern Ohio Gas Company.

Q. I understand you to say that the sale and transfer by the Fayette County Gas Company to the Hope Natural Gas Company, of the pipe line marked in yellow on your map, extending from the Wright compressing station, in the State of West Virginia, northeastwardly to the state line, was made contemporaneously with the contract of the Hope Company to sell gas to the Fayette County Gas Company, under the contract you have put in evidence?

A. Did I understand you to say it was laid by the Hope Natural Gas Company?

Q. No. (Question repeated.)

A. The sale and transfer was made some time about the 1247 time when the contract was entered into.

Q. Was that sale and transfer evidenced by deed or other writing recorded ?

A. Not that I know of.

Q. How long have these fields in the State of Pennsylvania, that you refer to as becoming depleted, been operated?

A. Since 1887.

Q. And to supply the communities you have mentioned as now being served by your company, or some of them?

A. Yes, sir, some of them.

Q. Is your system constructed and operated as a whole or in separate divisions for the several communities you mentioned?

A. It is operated as a whole.

Q. What is the purpose of the divisions?

A. Dividing the number of consumers, and tabulating the volumes of gas sold to various sections for accounting purposes.

Q. So that the gas, whether produced by your company or purchased in the State of Pennsylvania, or purchased at the State line from the Hope Company, is all marketed through the same system?

A. It is.

Q. And all commingled and furnished together?

1248 A. Yes, sir.

Q. When did this decrease in the production of the wells in the Pennsylvania fields, and in the fields themselves, first become apparent?

A. In 1889 and 1890.

Q. Was that in the older fields in Pennsylvania or all of the fields in which your company was then operating?

A. In all of the fields supplying those communities with natural gas.

Q. Did that decrease become more apparent from year to year?

A. It did.

Q. Is the decrease still going on—becoming annually more apparent?

A. It is, so far as the older wells are concerned.

Q. What about the fields themselves? Has the decrease been apparent in the production of the fields and in the amounts produced from the new wells, as compared with the old wells?

A. Yes, sir.

Q. That decrease is manifest not only in decreased rock pressure but in volume?

A. Yes, sir.

Q. Is there any experimental work now going on in Fayette County for gas production?

A. The drilling of wells?

Q. Yes.

1249 A. Yes.

Q. Is there not some experimental work in that locality seeking to reach lower sands that have not heretofore been operated?

A. Yes, sir.

Q. With what success?

A. A very small amount of gas has been discovered.

Q. But it is true that quite recently those efforts to reach the lower sands are being tried out in that county, and some result is being obtained, is it not?

A. Yes, sir.

Q. As a practical gas man, would you say that there is a prospect of the discovery of a new field in Fayette County in that lower sand?

A. There is a possibility.
Q. Of course, everything that deep under the earth is more or
ss a possibility, isn't it?
A. Yes, sir.
Q. But there are hopes now of acquiring a production from that
wer sand in sands in Fayette County hitherto not drilled into?
A. Yes, sir. We have taken up some leases in both Fayette and
Vestmoreland Counties, and are now engaged in drilling to those
wer sands.
Q. What sands are those?
250 A. The Speechley, the Bradford and the Kane.
Q. Are those the sands in which the gas strikes at Mc-
eesport were found?
A. Yes, sir.
Q. In your statement of the investment of the Fayette County
as Company, in what you term the Transporting Department,
mounting to $601,278, is that a statement of capital investment
the amounts expended by your company?
A. That is the book value that our company has kept; added
and taken from, for a number of years back. In fact, all of the
atements relative to investment are taken in that same manner.
Q. And the figures that you have given for the transporting de-
rtment, the distributing system and for other investment are
hat you call your capital investment?
A. Yes, sir.
Q. And to that you have added certain amounts each year for
provements or additions, and taken a certain depreciation?
A. I don't know that there has been a depreciation deduction
om that. The "taken from" that I referred to is lines or equip-
ent taken out of construction. That would be, in turn, taken
t of that investment figure.
Q. How is your valuation arrived at?—By an appraise-
251 ment?
A. No, sir.
Q. Or by an accumulation of expenditures in improvements,
d so forth?
A. An accumulation of expenditures, was the investment.
Q. What about your wells and leases, how are they valued?
A. That is estimated. The operated and unoperated leases are
imated as to their value and location relative to gas production.
Q. On what basis do you value them?
A. I don't just know how that—what amount of value that was
aced on each of those acres, whether operated or unoperated.
Q. Did you make any of these valuations?
A. Well, I was consulted at the time our office made the valu-
ion, as to the location of leases, relative to gas production.
Q. In giving the valuation of your leases and wells, how do you
arge up rentals, delay rentals and well rentals and so forth?—
capital account or to expenditures, operating expenses?
A. I am pretty sure that it is charged up as an item of expense.

Q. If I understand you, you take that out of your income derived from the operation of the plant?

1252 A. Yes, sir.

Q. That is, delay rentals, well rentals, and so forth?

A. That is my understanding; yes, sir.

Q. In the statement you gave us of the sales of gas, I observe that you have a heading as to the amount of gas furnished by the Hope, first for domestic and then for factory, and with a total of the two. Do you refer there to the Hope Natural Gas Company?

A. Yes, sir.

Q. And to the gas purchased by the Fayette County Gas Company from the Hope Company, under the contract you have offered in evidence?

A. Yes, sir.

Q. How do you ascertain and determine the amount of the gas acquired from the Hope Company, which is distributed by you to your domestic consumers?

A. By the measurement of the Wade Pitot tube measuring station.

Q. Where is that measuring station located?

A. About 2,000 feet in the state of West Virginia from the state line of Pennsylvania.

Q. Well, a part of these domestic consumers included in the amount assigned, resided at Youngwood, at the northern extremity of your system, do they not?

1253 A. Yes, sir.

Q. Do I understand you to mean that you can positively identify at Youngwood the amount of the gas purchased at or near the state line of West Virginia from the Hope Natural Gas Company?

A. No, sir.

Q. As a matter of fact, the gas is all mixed, as you stated awhile ago, with your own production and with the amounts purchased in the State of Pennsylvania?

A. Yes, sir.

Q. And you can't identify any cubic foot of West Virginia gas served at any particular point, can you?

A. No.

Q. Well, what is the meaning of your heading as to the amount furnished to domestic consumers by the Hope Company?

A. The meaning of that heading is that the total amount of gas is that gas which is furnished by the Hope Natural Gas Company, transported through the Fayette County Gas Company's main transporting lines, and distributed to its domestic and factory consumers. The division in that gas sold is determined by the total volume of gas sold to the domestic and factory consumers; deducting the amount of the gas furnished domestic consumers from the total readings of the Wade measuring station, the balance is

1254 the total arrived at—the total volume of gas furnished to the factory consumers.

Q. Then the heading on your account is not intended as a state-

t by you that the identical gas from the Hope Company goes
ny particular consumers, because that you cannot identify, can
?
. We can't identify that.
. It is a method of keeping your books, with reference to your
ract with the Hope Natural Gas Company?
. That is the method of keeping our books.
. For what purposes does your company supply gas to its in-
rial consumers?
. For various kinds of manufacturing.
. State some of them?
. Steel, the manufacturing of glass, and a number of various
ll manufacturers.
. Do you furnish them at all periods in the year?
. We do not.
. Do you furnish any of them at all times?
. Not at times when there is a shortage of the supply of gas
ur Class I, or domestic consumers.
. What is the reason of your supplying industrial consumers
n you have a shortage in any amount necessary to supply your
domestic consumers?
5 A. At a time when we have a shortage in the supply to
our domestic consumers, we do not then attempt to supply
great volume of gas to the industrial or factory consumers.
. Why do you supply any to your industrial consumers at such
es?
. Just a very small quantity, that might save an enormous loss
hat industrial or manufacturing consumer.
. Well, as a practical gas man, why do you sell to industries
ll? Why not conserve, for the benefit of the domestic con-
er?
. We know the earning coming from such sale of gas would
enable us to keep up our properties, and at the rates we re-
e for our domestic gas, we would not have an earning suf-
ntly enough to remain in business.
. I believe all of the gas companies—certainly all of the larger
—adopt that same plan of selling to industrial consumers?
. Yes, sir.
. And I understand you to say it is a necessity in the busi-
?
. It is.
. How much of the supply which your company purchases
n the Hope Natural Gas Company could be spared, in order to
save the plant of the Fayette County Gas Company from
6 sudden dissipation, like "the one-hoss shay"?
A. I don't believe that we could spare any of it, especially
he cold winter season of the year.
. The fact is, that any reduction whatever in the quantity pur-
ed will affect you more or less?
. It will.

Q. And it depends on the amount taken off how far you will be affected?

A. Yes, sir.

Q. Do I correctly understand you to say that your shortage became more or less acute as far back as the year 1913?

A. No, I don't recall that I made a statement of that kind.

Q. When was that shortage first serious?

A. It began in the year 1916. In fact, back in 1915, we could notice the decrease in pressures was increasing; that is, the decrease in pressures on our main transporting lines.

Q. How about your ability to take care of your consumers, domestic and industrial? Has that become more or less difficult from year to year, since 1916?

A. It has.

Q. You mean, it has become more difficult?

A. Yes, sir.

Q. Do you anticipate that if present conditions generally maintain, that that difficulty will be greater from year to year in the future?

1257 A. It is my belief that it will.

Q. That is due to the decline in the production of gas?

A. Yes, sir, to the decline in production of gas and increased demand for it.

Q. Has that demand increased very much in the territory of your company?

A. It varies—sometimes increases and sometimes decreases. That is of course dependent entirely upon weather conditions, and the wish and desire of our various consumers. We, of course, have no power to regulate the volume of gas we sell to all of our classes of consumers, at all seasons of the year. We do, however, reserve the right to shut off the supply of gas from our industrial, or Class 2, unpreferred consumers; to give to the Class 1, preferred or domestic consumers, that supply of gas when it is necessary.

Mr. Weil:

Q. Under the contract you have with the Hope Company, to which you have already referred, and which has been shown to you, the Hope Company agreed, did it not, to supply you with all the gas required for your domestic consumption?

A. Yes, sir.

Q. And you are relying upon that for your supplies for

1258 your domestic consumers?

A. Yes, sir.

Q. And have been, since the making of that contract?

A. Yes, sir.

Q. You produce gas and buy gas from others in order to take care of any other consumption upon your lines, and for the purpose of carrying the peak loads, do you not?

A. Yes, sir.

Q. At the time of the making of that contract with the Hope Company, was there any question in the minds of the operators of the

Fayette County Gas Company, that they would be able to supply all the gas that would be required for domestic consumption?

A. Well, I wasn't with the Fayette County Gas Company at the time the contract was entered into; yet it has been the judgment of the company since 1911—that I have been with it—and up until possibly the year of 1914 or 1915, that there would not be any question but what we would be able to receive a supply of gas under the terms of that contract to supply our customers.

Q. Since that time, however, the doubt has come?

A. The doubt has came, and no one knows that better than I. It is to such a serious extent that my personal time has been required to remain in my office both night and day for as much as
1259 three and four weeks at a time. I mean by that to say that I have had to make sleeping quarters out of my office; and that with the exception of one occasion—which was over a period of four weeks—I had the privilege of eating three meals away from my desk.

Mr. Steptoe:

Q. The original idea of your company, then, as I understand it, was that you would thenceforward have the domestic consumers of the Fayette Gas Company taken care of by the supply purchased?

A. Yes, sir.

Mr. Hoffheimer:

Q. Your idea was that the Hope Company would supply the Fayette Gas Company gas sufficient to supply its domestic consumption forever; is that the idea?

A. For the term of twenty years, the contract.

Here a recess was taken until 1.30 o'clock, p. m.

1260 Afternoon Session.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

MARTIN B. DALY, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Eagleson:

Q. Will you please state your name and place of residence?

A. M. B. Daly, Cleveland, Ohio.

Q. Mr. Daly, what is your present business?

A. President of the East Ohio Gas Company.

Q. How long have you been associated with the East Ohio Gas Company in that or other relationships?

A. Eighteen years.

Q. During those eighteen years, what positions have you held, if any, other than President, and the nature of your services?

A. That of President and General Manager and the nature of my services was in an executive capacity and in the general management of all of the affairs of the Company except possibly details in the auditing department.

1261 Q. Prior to 18 years ago, when you became identified with the East Ohio Gas Company, were you connected with the natural gas business in any way, and if so, where and in what relation?

A. I began the natural gas business in 1883 in Warren County, Pennsylvania, and later in Oil City, Pennsylvania.

Q. State just what you did in Pennsylvania and then follow through briefly.

A. In Pennsylvania, we developed gas in the vicinity of Sheffield. We piped that gas to Clarington, North Clarington, and also to the towns of Garfield and Farnsworth, all located in Warren County. That was as far as the development went during my connection with the Company. In 1883, I was engaged with the Oil City Fuel Supply Company in the construction of its plant in Oil City. In 1884, we constructed plants at Titusville and Meadville, Pennsylvania. In 1886, I was appointed general superintendent of the Buffalo Natural Gas Fuel Company and remained in that position until 1890, when I was engaged in construction work and in field management for the Northwestern Ohio Natural Gas Company, supplying

1262 gas at that time to Toledo, Fostoria, Tiffin, Freemont, and a number of other towns later on. About that same year, we began the construction of a plant at Sandusky, Norwalk, Bellevue, and Clyde. I remained in that position until 1902, when I was made general manager of the East Ohio Gas Company and remained only in an advisory capacity with the Northwestern and later on resigned as director and general superintendent of the Northwestern and devoted all my time to the East Ohio Gas Company in the development of the work there, which included general supervision of the field, drilling of wells, and the construction of plants in the various cities and towns that we now supply.

Q. Then, I take it that during the past thirty-seven years, you have been actively engaged in the natural gas business in all its aspects?

A. Yes, sir, it includes, I think, everything in connection with the business.

Q. I hand you what purports to be a map outline of the pipe lines, cities and towns served by the East Ohio Gas Company and the counties through which said pipe lines extend, and in which said municipalities are located, and which may be marked for

1263 identification "Ohio Exhibit No. 1" and ask you if that is a true representation of the property and locations of the municipalities and communities served by the East Ohio Gas Company?

A. Yes, sir, this map was prepared under my personal direction by our engineers, and I believe represents all of the localities. The

lines on this map show the transportation system of the company, but do not show the gathering lines. It also shows, by the dots, as explained in the legend, the cities and towns supplied by the company in the different counties. It is not drawn to a scale, on account of the size of the map, as it would have distorted it in many places.

Mr. Eagleson: We offer in evidence the map marked for identification "Ohio Exhibit No. 1."

Q. Now, Mr. Daly, from this map you may state, beginning at the southerly end of the system, the beginning of your lines, their connections, then proceed northward and describe them, giving the size and character of the main lines or transportation lines.

1264 A. The first line constructed was for the purpose of supplying Akron. It is a ten inch pipe line, known as No. 1, marked "No. 1—ten inch" on the map. It begins in Belmont County, at a station known to us as Pipe Creek. The name of the town is Round Bottom, on the West Virginia side. That ten inch line extends north and west, through Belmont County, Harrison, Tuscarawas, Stark and Summit Counties, as far north as Akron, Ohio. From Akron—from a point known and designated as Gross Farm, south of Akron, in Stark County, the twelve inch line was extended in 1902, to the city limits of Cleveland. The next line to be constructed was an eighteen inch pipe, starting at a point near the Ohio River and running north through the same counties, except that it takes in a corner of Carroll County—the point known as the McCreery Farm. This was laid in as nearly an air line as possible, to the city limits of Cleveland. The No. 3 pipe line was made of eighteen inch pipe. Starting in 1907, this pipe line started at Clarington in Monroe County.

Q. Where, with reference to the Ohio River?

A. Well, it is on the north bank of the Ohio River. Clarington is situated on the North bank of the Ohio River and a pipe

1265 line runs to that bank and connection is made with West Virginia by a number of pipe lines crossing the river and the headers placed on each side so one line may be shut off separately and not throw the whole system out of commission, in case of breakage of one pipe. That, with the exception of a small line of pipe in Monroe County, passes through the same counties as the original ten inch pipe, or No. 1. Pipe Line No. 4 was laid from what is known as the Price Farm Station in Belmont County, in 1909 and '10. This pipe line also crosses through a portion of Carroll County and the other counties named in describing Pipe Line No. 1. This No. 4 pipe line was laid in three divisions. The third division was completed in 1915 and the northern portion of it was 20″ pipe. Pipe Line No. 5 was begun in 1912 and completed in 1913. I said the north side of the Ohio River a while ago. I suppose I should have said the west side. This pipe line also starts at Clarington Station in Monroe County and ends at the city limits of Cleveland.

Q. Mr. Daly, I call your attention, on the exhibit, to two pipe lines extending from the Gross Farm in Stark County to the north-

eastward over near Youngstown in Mahoning County. Describe those, giving their dimensions.

1266 A. The Mahoning Gas Company was acquired by purchase and the pipe line to connect Youngstown city with our main lines was started from the Gross Farm with fourteen inch pipe and from there to Austintown Junction that size pipe was continued. From Austintown Junction north to Warren in Trumbull County, Ohio, the pipe was reduced to ten and eight inches in size and going east from that Junction to Youngstown also twelve inches. Later it became necessary to lay a fourteen inch line from the Gross Farm to Austintown Junction and this was later extended by placing a sixteen inch pipe—I should say this was extended to a station on the east side of Youngstown known as Reo Station, indicated on the map by a yellow dot. In the purchase of the Mahoning, we acquired the Imperial line, running from the Pennsylvania State line to Youngstown, and through Mahoning County and the municipalities of East Palestine, Petersburg, New Middletown and Poland; then extending from this line southeastwardly, there was another line running to Struthers and Lowellville. Running East and North from Youngstown, there is an eight and six inch pipe line for the purpose of supplying Hubbard, and northwest from Youngstown to Girard there is a six inch pipe line for the purpose of supplying that city.

1267 You will note that there are various cross overs for the purpose of connecting all these lines and making them interchangeable and various branches running from the main lines, for the purpose of supplying municipalities beginning in Tuscarawas County and supplying Uhrichsville, Dennison, New Philadelphia and what was known at that time as Canal Dover, known now as Dover.

Q. Did you give the date of construction of the lines from the Gross Farm in Stark County across to Youngstown? If you have that date in mind, please give it.

A. The first fourteen and twelve inch lines were laid in the years 1908 and 1909—that is, they happened to lap over. That applies also to the Youngstown twelve inch from Austintown Junction to Youngstown. The branch running to Alliance was constructed for the purpose of supplying the Alliance Gas & Power Company with gas under contract, that Company doing the distributing. The connection for this Alliance branch is near the County line between Mahoning and Stark Counties. That was made in 1908. That is one and six-tenths miles only in length. The branch line running to Warren was also laid in 1908, connected with the Youngstown line at Austintown Junction, and that is approximately nine miles

1268 in length. Then there was a line laid from that Warren line east to Niles, two and 84/100ths miles. There was another line—the last line laid to Youngstown, being the sixteen inch line—was constructed during the years 1914 and '15. There is no memoranda here, but I remember the dates.

Q. That is, from the Gross Farm in Stark County?

A. Yes, sir, to Austintown Junction.

Q. Do you recall the distance from the Gross Farm in Stark County to Youngstown in Mahoning County?

A. The distance from Gross Farm to Austintown Junction is thirty-seven and a half miles and from Austin town Junction to Youngstown——

Q. Approximately?

A. About three miles.

Q. Now state briefly the division running down from the McKee Farm in Summit County through Wayne, Holmes, Ashland and Knox Counties.

A. That is known as the Mohican Division, and the distance from McKee Station to the most southerly point is approximately 54 miles. Branching from this main line is a line of pipe consisting of four inch, three inch and two inch pipe, for the supply of
269 three small villages, Danville, Buckeye City and Brinkhaven. Those three towns are located in Knox County. The village of Loudenville, located in Ashland County, the city of Wooster in Wayne County, the village of Orrville, in Wayne County, Doylestown, Wadsworth in Medina County, Barberton and a portion of Akron in Summit County, were all supplied by that line. Running south and east into Holmes County from a point near the village of Shreve, Ohio, gas is supplied through that line to Shreve and also to Millersburg, both in Holmes County.

Q. What is the date of the construction of that line?

A. That line was acquired by purchase in December, 1912. It was constructed, I think, about three years prior to that time.

Q. Do the figures on this exhibit along these various lines indicate the diameter or dimension of the pipe?

A. Yes, sir, they are plainly marked there and as the lines are numbered the different sizes of the pipe are also given.

Q. That is, to illustrate, in Belmont County you have 1-10. That would be the first line laid northward from the Ohio River and it is a ten-inch pipe?

A. Yes, sir.

270 Q. And No. 2-18 would be the 2nd line laid and is 18 inches in diameter, etc.?

A. Yes, that is correct.

Q. What is the distance, if you know, Mr. Daly, from the southerly terminus of these lines at the Ohio River in Belmont and Monroe Counties to their northerly termini at or near Cleveland in Cuyahoga County?

A. You will note there is a little difference in the routes taken by these pipe lines. No. 1 is the longest, approximately 134 miles in length. No. 2 pipe line is, to reach the city limits, 121 miles and No. 3 pipe line, 127 miles. You will note that No. 5 is not quite as long. It is used as a loop line. It is practically a hundred miles in length. It is used for storage purposes. You can transport through one pipe line for a short distance as much as you can transport through two for a long distance. This pipe line was built for the purpose of increasing the supply in the northerly part of the state.

Q. Now, where does the gas from these pipe lines enter into the distributive system in Cleveland?

A. All the gas passes through a large measuring station just outside of the city limits.

Q. Is there any spot on the map that you can designate?

1271 A. All gas passes through two measuring stations—all this gas that comes up through these lines—the Bedford and Richardson stations, indicated by a yellow circle, just about three or four miles south of Cleveland.

Q. From there it goes into the distributive lines supplying the city of Cleveland?

A. Yes, and the suburbs of Cleveland—East Cleveland, Lakewood and other communities.

Q. Your exhibit doesn't show a pipe line connection between the Richardson and Bedford Stations and the red dot in a circle, indicating the city of Cleveland?

A. That is probably due to the fact that the Cuyahoga River comes down through there, and the canal, and those lines have probably been cut off at that point. Richardson Station is almost on the bank and Bedford Station just south of the river. Two of the large lines from Richardson Station run west and cross the river and supply the west side of Cleveland. Two other lines—larger lines—lie north from the station on the Baltimore and Ohio Railroad, known as Willow Station, run along the Railroad and connecting with Fifty-fifth Street and running thence directly

1272 north and south clear across the city of Cleveland, a distance from the station of about ten miles. That includes the pipe in Fifty-fifth Street in the city of Cleveland.

Q. Did I understand you to say that down in Monroe County your lines Nos. 3, 4 and 5 extended under the river on to the West Virginia side?

A. No, sir, I didn't intend to say that. Our lines connect with what are known as headers, and on each side of the river those headers are placed and instead of having three pipe lines cross the river, we have ten or twelve of the smaller sized pipes, each with gates on, one on the West Virginia side and one on the Ohio side, the intention being to get as near the State line as possible. Of course, it is almost impossible to say just where the State line is between Ohio and West Virginia. It wouldn't be practicable to place the valves just on the State line, because they would be out in the navigable water and they could not be operated.

Q. Does the East Ohio Gas Company own those ten or twelve lines, as you have described them, that extend under the river?

A. I think there was some division of cost. We attempted to carry the gas to the State line. They own the valves on the

1273 east side of the river and we own the valves on the west side of the river. Just how the distribution of the construction of those lines across the river was made, I am not prepared to state. I think probably it was divided equally between the two companies.

Q. The company owning the gates on the east side of the river is the Hope Natural Gas Company?

A. Yes.

Q. Give the owners of the stock of the East Ohio Gas Company, Mr. Daly.

A. Over 99 per cent of the stock of the East Ohio Gas Company is owned by the Standard Oil Co. of New Jersey.

Q. What are the sources of your gas supply?

A. We purchase nearly all of our gas—approximately 80 per cent of it from the Hope Natural Gas Co.

Q. And the remaining 20 per cent?

A. We produce a certain amount and we purchase some. I can give you the exact amounts, if you would like to have them. I have them for the years 1915 to 1919 inclusive.

Q. That would be the amounts of gas purchased and produced?

1274 A. The amounts purchased and produced. We purchased in 1919, 32,349,750,000 feet from the Hope Natural Gas Company; we produced 8,201,376,000 feet and we purchased from independent producers in Ohio 2,918,367,000 feet.

Q. Run back through 1917 and give like amounts for those years.

A. In 1918, we purchased from the Hope, 36,069,354,000 feet; produced in Ohio 8,317,075,000 feet. Purchased in Ohio 4,290,-920,000 feet. In 1917, we purchased from the Hope 44,036,867,-000 feet; produced in Ohio 5,973,267,000 feet and purchased in Ohio 6,251,153,000 feet. In 1916, we purchased from the Hope, 45,027,900,000 feet; produced in Ohio 3,863,769,000 feet, and purchased in Ohio 15,191,300,000 feet. In 1915, we purchased from the Hope Natural Gas Company 20,177,377,000 feet; produced in Ohio 1,715,735,000 feet and purchased in Ohio 30,554,-987,000 feet. Our sales for those years were 1915, 52,448,000,000; 1916, 65,000,000,000; 1917, 56,000,000,000; 1918, 48,000,000,-000; 1919, 43,000,000,000. The cause of the low purchase in 1915 from the Hope Natural Gas Company and the large amount purchased in Ohio was due to the development of what was

1275 known as the Lakewood Field, within the city of Lakewood, a suburb of Cleveland. It was necessary for us to purchase this gas, and consequently we had to arrange and did arrange with the Hope Natural Gas Company to permit us to purchase that gas during that year and sell it for industrial uses. That brought our very large sales up in 1916 to 64,000,000,000 feet.

Q. Mr. Daly, this so-called Lakewood Field has been referred to several times during the hearing here. I wish you would briefly state its origin and development and present status.

A. The Lakewood Field was accidentally discovered by the Winton Motor Company in drilling an experimental well for the purpose of getting shale gas for light work about the factory. Not getting that gas, they went on to a lower level and discovered this field. Many wells had been drilled in Cuyahoga County prior to that time. The East Ohio Gas Company had drilled a number of them but they were failures. This resulted in the development of the Lakewood field, which was confined almost entirely to the

city limits of Lakewood, and so it became a town lot development.

1276 There were approximately nine hundred wells drilled in that field and the output in the year 1915 was over 28,000,000,000 feet. The decline was so rapid that in 1918 it produced less than one-fortieth of that amount, or a little over 650,000,000 feet. If you will divide that by twelve and again by thirty or divide it by 360, you will see they were getting about 2,000,000 feet a day out of the entire field, where we were getting over 80,000,000. That field, with the exception of one or two wells that are just hanging on, getting 40,000 feet a day, where they happened to drill some distance away from other wells and getting dry holes between, is entirely exhausted.

Q. When was the East Ohio Gas Company incorporated and when did it begin business?

A. Incorporated under the laws of Ohio September 8th, 1898, with a capital stock of $1,000,000. It was formed for the purpose of supplying natural gas to Canton, Akron, and other Ohio towns between Akron and the Ohio River.

Q. And up until the construction of the five main lines which you have described as running northward from the lines of the Hope Natural Gas Company, did it confine itself to the procuring and development of gas territory within the state of Ohio?

1277 A. No, it had no territory in the state of Ohio. The East Ohio Gas Company had no territory in the State of Ohio until after 1903.

Q. Prior to 1903, where did it procure its gas?

A. Purchased it under contract from the Hope Natural Gas Company. That contract was entered into prior to the construction of the No. 1 ten inch line running from Pipe Creek to Akron.

Q. Then since the inception of the East Ohio Gas Company in 1898, it has been procuring gas delivered to it from West Virginia by the Hope Natural Gas Company?

A. Yes, sir, it didn't start any development for itself until 1906 or 1907. At that time, it acquired about 80,000 acres of leaseholds in Cuyahoga, Monroe, Medina and Ashland Counties. It drilled one well in Cuyahoga County, three in Ashland, two in Lorain—we drilled a total in those two years of nine wells and all were dry holes.

Q. State briefly what has been the activity of the East Ohio Gas Company in obtaining and developing Ohio Territory up until the present time.

A. The Company has been very diligent in pursuing and prospecting with a view of keeping up its gas supply. The growth of

1278 the cities was so much beyond the expectation of those who agreed to and became obligated to furnish gas that we found it necessary to get gas from every source possible. We leased territory in Hocking, Medina, Wayne, Cuyahoga and Lake Counties and they were all tried. We drilled in those counties 251 producing wells.

Q. That is, at the present time?

A. At the present time. We drilled 71 wells last year and 54 of the 71 were productive. 17 were dry. They were drilled at a cost of $582,000.00. Notwithstanding that addition to our production, there was a decline in the volume of gas of something over five per cent. Our gas fields don't decline as rapidly as they would if we were obliged to use them all the time. We keep those gas fields for the peak load, in an effort to give the people adequate service. Of course, during the winter of 1920, which was an unusually severe winter, as compared with 1919,—we had a very mild winter in 1919—it was necessary for us to keep those wells working nearly all the time and then we were unable to give service.

Q. What acreage have you in Ohio now under lease?

A. We have approximately 316,000 acres.

Q. What portion of that is operated?

A. About 16,000 acres.

1279 Q. What do you say as to the remainder of it being possible production and what part of it do you regard wildcat, if any?

A. Well, it is all speculative. The Clinton Rock is a very uncertain quantity. In Cuyahoga County we have drilled a number of dry holes and we have obtained some fairly good producing wells. The sand, however, is not very thick, and the life of a well is very short. The belt seems to be very narrow and crooked. It is very difficult to follow it. We are just now in a pocket where we are unable to get out in any way and so we have concluded we are at the end of our string. In Wayne County we drilled a well to a depth of 3,600 feet and were fortunate in striking a very fine gas well, and congratulated ourselves that we had secured a field that we could use for the peak load period to tide over, but we drilled eight wells around it and have not secured another producer. That illustrates the hazard of the business in drilling for gas in Ohio; but we are obliged to take those chances, and we think if we can get our money back on gas produced in Ohio that we have profited by it, because we gain enough to tide over and carry our customers,—a large number of customers—that we otherwise could not care for at all. So practically 300,000 acres—there may be some gas territory on it—some of it looks as though it might be good, but of course we think there is a chance in some part

1280 of it. All gas companies in Ohio are taking the same chances we are.

Q. Would you say as to whether or not the remaining leasehold acreage that you carry is what might be termed wild at?

A. Well, I would term it wildcat. I wouldn't want to condemn it; I think we have a chance of getting some gas on some portions of it or of course we wouldn't attempt to operate it.

Q. You are perfectly willing, because of the gas shortage, of taking your chance or feeling your way into it?

A. Yes, sir; that is what we must do if we are going to develop gas fields and it is not a question so much of developing gas fields in Ohio as it is getting a little gas production here and there—small pools. They all help.

Q. You obtain your gas that you do obtain from the Hope Natural Gas Company across the Ohio River under or by virtue of a written contract?

A. Yes, sir.

Mr. Eagleson: I believe that contract is already in evidence in this case and is Pennsylvania Exhibit No. 19, to which we here make reference.

Q. Have you any information at hand to show the decline in any of your Ohio gas production or fields?

A. I think I do not have; I know from our reports, however, that our decline last year was about as I have stated—
1281 five per cent. That was due to the new drilling; the fresh wells kept up the average. Of course the old field declined. Just what that decline would have been had we not included the new production I am not in position to state.

Q. What do you say as to the recognized or known gas bearing sands or strata in Ohio having been either developed or in process of development by either your company or other companies operating in Ohio?

A. There is no question but all known gas belts, or even those that are under suspicion, are being tested pretty thoroughly all the time. There are several gas companies operating in Ohio. All are very active in the different fields, each seeking to get its full share, and all are operating at the present time as many strings of tools as it is possible for them to engage workmen for and secure the necessary material.

Q. Does your company maintain a department for the purpose of taking up acreage and following up promptly any leads or new discoveries of gas?

A. Yes, we maintain quite a large organization for that purpose,—engineers, leasehold men, geologists and the general run of experts that go in connection with that department. We also have seven-
teen strings of tools at the present time in operation and we
1282 have had as high as twenty-two. That, considering the acreage we have, is a large number.

Q. What is the total number of your consumers in Ohio?

A. I have the totals here by towns. The total number of consumers, as is shown here, on December 31st, 1919, was 328,954. That, however, does not include 19,000 meters that were not read during December for various reasons. We do not render bills for any meter that registers less than 1000, so that takes up a number. In December I think it was 10,000 of those; then a great many people were away from home in December, so we are subject to call on about 348,000 people.

Q. Can you give us a list of at least the principal munici-
1283 palities and cities that you supply gas to?

A. Yes, sir; I think I have that here:

owns served as of December 31, 1919.	Number of consumers.
Cleveland	208,294
Akron	32,655
Kenmore	1,866
Cuyahoga Falls	1,890
Canton	18,685
North Canton	370
Massillon	4,915
Dover	1,971
New Philadelphia	2,704
Uhrichsville and Dennison	2,861
Kent	1,623
Ravenna	1,872
Youngstown	25,687
Warren	5,925
Niles	2,381
Girard	1,268
Hubbard	596
Struthers	1,302
Lowellville	297
East Palestine	1,363
Poland	171
New Middletown	65
Petersburg	94
Wooster	2,540
Orrville	1,114
Shreve	373
Loudonville	3,643
Barberton	3,272
Wadsworth	1,101
Doylestown	270
Millersburg	351
Danville	194
Buckeye City	116
Gann (Brinkhaven)	125

Q. Now those towns are scattered over your system from
284 Southeastern Ohio in Monroe County to Cleveland on Lake Erie, and from Danville in Knox County to Millersville in Monroe County, are they, Mr. Daly?

A. Yes, and extend further down through the Southeastern corner of Monroe County to East Palestine and North in Trumbull County to the City of Warren; East to the City of Urbana in Portage County also. The beginning, however, of the distribution does not take place until after the lines enter Tuscarora County, Uhrichsville and Dennison being the furthest South.

Q. In that list do you have the cities of Cleveland, Canton, Akron, indirectly Alliance, Youngstown and Warren?

A. Yes, all of those.

Q. Massillon?

A. Yes.

Q. Can you give us accurately, or if not, an estimate of the number of people dependent upon your company for natural gas supply?

A. The population of the cities and towns supplied by the east Ohio Gas Company, under franchise, and not including Al-
1285 liance that we supply indirectly, is in excess of sixteen hundred thousand.

Q. Do you supply gas to subdivisions of the state, such as municipalities, counties, school boards, and so forth?

A. Yes, sir.

Q. Can you give us approximately a list of your meter connections for subdivisions of the state, such as municipalities, counties, and school boards, as of December 31, 1919?

A. Yes.

Q. Please do so.

A. (Reading:)

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total.
Dennison,	..	..	..	..	1	2	3
Kent,	..	..	..	..	1	4	5
Ravenna,	..	..	..	4	2	5	11
Youngstown,	..	1	..	5	21	31	58
Girard,	..	..	..	..	2	5	7
Hubbard,	..	..	..	..	2	2	4
Struthers,	..	..	..	..	2	3	5
Lowellville,	..	..	..	..	1	..	1
East Palestine,	..	..	..	..	2	1	3
Poland,	..	..	..	..	1	..	1
New Middletown,	..	..	..	..	..	1	1
Petersburg,	..	..	..	..	..	1	1
Warren,	..	1	..	2	4	9	16
Niles,	..	..	..	..	4	3	7
Wooster,	..	1	5	3	6	6	21
Orrville,	..	..	..	..	1	3	4
Shreve,	..	..	..	..	2	1	3
Loudonville,	..	..	..	..	3	3	6

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total.
Barberton,	..	..	..	..	..	3	3
Wadsworth,	..	..	..	..	..	2	2
Doylestown,	..	..	..	..	1	2	3
Millersburg,	..	..	..	..	..	1	1
Danville,	..	..	..	..	..	1	1
Gann (Brinkhaven),	..	..	..	..	..	1	1
	2	9	10	23	290	441	775
Cleveland & Suburbs,	..	4	4	2	170	275	455
Akron,	..	1	1	3	31	28	64
Cuyahoga Falls,	..	..	..	..	3	1	4
Kenmore,	..	..	..	..	3	2	5
Canton,	..	..	..	2	11	17	30
North Canton,	..	..	..	..	..	1	1
Massillon,	..	1	..	..	7	10	18
Dover,	1	..	..	..	4	6	11
New Philadelphia,	1	..	..	2	3	9	15
Uhrichsville,	..	..	..	..	1	2	3

37	Total churches and parsonages entire system,.....	1,331
	" charitable institutions " "	202
		2,308

Q. Now, with the sources of gas supply such as you have described m the Hope Natural Gas Company and by purchase from producers Ohio, together with your own production, what has been your ex- rience with reference to being able to meet the demand made upon u for natural gas during the last two or three or four years?

A. During the winter of 1917, we experienced our first serious short- e, that is, of any length of time. During 1918, our supply was rly good, on account of the mild weather.

Q. That would be the winter of '18 and '19?

A. No, that would be the winter of '17 and '18. The winter of 8 and '19 was very cold, and we suffered a very serious shortage, d we were short in the City of Cleveland over 50,000,000 feet per y of our requirements. We have been obliged to discontinue all tensions. There are nearly 20,000 homes in Cleveland without any nd of gas, on account of inability to supply them. Last year we ere enabled to purchase from the Hope Natural Gas Company a nsiderable increased amount of gas, as they told us, by reason of e fact that Pittsburgh had been relieved through the McKeesport field. Unless there is some other McKeesport comes to the
288 rescue next winter, we will probably be 75,000,000 feet short of our demand.

Q. What is the fact, if a fact, and to what extent are many of our consumers, principally domestic consumers solely dependent pon natural gas for fuel?

Mr. Hoffheimer: Objected to, on the grounds stated to previous uestions of the same character.

The Commissioner: Note the objection.

A. I would be unable to answer that question. It would require ery careful survey, and I assume that nearly all people are dependent pon natural gas for cooking, water heating, lighting—those who se gas for lighting—but for heating they could probably, in a great majority of cases in Cleveland—I am not so familiar with ther places—use coal appliances for heating, if they should be so un- fortunate as to be deprived of gas. Of course, that would be at a great sacrifice and cost to the city and consumer and all concerned.

Q. Will you state, if you know, to what extent your consumers at the present time are equipped with appliances for fuel other than natural gas?

1289 A. I should say probably 30 or 40 per cent of them use gas in coal appliances. By taking out the gas appliances they could use coal. That has been resorted to, but the same consumers have a number of other appliances that they can't convert, such as the cookstove, gas grates and appliances for heating water.

Q. Then would there be approximately 60 or 70 per cent of your do-

mestic consumers that at the present time have appliances which are not convertible from gas to coal consumption for heating?

A. Yes, I would say that.

Q. What is your rule or custom during the extreme cold periods of the year, or at other times, with reference to confining your delivery of gas to and for domestic consumption.

A. We confine it strictly to domestic consumption, and we go further than that and we send out notices to those domestic consumers who use over 100,000 feet per month, that they must discontinue. That we found necessary during the past two or three years. Strictly speaking, we have no industrial, except during the summer months, unless it is some emergency case, where we have a request from the state or municipality to tide over. That occurred once at the State Hospital in Cleveland, and once at the State Hospital in Massillon. A large number of patients were dependent
1290 upon it there, and the coal had not arrived. Such cases as that, of course, are always taken care of, if it is possible at all to do it.

Q. Is it not a fact that the Public Utilities Commission of Ohio issues from year to year what it terms its administrative orders to the natural gas companies of Ohio, classifying the consumers and ordering that in case of any shortage that would render the companies unable to meet the needs of all classes of consumers, that they are to be shut off from all classes other than domestic, to the end that domestic consumers might have the first and prior right to gas?

A. Yes, the Commission has issued such an order.

Q. How frequently?

A. That order I think was issued in 1919, and also in 1918. I don't recall any having been issued prior to that time.

Q. To refresh your recollection, Mr. Daly, is it not a fact that in the cold winter of 1917, the Commission issued its administrative order, making it mandatory that all gas companies shut off all industrial and commercial use of natural gas, and give it exclusively to domestic consumers, and that they sent their inspectors to open branch offices at Cleveland and Cincinnati and elsewhere, to assist the company in enforcing that order?

1291 A. I understood you to say that this order applied to the large domestic user.

Q. No; I was dealing with domestics all as a class.

A. The order applying to industrials has been in existence I think five or six years, but there has been also an order of the same tenor, that applies to domestic consumers using over 100,000 cubic feet in a month.

Q. That is to say, when the amount of gas that the companies are able to deliver in the peak load period of the year, or in the cold period of the year, is inadequate to meet the demands of the most preferred class of consumers, the domestics, the Commission has issued an order, restricting the largest domestic consumers to a stipulated amount of 100,000 feet per month?

A. Yes.

Q. Can you give the class of consumers which the Commission has

ecognized, and which your company, pursuant to the Commis-ion's orders, recognizes and serves?

A. Do you mean the preferred consumer?

Q. All of them, and then we will get to that.

A. The Commission recognizes both domestic and industrial, ex-ept that the domestic must at all times be the preferred consumer.

Q. What is the fact, with reference to any contracts which
1292 your company may have in Ohio for service to industries containing a provision reserving to you the right to give prefer-ence to domestic consumers?

A. We reserve the right to discontinue the supply to industrial users of gas at any time without notice, if in our judgment it may be necessary for any cause, and especially when the supply is needed for domestic use.

Q. That is true notwithstanding the administrative orders of the Public Utilities Commission of Ohio in relation to that subject?

A. That was a condition of the contract prior to the administrative order.

Q. What is the fact, if you know, as to whether or not those consumers located nearest your source of supply had a better or more dependable pressure and service than the consumers farthest distant?

A. Naturally the consumer located nearest to the point of distribution between the high and low pressure will get a better supply than those farthest away. Each one taking out a little lessens the pressure to a certain extent. It may not be noticeable until you get a considerable distance away, but it is a very natural result that the nearer to the distributing point from the high to the low pressure, the greater the pressure to the consumer. It doesn't
1293 always follow that that is the best service, when he gets greater pressure. If you had adequate pressure to go all around, the man getting the lower pressure would be just as well served; but if you had a demand and took it out of the line to the extent that there is not enough gas left, naturally the man away the farthest distance doesn't get any service. We attempt to overcome that by using a belt line; you might describe it as a wagon-wheel—various distributing lines running towards the hub. That is the high pressure, and then radiating from that, to various regulators arranged around a circle, all feeding toward the center. It is not always a practicable thing to do, to get a plant of that kind in a city that is cut up by bridges and railroads and sand hills and all that; but wherever it is possible we do it.

Q. Can you give to the stenographer in concrete form the gas purchased by the East Ohio Gas Company, and produced and sold during the year 1919?

A. Yes, sir.

1294 The East Ohio Gas Company.

Gas Purchased, Produced and Sold During Year 1919.

Purchased	35,268,117	M Cubic Feet
Produced	8,201,776	" "
Sold	43,469,893	" "

Distribution of Gas Sold.

Domestic	41,818,767	M Cubic Feet
Industrial	323,299	" "
Churches, Schools & Public Buildings	696,941	" "
To other Gas Companies	630,886	" "
	43,469,893	" "

Q. Can you give the gas produced and purchased by the East Ohio Gas Company, during the years 1916, 1917, 1918 and 1919, in concrete figures, together with the total number of consumers, from 1915 to 1919, as of December 31st?

A. Yes.

1295 *Gas Produced and Purchased During* 1916, 1917, 1918, 1919.

1916.

45,788,609,000	Hope Natural Gas Company.
16,197,571,000	Cuyahoga County Field.
2,508,263,000	Wooster Field.
168,517,000	Other Wells.
64,662,960,000	Total.

1917.

43,290,476,000	Hope Natural Gas Company.
8,467,073,000	Cuyahoga County Field.
3,359,928,000	Wooster.
312,279,000	Other Wells.
55,429,756,000	Total.

1918.

36,620,243,000	Hope Natural Gas Company.
7,749,942,000	Cuyahoga County Field.
4,433,504,000	Wooster.
102,260,000	Uhrichsville District.
27,705,000	Mohican.
26,284,000	Cadiz Field.
4,980,000	Dover Field.
131,189,000	Other Wells.
49,096,107,000	Total.

1919.

32,841,102,000	Hope Natural Gas Company.
7,087,420,000	Cuyahoga County Field.
3,184,989,000	Wooster Field.
31,508,000	Uhrichsville District.
457,595,000	Mohican.
250,288,000	Cadiz Field.
116,009,000	Other Wells.
43,968,911,000	Total.

1917	shows	14.3%	decrease	in	gas	supply	over	1916.
1918	"	11.5%	"	"	"	"	"	1917.
1919	"	10.2%	"	"	"	"	"	1918.
1919	"	32.0%	"	"	"	"	"	1916.

Total Number of Consumers.

1915 (as of December 31st)	264,773
1916	289,944
1917	309,761
1918	309,028
1919	328,937
Plus 19,000 meters not read, equals	350,000

Q. Now, especially in times of shortage of supply, would those consumers nearest your wells or source of supply have e better service?

A. Yes, that would naturally follow. They would take the gas t first.

Q. Can you give us the mileage of your pipe line system?

A. We have in our transportation system approximately 860 miles. hat is the main line system, I am speaking of. That does not clude the gathering lines in the fields. In the towns and cities r the distributing systems, we have approximately 3,000 miles, aking a total of 3,800 miles. That does not include anything below o inches; that is carrying it from three inches up to twenty inches.

If we added the smaller pipe, it probably would increase that mileage 300 miles.

Q. Now, from your Ohio Exhibit No. 1, give the extent of your company's main lines and connecting lines that were designed, constructed and are being operated for the purpose of transporting and distributing gas obtained through the Hope Natural Gas Company from West Virginia.

Mr. Hoffheimer: Objected to, as calling for an opinion or conclusion of the witness, and as incompetent, irrelevant and immaterial.

1298 The Commissioner: Note the objection.

A. These pipe lines, with the exception of the Imperial line running from Youngstown to the southeasterly corner of Mahoning County, being an 8-inch pipe, and the pipe line running from Ashland County to Barberton, a 12-inch pipe line, were all constructed with a view of bringing gas from West Virginia and distributing and delivering it to the various municipalities. The line known as the Imperial line was formerly bringing gas from Pennsylvania. That is no longer available. The quantity was very small. A line from Loudonville to Barberton is transporting gas now from our producing fields. Otherwise, all the pipe lines were constructed with a view of transporting gas from the West Virginia fields.

Q. If you know, state when the pipe lines of the Hope Natural Gas Company were constructed over to the Ohio River and connected with your company's lines in Monroe and Belmont Counties.

A. The first pipe line designated as No. 1 10-inch pipe on the exhibit was connected with the Ohio River about October, 1899. Do you want the rest of the pipe lines as they were constructed?

Q. Yes, if you please.

1299 A. Pipe line No. 2, the 18-inch line, was connected about September, 1903. Pipe line No. 3, 18-inch, was connected about January, 1908. The first division of pipe line No. 4, 18-inch, was connected some time during the fall of 1915; I don't recall just the month. That is the first and second division of No. 4; that was laid in 1910 instead of 1915. That was completed in 1915, then No. 5 was connected at the Ohio River in 1912. No. 5 was a 20-inch pipe line. It was completed in 1913—the first and second division—that is when the connection took place at the Ohio River. And the third division was connected at the lower end, but was not completed for nearly five years after it was first started, but it was carrying gas part of the way.

Q. You may state whether or not it is a fact that when the East Ohio Gas Company would construct its lines 1, 2, 3, 4 and 5 from the river northwardly, as you have described, the Hope Natural Gas Company, on the West Virginia side of the river, would construct a line or lines from its system, perhaps Hastings Station, northwardly to the river, and connect with your lines, having with your company a unity of purpose of transporting West Virginia gas into Ohio for distribution to your consumers?

300 Mr. Hoffheimer: Objected to, first, as leading; second, as calling for an opinion and conclusion of the witness; third, ecause no proper foundation has been laid; and fourth, because is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer.

A. The investment in each instance was made after the East Ohio Company had received the assurance of the Hope Natural Gas Company that it had an adequate supply of gas and would lay additional ransportation lines of sufficient size to transport the quantity of gas lesired, up to the full capacity of the pipe lines that the East Ohio Company constructed.

Mr. Hoffheimer: I move to strike out the answer, on the grounds tated in the objection, also in so far as it relates to information from he Hope Natural Gas Company, as hearsay, and also because the nswer is not responsive to the question.

The Commissioner: Note the motion.

An adjournment was here taken until Friday, July 9, 1920, at 10 o'clock, a. m.

ORIGINAL, # 20 & #21.

October Term, 1920.

COMMONWEALTH OF PENNSYLVANIA

vs.

STATE OF WEST VIRGINIA.

STATE OF OHIO

vs.

STATE OF WEST VIRGINIA.

Proceedings of Friday, July 9, 1920.

1301 And now, Friday, July 9, 1920, the hour of 10 o'clock a. m., having arrived, hearing resumed pursuant to adjournment.

MARTIN B. DALY resumes the stand.

Direct examination (continued).

Mr. Eagleson:

Q. Mr. Daly, when we adjourned last evening, you were testifying as to the purpose of the investment made by your company in the plant, as evidenced by your exhibit here, and I now want to ask you if you have had any recent valuation made of your plant, property and facilities?

A. We had a thorough inventory made and a valuation placed on our properties, I think it was as of December 31, 1917. It has since that time been brought down to date, but it has not been reported yet. I have the valuation as of the date that the inventory was completed.

Q. And what was that valuation, please, as of that date?

A. In round numbers, $47,000,000, physical valuation. That did not include any good will, franchise value or government bonds, nothing but physical property. I want to say that valuation was not based on the increased value of material at that time. It was

1302 based on the pre-war prices—practically 1914 prices.

Q. What is your present capital stock outstanding?

A. $38,000,000; that is in round numbers. There are a few thousand dollars in excess of that, but I don't recall them.

Q. To the value as of December 31, 1917, state whether or not here has since that time been additions and betterments made to the plant value.

A. There have been a number of field additions in the way of field lines and betterments of that kind, but I am not prepared to tell you the amount.

Q. That would include line extensions, new wells and natural demands for maintaining the business?

A. Yes, new wells, however, are not charged to investment, except the material in the well. The drilling of the well is not charged to investment.

Q. That would be charged to what?

A. Expenses—operating expenses.

Q. Calling your attention to the pump stations or compressing stations on your system, Mr. Daly, what number are there?

A. We have only two.

Q. And what are their locations?

A. There is one located near the town of Shreve, in Wayne
1303 County, known as the Shreve station, and there is another in Cuyahoga County, known as the Berea station.

Q. Take the station in Wayne County, known as the Shreve station, designated on your Ohio Exhibit No. 1, and tell us when it was constructed, its cost of construction and its function?

A. It was completed last year. It is not a large station; it cost approximately $125,000 for the station alone. Its function is to gather gas from the low pressure territory in Wayne County in the vicinity of Shreve.

Q. What horse power is that station at Shreve, if you know?

A. I don't know.

Q. And the gas taken in at the Shreve station is delivered into your main lines where?

A. It is delivered into the main line that extends from Loudonville to Akron, described as a 12-inch line, running through from the southwestern corner of Wayne County to Summit County, and to the city limits of Akron.

Q. Now, give us a like description of the other station you mentioned, known as Berea Station, up in Cuyahoga County.

A. That station was constructed for the purpose of gathering gas from what is known as the Cuyahoga Field, and I believe one or two wells over in the easterly portion of Marion County. On account of the competition there between three or four gas companies
1304 operating that field, the pressure has been reduced very much and it became necessary for all the companies to install stations, for the purpose of getting the gas out; that is, the rock pressure was not sufficiently high to force the gas into the main lines against the pressure we were obliged to carry, in order to give a delivery of gas to Cleveland from that field.

Q. When was this last mentioned station completed?

A. It has been in operation about two years.

Q. Are the competitive conditions for the procurement of gas leases and gas in Ohio intense or otherwise?

A. Well, to describe it mildly, our competitors are very active. I wouldn't say that we are, but we are doing the best we can to keep our portion of it, but there are four companies that are very active in that Ohio field—the Medina Company, the Ohio Cities Company, the Ohio Fuel Supply Company and the Logan Natural Gas Company, and the East Ohio, making five in all.

Q. I call your attention to a legend on this Ohio Exhibit No. 1, down in Harrison County, marked "Cadiz Station." Is that a station or not?

A. That is a station that is now under construction; it is not in operation yet.

Q. And what is the purpose and function of that station?

1305 A. There is a small field in Harrison County. We purchase gas from some of the wells in that vicinity, and we have drilled some wells, but they are very small and low rock pressure, and it is necessary to have a compressing station there, in order to boost the gas high enough to put it into the main lines.

Q. What will be the cost of that station?

A. That station will cost approximately $150,000.

Q. I wish you would state briefly the advantages, if any, of natural gas for domestic or other purposes, as compared with coal or other fuels?

A. The principal advantage, of course, is its low cost, as compared with other gaseous fuel, its convenience, its cleanliness, and its advantage, when an adequate supply can be given, to the health of the community, by the ability to keep an even temperature at all times. It is a commodity that might be described as a luxury within the reach of the poor as well as the rich, and has probably contributed more to the comfort of the laboring classes and people of medium resources than any other fuel. It has saved a great deal of drudgery in that way, and has contributed to the comfort of the people. It has also been a great contributory in the way of taxation to the communities. Not only in that way has it saved the community, but in the saving to cities of a large amount of

1306 money in the gathering and disposing of ash content. In the City of Cleveland alone, in the year 1917, the East Ohio Gas Company displaced approximately thirteen hundred thousand tons of coal. The ash content of that coal would be approximately eight per cent, which would be about 185,000 tons of ash. There is about 1¾ cubic yards in that, and the cost of handling a cubic yard of ashes under present conditions is $1.25, about, so it means a saving to that community of approximately $130,000 a year. It would require approximately 16,000 coal cars of 80 tons each to transport that coal to Cleveland. It would require nearly 500,000 truck loads over the paving to deliver the coal to the consumer, so that the indirect benefit to the municipalities is very great. Then we have charitable institutions and hospitals, where it is almost a necessity. They find it very difficult to get along without some fuel of that kind, and in the smaller communities, the cutting off of natural gas would mean that they would be deprived of all gaseous fuel, for the reason that they are not large enough to maintain

an artificial gas plant. Even though the company could furnish gas, the cost would be very excessive in comparison with natural gas, and it would be unthinkable to tax the people to the extent necessary to use artificial gas for heating purposes, although
1307 they might afford the luxury of it for cooking and water heating.

Q. What about the element of the smoke that would be incidental to the consumption of coal, as against gas, in a city like Cleveland, for instance,—that is, as to inconvenience and damage?

A. Well, that is an item that is so broad in its nature and so complicated it would be very hard to estimate, because you have got to go into the painting of houses and decorations—interior decorations,—and you have to consider the dirt and dust occasioned by the use of coal, which would run into the millions of dollars.

Q. That would augment the inconvenience, if not the peril, of domestic help?

A. I don't know much about that feature of it, but it is impossible to hire domestics now in houses that have no natural gas. We have approximately fifteen or eighteen thousand homes altogether in Cleveland that have no gas, and that is one of the complaints they have to make, that it is impossible for them to keep help. It would also discourage the building of new homes in the territory where there is no gas at the present time.

Q. There would be, would there not, some difference between living in the manner you have described in Pittsburgh, for instance, in the days of Pittsburgh's exclusive use of coal, and
1308 in Cleveland in her best natural gas days?

A. Well, having lived in Pittsburgh before they had natural gas, I believe that might be compared to Rip Van Winkle going to sleep and then waking up in Heaven.

Q. Mr. Daly, if, under the provisions of the statute in question in this proceeding, the Hope Natural Gas Company were compelled to divert to new or other persons, firms or corporations in West Virginia, than it now serves, a material amount of gas which it has been and is now furnishing to your company for distribution, what would be the effect thereof on the operation of your company, and especially in the cold day periods of the year?

Mr. Steptoe: The question is objected to as calling for an opinion or conclusion of the witness touching matters in futuro, as calling for an answer purely speculative, and involving various elements which cannot be embraced fairly in one answer; and as otherwise irrelevant, immaterial and improper; and in addition, the question is objectionable, as calling for the construction of the statute on the part of the witness not justified by the statute, and as being predicated upon a construction of the statute not authorized by its
1309 language.

By the Commissioner: Note the objection and let the witness answer.

A. Any act on the West Virginia authorities that would decrease our present supply would naturally affect the domestic user of gas,

inasmuch as we are now facing a shortage of 75,000,000 feet per day, so that any additional amount that might be taken away from the Hope Natural Gas Company would affect our supply to that extent. It is our only source of supply, outside of a small production in Ohio, which we have been unable to increase, notwithstanding active operations and diligent work on the part of the company all the time, seeking an adequate supply there.

Mr. Eagleson:

Q. As I understand your testimony yesterday, your supply consists of the amount of Ohio gas, which you purchase, and the amount of Ohio gas which you produce, and in addition to that, your only other source of supply is the Hope Natural Gas Company?

A. That is correct.

Q. And that even under those conditions and obtaining
1310 the gas from the Hope Natural Gas Company, pursuant to your contract with its prior rights for domestic purposes, as you have been receiving it, you have, during the winters past, been confronted with serious gas shortages, even for domestic consumption?

A. Yes, sir, we have had very serious shortages—so serious that for a number of days and in one instance extending over a period of nearly three weeks, there were many people who could not obtain sufficient gas to cook their meals with.

Q. Under those circumstances then, if the authorities in West Virginia, pursuant to the Act in question here, were to divert to persons, firms or corporations in West Virginia for the service of the public, or any part of the public, for all purposes, in the State of West Virginia, a substantial amount of the gas that otherwise would come through the Hope Natural Gas Company's lines to your company, what effect, if any, would that have with reference to the disorganizing and breaking down or destroying the operation of your company?

Mr. Steptoe: Objected to, for the same reasons assigned in the last objection.

The Commissioner: Enter the objection and let the witness
1311 answer.

A. The result of such an action, in so far as we are able to anticipate it, would be the wreckage—practical financial wreckage of the company. It would result in depriving many of the communities of gas service of any kind. It would leave our transportation system without any reason or any practical use to which it could be applied. That alone would involve a loss of approximately $20,000,000, less whatever salvage might be obtained from it. As our main lines are very large—18 to 20 inches in diameter——

Q. Confine yourself to the question for the moment, please, with regard to the extent of the wreckage on your company's service, and the effect on your consumers.

Mr. Steptoe: Objected to for the same reasons as given before.
The Commissioner: Note the objection.

A. The effect on our gas consumers would be that they would be liged to discontinue natural gas altogether. That must be the imate result.

12 Mr. Eagleson:

Q. Now, you spoke of the result of such an act on the part of the thorities of West Virginia upon your physical property values. ou may state more in detail, if you desire, what that result would .

Mr. Blue: The State of West Virginia objects to this question, for asons already assigned in the objections previously noted.
The Commissioner: Note the objection.

A. Financially the company must use its investment in its transortation system, for the reason that those pipe lines are constructed r the purpose of carrying very large quantities of gas, and if that uantity is not available, the system becomes useless. The pipes are ery large and are not in demand for any other purpose, nor can ney be used for any other purpose. We have but one pipe line that ight be taken up and realize any profit over the cost of taking it up.
Q. What line would that be?
A. That would be the No. 1 line. 10 and 12 inch pipe. The 18 nd 20 inch pipe would not be marketable.
Q. That would mean that the main transportation lines of
313 your company from the Ohio River, in Monroe and Belmont Counties, northward to the lake, would be rendered to what xtent useless?
A. I should say the entire investment would be lost.
Q. I believe you stated yesterday that with the exception of the istributing company in Mahoning County, which I will term the 'oungstown District, and the distributing system down in Knox 'ounty, Ohio, practically your entire system was designed, conructed and is being maintained for the purpose of receiving and istributing natural gas received from the Hope Natural Gas Comany, to Ohio consumers?

Mr. Steptoe: Objected to, for the reasons assigned to similar quesions on prior examination.
The Commissioner: Note the objection and take the answer.

A. Yes, sir, that is correct.

Mr. Eagleson:

Q. Under what arrangement or form of contract does your com-any deliver gas to the various municipalities in Ohio, to which you have referred?

1314 A. The contracts with the municipalities?

Q. Yes; what contractual relationship, if any, with the various municipalities have you, under which you supply to the consumers therein natural gas? I might state that an ordinance is a contract, within the meaning of the question.

A. We are under contractual relations with all the municipalities for certain periods of years, to sell gas at prices fixed in the ordinances. The number of years is generally fixed by the Council and not exceeding ten.

Q. The council in Ohio passes an ordinance under Section 3982 of our General Code, and the company accepts it, if it does accept it under Section 3983, which constitutes, as the statute states, a contract. Is that the fact?

A. I assume that the numbers are correct. That is the fact as to making a contract.

Q. And generally speaking, have you many of those contracts so made, that are now in force and effect, and will be for a number of years?

A. We have a large number; some of them will expire within the next year or two, but we are not so certain but we would be obliged to enter into a contract whether we desire to or not. It is probably a matter for the Public Utilities Commission to decide—and
1315 the courts. At any rate, we are desirous of keeping up the service as long as possible, so long as an adequate supply of natural gas is obtainable.

Mr. Steptoe: Counsel for West Virginia object to the foregoing question and answer, and moves to strike out the same, in so far as they undertake to limit the power and authority of the State of West Virginia under the statute in question, by contracts of the character referred to.

The Commissioner: Note the objection and motion, and let the examination proceed.

Cross-examination.

Mr. Steptoe:

Q. On what date was your line No. 1 completed to the Ohio River at Round Bottom?

A. It was started at the Ohio River some time in 1898. That was before my connection with the company. It was laid as far north as the City of Akron during that year.

Q. On what date did your company commence the service of natural gas in the town or city of Akron?

A. That was the latter part of May, 1898. I haven't the
1316 date.

Q. Prior to that date was Akron served with natural gas and to what extent?

A. No, sir, it was not.

Q. Not at all?

A. No. I would like to state that I am familiar with that, because

I went to Akron and made a survey of the town as an engineer of the company.

Q. What fuel was theretofore used in Akron?

A. Coal, I think, altogether—coal and wood.

Q. Was there any artificial gas used?

A. Yes, sir.

Q. Was there an artificial gas plant and equipment for service of artificial gas to the people of the city?

A. Yes.

Q. What became of that artificial gas plant?

A. That is owned by the Akron Gas Company, and later on was leased to the Mohican Oil & Gas Company at an annual rental, and natural gas was substituted in the Akron Gas plant for artificial gas. Later the Mohican Gas Company was purchased by the East Ohio Gas Company, and the East Ohio assumed the lease of the Akron Gas Company.

Q. Do I understand that the natural gas service by your company to the City of Akron is at present through the plant or distributing system of the old artificial gas plant?

1317 A. Not altogether. Their plant would probably take care of about one-sixth of the number of consumers. Akron, since that time, has extended, and all the extensions that were made were made by the East Ohio Gas Company.

Q. In other words, the extensions to fit the city's growth have been made by your company?

A. In addition to the plant that was installed by the East Ohio Company at the time the artificial gas company was in operation.

Q. What was this Mohican Company which your company acquired? Was it a producer of natural gas?

A. It was a producer, transporter and distributor of natural gas.

Q. From what field?

A. From the field known as Knox and Wayne County fields, from which gas is still being produced, that field having been extended and developed by the East Ohio Company after the purchase of the Mohican Company, which was not in a position to give an adequate supply, on account of not having found the gas that we afterwards discovered.

Q. So it is a fact that the Mohican Company entered Akron and leased the artificial plant after your company had entered the town for the service of natural gas?

A. That is true.

1318 Q. And subsequently your company took over the Mohican Company, together with the artificial plant then leased to the latter company?

A. Yes, we assumed the lease.

Q. Prior to the introduction of natural gas into Akron, were the houses of the residents there equipped for the use of this artificial gas?

A. I assumed they were, to the extent that artificial gas could be used for domestic purposes, such as cooking and lighting. That applied, of course, to a limited number; not to the entire popula-

tion, because the average household did not use gas in that period to any great extent. Probably 50 per cent would be a fair estimate. Many of them used it for lighting only.

Q. That is, 50 per cent of the then population?

A. Yes, of the then population.

Q. Is it feasible or practicable to use that portion of the equipment which supplied artificial gas in connection with the later service of natural gas?

A. Yes.

Q. That is, the same old equipment of the houses were used to the extent that the houses were furnished?

A. The same equipment, with the same amount of gas, would be sufficient. It was necessary, in order to give the in-
1319 creased amount of gas to increase the service pipes, the size from the main to the house. It was also necessary to change the form of cookstoves. Under ordinances that existed at that time, and have not been changed, it was necessary to use natural gas in closed-top ranges and artificial gas was used in open-top ranges, so that in each instance where there was a conversion made from artificial to natural gas, those changes had to be made. To that extent, the artificial appliances were used. It was also necessary to change the lighting fixtures from an open flame to an incandescent flame. At that time the open flame with a bat-wing burner was used for artificial gas. Each artificial gas contract required a certain candle power. That has all been changed now, and the recognized heat unit is the value in gas, and they are using almost exclusively the heat unit in making contracts and the incandescent burner is being used, instead of the open flame.

Q. Those were the necessary changes from artificial gas service to natural gas service?

A. Yes, sir, and the installation into the system of regulators for the reduction of pressures from the high to the low pressure, which was not necessary in the manufactured gas, because they started with a low pressure and the quantity being much
1320 less, they had no difficulty in distributing the gas.

Q. When did your company first start with the service of the City of Canton?

A. In the same year, 1898.

Q. Was that city theretofore served with natural gas?

A. No, there was no natural gas there that I have any record of.

Q. Did you find somewhat similar conditions at Canton, with reference to artificial gas?

A. Yes, sir.

Q. Was the artificial gas plant there acquired by your company and used?

A. No, sir.

Q. No portion of it?

A. We purchased some of the pipes later on out of their main lines; that was long after they had abandoned the plant. The same company that operated the artificial plant engaged in the electric business, and naturally being in competition with them-

lves, the lighting business grew less, while the electric business creased, and to that extent the artificial gas plant was retired th that business, as it is in nearly all communities where electric plants are installed.

321 Q. Its mains and distributing system were acquired and used to some extent by your company?

A. To a very small extent. We had a very small plant there. 'e used their plant to the extent of about $20,000, as I recall it ow.

Q. Both Canton and Akron have electric light plants?

A. Yes.

Q. Is the electricity used to any considerable extent for the light- g of houses?

A. Well, I assume it is. I have no personal knowledge of that.

Q. Did your company acquire the franchises of the old artificial as company, in either Akron or Canton?

A. Well, as lessee, we operated under their—that is, we have hatever rights they have in the streets, or had. We place no alue on them, however.

Q. When did your pipe lines first reach the City of Cleveland nd gas service to that city commence?

A. That service began in January, 1903, as I fix the date now, was January 1, 1903, that gas was turned on in the City of leveland. Its distribution and use began in a very few days after nat.

Q. Was there any service of natural gas to Cleveland prior to that time?

322 A. There was no service.

Q. With reference to each of the three cities we have een speaking of, Canton, Akron and Cleveland, you did not, of ourse, in any instance, start out with a service of the entire com- nunity; it was a matter of gradual extension, was it not?

A. Well, I think the towns were pretty thoroughly piped—that , Akron and Canton. Of course, Cleveland was a kind of gradual evelopment as the supply of gas increased and the available sup- ly increased, and we continued to extend our plant.

Q. You say Canton and Akron are pretty well piped. What iping do you refer to—artificial gas piping?

A. No, I refer to the natural. I think they were both thoroughly iped at the time the company entered there. They attempted to ake care of the greater portion of the town.

Q. Did your company acquire from any other utilities in Cleve- and artificial gas plants or systems of distribution?

A. In the year 1909, there was a merger of the East Ohio, the leveland Gas, Light & Coal Company, and the Peoples Gas, Light. hat was merged into the Consolidated East Ohio Gas Company. The Columbia Gas Company and its interests owned the

323 Cleveland interests. Their names are now being used by the East Ohio Gas Company largely for the distribution of atural gas.

Q. Was that merger in the year 1909?

A. July 1, 1909.

Q. What Columbia Company do you refer to?

A. The Columbia Company is a holding company.

Q. It is the Columbia Gas & Electric Company, of Cincinnati, that you refer to?

A. Yes.

Q. One of the companies that some testimony has been given about in this case, as the holding company of the United Fuel Gas Company and others?

A. I am not familiar with the testimony. It has, however, no interest in the East Ohio Natural Gas Company now.

Q. What was the business of those companies taken over in that merger?

A. They were selling artificial gas.

Q. Confined to the City of Cleveland?

A. Yes, and its suburbs.

Q. I suppose you acquired that with the territory, franchises, and consumers of those companies?

A. They had no territory, as we understand territory.

Q. I meant, service territory, Mr. Daly?

1324 A. Yes, sir.

Q. Did that result in the extension of your service to any extent?

A. Yes, sir; that resulted in our using the mains of the artificial gas company for extending our service. That was made possible by our being able to purchase from the Hope Natural Gas Company an additional supply of gas and lay some new pipe line and we gave a service to the people of natural gas where they had formerly used artificial.

Q. Could you approximate the number of additional consumers reached and supplied with natural gas in that manner?

A. I could not. Those conversions took place from year to year. People in the artificial gas district, especially after the merger of the companies, insisted that they should have the right to use natural gas, and they were very persistent in it, so that we were obliged to change over, and having a good supply of gas, we were glad to change over to those mains—to convert those mains to the transportation of natural gas. That took place from year to year, and the town kept growing and so I would be unable to state, without careful computation, and I don't think I could do that, and arrive at even an approximate estimate. I believe that the artificial gas had at the time some ten or twelve thousand connections only.

1325 Q. You made that increase by an additional contract with the Hope Natural Gas Company for an additional supply of gas, do I understand?

A. The Hope Natural Gas Company supplied the gas, and of course we had their assurance that they had the gas, and we had a contract with the Hope Natural Gas Company prior to that time to supply all of the gas required for the domestic needs of the customers of the East Ohio Gas Company.

Q. Additional lines were laid both by your company and by the Hope Natural Gas Company to take care of that increase?
A. Yes, sir.
Q. Those would be lines Nos. 4 and 5 on your map, Ohio Exhibit 1?
A. Well, No. 5 was not laid until 1915. We had at the time Nos. 1, 2, 3 and 4. No. 4 was completed in 1912; it was started in 1910. The population of the city increased in the meantime very materially.
Q. As a matter of fact, the increase of Cleveland's population has been what, in the last decade—I mean, the percentage.
A. I can't give the percentage. It has increased in the past ten years 240,000.
Q. And Akron has more than doubled?
1326 A. Yes, sir.
Q. And Canton?
A. Canton has had a very material increase.
Q. You referred to furnishing some artificial gas following the merger. How long did you continue to furnish artificial gas?
A. We are still furnishing artificial gas in limited quantities.
Q. To approximately how many of your consumers?
A. I can't tell you that. I would place that probably at ten or twelve thousand. It increased very materially.
Q. I understood you to say that the former users of artificial gas insisted upon the service of natural gas?
A. Yes, sir.
Q. What change then did you make? For what purposes have you been serving artificial gas?
A. Well, the natural increase in building has kept up practically the same number. For instance, Cleveland Heights and Euclid Heights and East Cleveland and a portion of Lakewood, we are supplying artificial gas in some localities where they haven't natural gas at all, and in a number of instances we are not supplying either. I will not make that as a positive statement, but the quantity of gas sold is approximately the same as it was in 1910. As to the number of consumers, I would like to reserve the privilege of cor-
1327 recting that.
Q. Aside from revenue acquired from the artificial gas plant now being operated by your company in Cleveland, what other sources of income are there on the sale of natural gas?
A. We have a small revenue from gasoline—very small, probably from two hundred to three hundred gallons a day. That varies. and we are very small oil producers,—I think about thirty barrels per day.
Q. Then your oil and gasoline production and your artificial gas plant in Cleveland are your only sources of revenue other than the sale of natural gas?
A. That is correct.
Q. Did I understand you to say that your main transmission lines from the Ohio River, shown upon your map, Ohio Exhibit 1, are useful only for the transportation of natural gas?

A. That is correct.

Q. There is no present prospect of their being usable for any other purpose?

A. No, sir.

Q. As far as you know, there is no other possible use for them?

A. No, I don't think there is any other practical use for that pipe.

Q. You have referred rather frequently to contracts be-
1328 tween the East Ohio Gas Company and the Hope Natural Gas Company for the sale and delivery of gas at the Ohio River. There is but one contract so far produced, that bearing the date of May 1, 1910. Were there contracts in writing prior to that time?

A. I do not think so; I never saw one. There was an understanding evidently, but if there was such a contract in writing, I am not familiar with it; I have never seen it.

Q. In reference to those contracts that you have for the service of the various municipalities of Ohio, did I understand you to say that you are obligated to deliver for municipal service natural gas under those ordinances or contracts?

A. To the extent of the ability of the company to obtain it, yes.

Q. It is obligatory upon you only to the extent of your ability?

A. Yes, I think so.

Q. Is that saving clause provided in each and every of the contracts?

A. I wouldn't say that it is in any of the contracts.

Q. Whether inserted in words or not, it is understood that that is the limit of your obligation and liability?

A. That is as I understand it.

1329 Q. I presume that what you have said touching the artificial gas plants in Canton, Akron and Cleveland, and the acquisition and use of the same in the distribution of natural gas by your company, applies to others of the important towns which you serve?

A. No, sir, it does not—no other towns.

Q. Those are the three only towns?

A. Yes, sir.

Q. None of the others had artificial plants?

A. No; I wouldn't say that. Youngstown has an artificial plant; so has Warren; but we have no interest in them—the East Ohio has no interest in them.

Q. There are artificial plants in both Youngstown and Warren, and now doing busin[illegible]

A. They are doing [illegible]nall business. Warren, in connection with supplying gas for mak[illegible]ng incandescent lamps, to which natural gas is not applicable. Youngstown is doing a small lighting business; I don't know to what extent.

Q. Do they all have electric plants for the furnishing of light?

A. Yes.

Q. Are there any other towns other than the ones you have mentioned, where there are gas plants or electric plants, for the furnishing of heat and light?

A. No other that I have any knowledge of.

1330 Q. In what counties of those shown upon your map, Ohio Exhibit No. 1, is natural gas produced?

A. Natural gas is produced in Knox, Ashland, Wayne, Madison, Cuyahoga and Harrison, in some quantities. Some of them are very small quantities and in others the production is greater. Cuyahoga has produced a large amount of gas. It is very low now. Knox and Wayne Counties are producing gas at the present time, but not in any great quantities, so far as the East Ohio Company's holdings in those counties go, they are very small. Other companies have been operating there for a number of years.

Q. In what sands is the gas found in those counties you have mentioned, and at what depth?

A. The principal source of supply is found in the Clinton sand. The depth of that sand in Cuyahoga County would be about 2800 feet. The sand dips to the south at the rate of about 50 feet per mile, so that when you get to Knox County, it would probably be 3000 feet deep. There is another formation known as the Newburgh sand, in which we occasionally get a well. That sand is very short-lived—produces a large volume of gas for a short time and then plays out. The Clinton formation is very spotty, and

1331 we sometimes have to drill a number of wells to get one good one. It makes it an expensive operating proposition.

Q. Have any wells been drilled, tests made, for natural gas in the other counties shown on this map, not mentioned by you as having heretofore produced gas?

A. I don't think there are any of them that have drilled a large number of wells. In Tuscararawas County there have been probably twenty-five dry holes drilled within the last two years. No paying producer has been found. In Stark County, wells have been drilled without any result. Portage County has also drilled. Trumbull and Mahoning Counties, both at one time, had a small production, but that was exhausted years ago. I am not familiar with Holmes County, but I think that just south of the northerly line of Holmes County there has been some drilling done, with the usual result of one producing well for two or three dry holes. However, they have not been able to trace that field to any great extent beyond the north line. In Belmont County there has been some drilling done. That is far east of our lines, and small producers only. That gas is being piped into West Virginia.

Q. How about the Counties of Carroll and the space in between Clarington and Youngstown on your map? Has there been any experimental work done in there?

A. There has been some work done in there, but I am not familiar with it. I know that it has not resulted in any very extensive field, nor any profitable field. I believe the West Virginia Gas Company drilled some wells in there, from which they ob-

1332 tained a supply of gas for Salem, Ohio, but they are all small wells.

Q. Has there been any deeper drilling, or is the Clinton sand the deepest known sand in that section?

A. No, the Trenton rock is a deeper sand. That sand is the formation in which gas was found in Wood and Hancock Counties a number of years ago. Tests to the east, with the exception of a few small wells, found in Lucas County, near Toledo, have not been productive of any result. There have been a number of wells drilled to the Trenton rock, and in some instances they have gone five or six hundred feet into that rock, without obtaining any gas supply. Those are the only deep tests that have been made in Ohio. The attempt to locate gas in the Trenton rock, I mean, and they have been unsuccessful.

Q. The fields that you have mentioned are, as I understand you, not available for any additional supply to your company and are practically played out?

A. That is the situation.

Q. In your figures yesterday, you gave us the amounts of gas purchased from the Hope Natural Gas Company, amounts purchased from other companies, and the amount of your own production, from 1915 to 1919, both exclusive. In order to be consistent with
1333 the figures asked of and delivered by the other companies, would you supply us with like data for the years 1910 to 1914, both inclusive?

A. I will be very glad to get it for you, but I haven't got it here.

Q. Would you also, from figures or data in your possession now, or to which you can obtain access later, furnish us with a statement of the sales by the East Ohio Gas Company, from 1910 to date, separating the same so as to show the number of domestic consumers, the number of industrial consumers, and the amounts sold to each class of consumers, from 1910 to date?

A. Yes, I may be able to give you that.

Q. I would like also to have a statement showing the acreage developed and undeveloped, and the number of wells annually, from the year 1910 to date.

A. I will try to get that for you.

Q. In what cities or at what points does the East Ohio Gas Company furnish or sell natural gas for industrial purposes?

A. Our principal demand for industrial purposes has been in Cleveland, Akron, Canton, Youngstown and Massillon.

1334 Q. Will you give us a statement in general terms of the nature of the industries furnished?

A. Since 1916, the industries furnished have been largely in the making of steel. Many of those industries were furnished under orders from the Federal Fuel Administration.

Q. Are you still supplying those steel plants?

A. We supply them gas for small users at domestic rates only. Last year our sales for all industrials amounted to three hundred and twenty-three millions, but there was no special rate gas sold since 1916.

Q. What are the industries since 1916, besides steel manufactures?

A. The rubber industry in Akron uses gas for certain purposes,

it not in very large quantities. The automobile industry uses as for brazing and welding, and things of that kind.

Q. Before you leave that, will you tell us how much the rubber ndustry is using?

A. I couldn't tell you.

Q. Is there any gas furnished for glass plants?

A. None.

Q. In a general way, you would say that the purpose for which industrial gas is now being supplied by your company and
335 has been supplied since 1916, is in the steel industry, in the labor industry, automobiles and some smaller scattered industries, I suppose.

A. Yes; and that is supplied only during the summer months. We sell no gas for industrial uses during the winter months, and have sold no gas, except under orders from the Fuel Administration.

Q. What character of industries did you supply in the pre-war period back of 1910?

A. Well, from 1910 on up to '16, gas for industrial uses was supplied to almost any and all that wanted to use it. During that period, the Lakewood field came in, and that was a gas produced by so many individuals that had no market for it, that we were obliged to make a market for it in Cleveland, and we sold it for all purposes.

Q. Did you supply, among those, glass plants?

A. No glass plants. We have no glass plants in Cleveland.

Q. Well, as a matter of fact, it was not so of the Lakewood field only, but you did furnish gas for general industrial purposes before Lakewood was discovered, and up until 1916, did you not?

A. During the warm weather, or whenever we had an amount of gas not required by the domestic users. We at all times gave preference to the domestic user, and our contract provides
1336 for discontinuance without notice to the industrial users.

Q. I understand your rule, as between industrial and domestic consumers; but I wanted to know if you did not, as a matter of fact, serve industrials generally of that surplus, over and above domestic?

A. Yes.

Q. Was the gas which you purchased and took over from the Lakewood field served for all industrial purposes generally?

A. No. The gas produced from the Lakewood field practically took care of all purposes in Cleveland.

Q. In other words, it was commingled with the other gas and furnished indiscriminately?

A. Yes.

Q. The amount of gas furnished during the years the Lakewood field was producing to any extent, along with the amounts of your further supply furnished, will appear on this statement you have promised us?

A. Yes; parts of it are already in evidence.

Here a recess was taken until 1:30 o'clock, P. M.

1337 Friday Afternoon, July 9, 1920.

And now, the hour of 1:30 o'clock P. M., having arrived, hearing resumed, pursuant to adjournment.

M. B. DALY resumes the stand.

Cross-examination (continued).

Mr. Steptoe:

Q. I forgot to ask you, in connection with the equipment of the houses in the principal towns you serve, if their heating is done principally by furnaces?

A. Well, in the new homes, the heating is done very largely by furnaces. In the older homes, they didn't have furnaces, they heated by stoves. In many instances, in the smaller residences, they depend on the cookstove,—where there are two or three families living in one house, with two or three kitchens, they depend on the cookstove very largely for heating. In that case they use gas in a converted coal stove, and depend upon it for heating purposes.

Q. Where furnaces are used, what is the character of the heating of the house,—steam or hot water?

1338 A. The great majority would be hot air.

Q. Are those furnaces so constructed as to use either coal or gas as the occasion might require?

A. In the majority of cases, I believe the coal furnace was converted to a gas furnace, simply by placing a burner in the fire-box of the coal furnace. There are a large number of gas furnaces in connection with coal furnaces. Those furnaces were installed for the purpose of caring for heating in case of shortage of gas. Of course that does not apply except to a small percentage of the homes, because it makes a double investment. There are a number of homes that were built, and only a gas furnace installed. That, however, was against our advice, whenever we were asked about it.

Q. As a matter of fact, the approved furnace is interchangeable from coal to gas?

A. I don't know of any such furnace, except a combination furnace with two firepots. Any furnace that is interchangeable is naturally wasteful.

Q. Maybe I didn't make myself clear. I refer now to those furnaces where gas can be used, or if gas is short, coal can be substituted?

A. By taking the burner out; yes.

Q. That is the approved form of furnace and the one you

1339 recommend to your consumers?

A. No, sir, we would not recommend that method of installation for gas serving, because they will insist on using the gas so long that they take it all away from us and get us flat on our

packs, so far as the supply is concerned. The result is that everybody is short of gas. We do not approve of a coal furnace being converted to gas. That was very well when we had a large surplus of gas. We do recommend the auxiliary appliance for the use of gas, and there are a number of those made that can be attached to hot air furnaces, so-called, or to a hot water or steam system. That gives two separate fires and when the gas is short they fire up the coal furnace.

Q. Your objection to the plan mentioned in my question is that you can't control the consumer?

A. Not only that, but they were not desirable for the use of gas. It is wasteful.

Q. You referred in your direct examination to the acquisition of two systems of pipe line producing gas. Were those the companies, the ones that started producing in Knox County?

A. Yes, one of those was.

Q. What company was that?

A. The Mohican.

1340 Q. How much of the line connecting that field with the transmission system at or near McKee farm, was built by the Mohican Company?

A. Not any of it.

Q. Your company built the connecting line?

A. At the time of the purchase, the connecting line had already been built. The Mohican purchase really relieved us of the demand in Akron, and it is yet producing more gas than Akron demands for domestic uses. That was really a relief from our Cleveland demand, rather than increasing it.

Q. Who built the line?

A. It was built by the Mohican Company.

Q. I refer now to the line over at or near Loudonville, and extending to the McKee farm?

A. That was the Mohican Company at Loudonville.

Q. Then your company did buy that line from the McKee farm down into the Knox field, along with the production that you got down there?

A. We extended that line afterwards.

Q. From what company did you purchase the other line?

A. Mohican gas fuel, I think was the corporate name.

Q. That was at or about what date?

A. 1908.

1341 Q. And about the same year you commenced the construction of the first line connecting from the Gross farm over to Austintown junction?

A. Yes, sir.

Q. And the 16-inch line was built later?

A. Yes, the 16-inch line was built in 1915.

Q. I assume from that that the production of the Mahoning Gas Fuel Company, at or near Youngstown, was insufficient for the supply of that place, and you built those lines to connect with your main transportation system?

A. Yes, sir.

Q. You referred just before lunch to some little production along the Ohio River. That went across into West Virginia, I believe. Was that to the town of Friendly?

A. I think that was taken over to Wheeling.

Q. That would be a portion of the supply of the Manufacturers' Light & Heat Company, doing business around in there?

A. I think not. I think it is the Gas Company of West Virginia, or the West Virginia Gas Company.

Q. You said something, touching the advantage which the consumer near the source of your purchase from the Hope Natural Gas Company, or near the source of supply, had over those consumers toward the end of the line. Just why is that advantage and what is it?

1342 A. I think, as I understood the question, it was asked as to the source as being in the vicinity of the source of supply, and by that I suppose that question meant that it was nearer the high pressure mains or the regulators; not necessarily the field. Of course, if you had only gas enough to supply Canton and Akron, they would naturally get it before it got to Cleveland. They would have the first opportunity of taking it out of the main. That also applies to the disposition of gas after you get out to Cleveland, and as I tried to describe the distribution there by a cartwheel, going in from the high pressure mains, that is what I intended to convey. If we have a fair supply of gas for all our domestic consumers, we would apportion to each municipality its quota, according to the number of consumers served; that is, if we had a hundred million of gas and Cleveland domestic consumers required 63 per cent, Cleveland would get 63,000,000, and the community with 6 per cent would get 6,000,000, and that is the way we attempt to distribute it. We have measuring stations on all the larger towns.

Q. Do you in fact make the apportionment you refer to?

A. We do.

Q. Then Canton and Akron have no better supply or advantage?

A. None whatever.

1343 Q. Then what consumer did you refer to, along the transmission lines, like St. Clairsville, or something of that sort, having the advantage?

A. I either misunderstood the question or you did. My understanding of the question was that the reply as to the distribution of gas from the high pressure mains, St. Clairsville or any point near them, should be to the effect that they would not be given any more gas per consumer than Cleveland.

Q. Because you can so regulate it in the line as to apportion the supply?

A. We can rather measure it out of the line.

Q. You do adopt that practice?

A. We do.

Q. And that practice is practicable in any properly conducted pipe line system, I presume?

A. I suppose that would depend somewhat on the construction.

he conduct of the system after it is constructed is always governed
y local conditions. Our system happens to be so constructed that
ie towns are separated,—that is, the lines running north and south.
e call it. You will notice that the branch lines run east and west,
) that when we come to the field limits we can place a measuring
evice there and measure the gas. Of course, where the community
s very small, such an appliance would have to be more of an esti-
mate or an average, as it would be quite difficult to go out
344 over it and close the gates down, but in a large community
where you keep a man constantly on the line, it is not at all
ifficult.

Q. But the transmission system can be regulated?

A. Yes.

Q. You referred to your industrial contracts as being so worded s to enable you to cut them off when the supply was needed for do-nestic purposes, and the orders of the Ohio Public Utilities Commis-ion in that regard. Do I understand that your own practice and he orders of the Commission compel you to cut off all service of nat-ıral gas at times of shortage to domestic consumers?

A. The order of the Commission is such that it applied to all con-umers, domestic and otherwise, using gas in excess of 100,000 feet n any one month. We have always prior, and now do, apply the rder of the Commission to the industrials, no matter how small the mount they use. When the cold weather is approaching, we watch he weather predictions very closely, and anticipate by sending our man to the factories to see that the gates are closed.

Q. The point I want to elicit is, have you any industries that are compelled to have a small supply at all times?

A. That might occur for a day. Take a concern with a cupola,
for instance, with a lot of molten metal in it, it might be nec-
1345 essary to carry a small fire to prevent that from cooling rap-
idly and destroying the metal. That, however, takes a very
small amount of gas.

Q. That is, in the steel mills?

A. Yes. And that takes a very small amount, and we try to do that, if possible.

Q. So that your entire available supply is devoted to domestic service, and required to be at times of stress.

A. Yes, our entire sales last year for industrial uses were only three hundred twenty-three million.

Q. I understood you to give a valuation of $47,000,000, in round figures, for your company, as of December 31, 1917, and a total out-standing capital stock issue of $38,000,000?

A. Yes, sir.

Q. Has any of that stock been issued in the form of dividends?

A. Yes, sir.

Q. What percentage?

A. Stock dividends, $4,500,000.

Q. Is the forty-seven million odd dollars valuation the valuation for which you return your property for taxation purposes, or is it a mere book value?

A. That is the appraised value. Our property—the Ohio Tax Commission fixes the value of our property for taxation purposes. The tax value is approximately between thirty and thirty-
1346 nine million dollars. I think that is probably a higher percentage of taxation than should be applied to property.

Q. You do not include wells in your valuation, except in so far as concerns the material. Is that correct?

A. That is all. Neither the labor nor the leasehold are included in the valuation, except the cost of the leasehold would be included.

Q. You mean by that, the bonus paid?

A. Yes.

Q. You do not include yearly rentals or well rentals?

A. No, those are operating expenses.

Q. Mr. Daly, you spoke of your competitors, mentioning the Medina Fuel Company, the Ohio Cities Gas Company and the Ohio Fuel Supply Company and the Logan Natural Gas Company. Will you tell us in a general way, and as briefly as you can, the fields where those companies operate?

A. Where they operate?

Q. Yes.

A. They are operating in Ohio in every county where gas is being produced. That is, at least the Ohio Fuel and the Logan and the Medina Company and the Ohio Cities are also large operators. I don't know so much about the Medina Company's operations outside of Medina County, but they do transport gas to as far south
1347 as Lima, Ohio, and they produce gas in different localities tributary to that line.

Q. They operate in the counties you have mentioned as counties where the East Ohio Company is operating?

A. Yes.

Q. And have production in those counties?

A. I wouldn't say that they have production in all of them, but they have attempted to have in nearly all of them. Possibly I might omit from all of the counties—I don't know that the Medina Company has any production in the southerly tier of counties down near the Ohio River. There is only a small output there.

Q. In your essay upon the advantages of natural gas over other fuel, you were speaking generally of the service of natural gas in all the communities. In other words, those advantages are inherent in the service of natural gas, wherever it is served?

A. Yes, I think that would apply.

Q. It applies to the fuel itself and not to the particular community where served?

A. I think it applies to both in the communities that are fortunate enough to have it.

Q. And the loss of the fuel to any community would entail
1348 precisely the same losses in one place as in another?

A. Yes, in proportion to their population, of course.

Q. Relatively, I mean.

A. Yes.

Q. You had a shortage last year, and you contemplate a larger

shortage the coming winter. What have you to say about the winters thereafter, under the conditions now existing?

A. The natural inference would be that the shortage would become more pronounced as it went on, unless through unexpected development some place we might be able to get an additional supply of gas. That is always a possibility, but it is a rather remote possibility at this time, from any knowledge we have.

Q. Did I correctly understand you to say that any decrease in the amount you are personally able to obtain under your contract with the Hope Natural Gas Company will affect your company in its capacity to serve its customers?

A. Yes, sir.

Q. It is merely a matter of proportion, depending upon the amount of decrease?

A. Yes.

Q. And the consequences are twofold; wherever there is a decrease, the consequences to your consumers and the consequent de-
1349 preciation or effect upon the physical valuation of your properties?

A. Yes; unless our revenue could be increased in some other way, by charging higher rates. It might be that the physical valuation of the property would only be affected as to its transportation system, and that would naturally be lost only when the natural gas ceased to be procurable in quantities sufficient to serve and it has a merchantable article in competition with other fuels.

Q. To get at the matter definitely, Mr. Daly, how much will your company be affected in the value of its property, if the Hope Natural Gas Company should furnish fuel to all of the present consumers it has in West Virginia at all times?

A. If they are furnishing those customers fully now, and didn't increase the amount of gas any, I don't see any reason for the East Ohio to find any fault with them.

Q. Do you know whether or not the Hope Natural Gas Company is at all times now fully serving its domestic and industrial consumers in West Virginia?

A. I do not; I have no knowledge.

Q. Does not the contract that your company holds with the Hope Natural Gas Company compel the Hope Natural Gas Company to cut off industrial service in West Virginia?

1350 A. As I recall it, I think the contract refers only to domestic consumers. The only exception that is made is a provision for a supply of gas for its domestic consumers. I don't recall that there is any reference to the use of industrial gas in West Virginia.

Q. You don't know whether or not the Hope Natural Gas Company is now fully serving either its present domestic or its present industrials?

A. No, I have no means of knowing that.

Q. Do you know how much would be required to serve the domestic consumers along its lines not now being served?

A. No.

Q. Do you know how much would be required to serve industrial consumers along its lines not now being served?

A. No, I wouldn't know that. I have no knowledge of that.

Q. All you can say is, that if the amount being marketed by the Hope Natural Gas Company to your company is decreased, your company will be correspondingly affected?

A. Yes, sir.

Q. You don't know when that will be, nor to what extent?

A. No, I have no knowledge of that; but whenever it occurs it will have the same relative effect.

Q. And when you refer to the ultimate result, you meant that when the Hope Natural Gas Company was unable to furnish

1351 you any supply at the Ohio River?

A. Oh, no.

Q. At what point will your plant become junk?

A. When, in proportion to the decrease, it will pass along, and we are getting 75 per cent of the present supply. Of course, it would be so totally inadequate for our demands that our business would be practically at an end for anything except cook stoves or lighting. The user will not tolerate a service so inadequate as we would be able to give under such conditions. Our remedy would be only to reduce and to apply it to the smaller gas using appliances, and in consequence our pipe line facilities would not be useful to us.

Q. Did I understand you correctly? Is 75 per cent of your present supply the point at which you draw the line?

A. That would render such inadequate service that we would be obliged to prohibit the use of gas for other than cooking or lighting. Now, for that amount of gas we would need for this purpose one pipe line. That would be sufficient, so that three-fourths of our investment at least would be lost, and our transmission system as well. Of course, there would be a very great loss in the investment on account of having an overhead there that is entirely out of proportion to the amount of business.

1352 Q. Do you need all five of your lines to transport the present amount available from the Hope Natural Gas Company?

A. We do not.

Q. How many of those lines could you get along with?

A. Four.

Q. Next year you might be able to get along with three?

A. If this law is carried out, we can get along with none.

Q. At the present decrease in supply, how long will it be before another of your lines becomes useless?

A. I have no way of knowing that.

Q. At the present rate of decrease?

A. I don't know what that is.

Q. The same percentage of decrease that you estimated this year over last year, in your statement that a 75,000,000 feet shortage would probably occur this year. Based on that.

A. Well, that shortage is due to additional domestic consumers coming on and there is a reason for that shortage that does not apply

to West Virginia. Last year there was a large amount of gas obtained from McKeesport, and that relieved the demand in Pittsburgh, and we were fortunate enough to obtain that additional supply. We do not anticipate we are going to get that next year. What the decrease is in West Virginia we have no knowledge of. I suppose such evidence has been introduced, but I don't know what it
1353 was. I have no personal knowledge of the field.

Q. Let's get at it this way: If there was a decline of 10 per cent——

A. If there was a decline of 10 per cent, in order to answer your question, I would say that commercially natural gas in the West Virginia field would be practically at an end in eight years. I am trying to answer your previous question.

Q. I know you are. How long has it been since it was necessary for you to use this line you say you do not now need?

A. Well, we probably could have gotten along without that line during the last year, or possibly two years—not to exceed two years. We are still using it.

Q. At the present rate, you think something like eight years will see the depletion to the point of impracticable use?

A. If it declines at the rate of 10 per cent per annum, I would say when 80 per cent is gone, that it would no longer be commercially profitable to transport that quantity of gas such a distance. Smaller quantities might pay to enrich other gases and substitute for oil enrichment, although it would be quite expensive.

Q. Have you ever estimated the minimum amount you could take from the Hope Natural Gas Company at the Ohio River and profitably use?

1354 A. No, sir, I never have.

Q. Whatever that point may be, it will be reached in the course of time, as the fields decrease?

A. In my opinion, it will be reached.

Q. But there will still be some gas; the proposition is that there will not be enough to make it commercially worth while to market it such a distance and through such a system; is that correct?

A. I would say so, at the present time. We can't anticipate what improvements may be brought about that might be helpful, but that would be my opinion now.

Q. As a matter of fact, you can't receive a million feet per day at the Ohio River and market it profitably, could you?

A. No, sir.

Q. And the probabilities are that there would be considerably more than that required to make it a profitable proposition?

A. I would say so.

Q. I understand that you apportion, as between, for present purposes we will say, Canton, Akron and Cleveland. What is the result of that apportionment in cold weather?

A. We have found that in the towns where the lower prices prevail, they use their quota and go short; in the towns where the higher prices prevail, they get along very comfortably.

1355 Q. Did your company get along in Cleveland very comfortably during this period last winter that you refer to?

A. Very uncomfortably; but very low prices prevailed.

Q. Then the remedy for the situation is, to raise the prices and we will have plenty of gas?

A. I wouldn't put it just that way. I would say if you raise the prices you will have good service, because you make it worth while to the consumer. So long as you sell gas at the miserably low prices that prevail, not only in West Virginia but elsewhere, there is no incentive to save. At the present time, 35 cents per thousand is cheaper than soft coal, and so you inflict a punishment upon people who have only the small appliances. A gas company has to have revenue; it has no other means of getting money except from its consumer, and the consumer must become a part of this organization and help conserve this gas. It doesn't add one foot of gas to your output to increase the price, but you simply utilize it better.

Q. The theory you have just elaborated on is the Daly plan we have heard something about in these proceedings before, namely, that conservation lies, and only can lie, in increasing the price and making the consumer conserve?

A. I think that is the direct route. Some have suggested that they would do that by legislation. If such legislation is
1356 effected, naturally the sales of the gas company must be reduced. The gas company cannot reduce its sales 50 per cent without increasing its price. Instead of taking the circuitous route that the law will take, I would propose taking an air line and arriving at it directly. I think we are both aiming at the same object, but we are approaching it differently. Mine might be the wrong way. I think that Daly plan is a misnomer; I claim no credit for originating it, but we ought to apply it.

Q. The substance of it is to make each consumer his own policeman?

A. That is the idea.

Q. Isn't it true that the time must come when the natural gas supply is bound to get to the point where you cannot furnish all of your consumers even on the plan you suggest?

A. There isn't any doubt about that, but that time may be delayed and wonderful contribution made to the people by cutting off the industrial supply not only in West Virginia but every other state, and giving the gas entirely to the domestic user and making him pay a price for that gas that will prolong the life of it for many years, by reason of the decreased output from the fields.

Q. Let's assume that that time has come and you can't furnish your domestic consumers, even by penalizing them under the
1357 proposed plan. What suggestions have been worked out for that situation?

A. Well, that is a condition that may not occur, and it will of course be hastened, as it would with any other mineral, if there was an extravagant production and waste.

Q. I want to know what would be the proposed plan of your company at that time. Are you going to divide it up among all your consumers, giving each one his allotment or share, or are you going to restrict your territory of service?

A. Well, I would say that under present conditions, just as we ould be forced to look upon it today, if we had our own way about , we would restrict our territory.
Q. Is there any other way?
A. The law says there is. I am not inclined to dispute the law.
Q. What would be the effect of it?
A. The effect of it would be woefully unsatisfactory service to erybody.
Q. It would not be useful to anybody?
A. That is the idea.
Q. And that is the natural result of the depletion of supply and e point we must come to some time?
A. I agree with you fully, sir.
Q. The matter of conservation is simply staving off that
58 evil day which we all fear?
A. Well, by staving it off, we can confer a great favor on manity, both commercially and otherwise.
Q. You spoke of cutting off the industrial companies. Why do u serve industrial consumers, instead of keeping your gas for do- estic uurposes?
A. We serve industrial users because we are met in the field by com- tition that is taking gas out—many of these competitors with no blic obligation whatever; simply a 365 day a year demand for s, for practically an equal amount each day. They have no peak ad, and consequently they take the gas out of their field much ore rapidly than those who have taken obligations to supply com- unities. They are in every field and there seems to be no control ercised over people of that calibre. We must continue to take gas t of that territory, although the domestic consumer does not want today. He doesn't use enough to pay the overhead—to pay the rk hire, to say nothing of the overhead.
Q. The independent producer is not controlled or controllable, and u meet him in competition?
A. Yes, in the field.
Q. I understood you to say that there is a certain field of the East io Gas Company that was shut in and used only for peak load periods for domestic consumers?
59 A. Yes.
Q. Where is that?
A. Down in Wayne County.
Q. Does that cover your Knox County production?
A. No.
Q. It is a field you have developed in Wayne yourself?
A. Yes.
Q. None of that is used for industrial purposes?
A. None whatever.
Q. In your competition that requires you to serve your gas for in- strial purposes, is the other production which you have referred in your examination?
A. Yes.
Q. You have no competition on your purchase from the Hope tural Gas Company, have you?

A. No.

Q. Then why do you use that for industrial purposes?

A. We don't.

Q. None of it?

A. Hardly any. They have a competitive field down there, and whenever they are willing to sell us gas, which they do at a certain price, and at a very high price, we do not dispose of any gas at so-called industrial rates. The fact that we only disposed of
1360 323,000,000 last year, or about a million feet a day, indicates that we are not buying very heavily from the Hope Company for industrial purposes?

Q. But you have, since the time of your original connection with the Hope Natural Gas Company, sold a portion of your gas purchased from the Hope Company for industrial purposes?

A. Yes, that is the custom of all gas companies. It was necessary, in order to establish a low domestic rate.

Q. That is the true explanation of why all the companies do it, because they need the money?

A. Yes.

Q. The industrial service of gas is common among all of the companies?

A. Well, it has not been with us during the last few years. Of course, in the earlier years we sold all the gas we could buy, because we were buying at a low rate and were selling at a low rate, but the volume helped out.

Q. How many distributing companies does the East Ohio Gas Company sell to, and where are they located?

A. We are selling to the Alliance Gas Company, under order of court and temporary injunction, and we are selling to the St. Clairsville Company by order of the Public Utilities Commission of Ohio. Those are the only companies we are selling to, and we have
1361 been trying for over two years to get away from the alliance at the expiration of our contract, but so far we have been headed off. The Supreme Court decided we had a right to get out, but the Common Pleas Court enjoined us from getting out.

Q. Do you have a service contract with the Alliance Gas Company to supply it?

A. We had a service contract to supply it, which expired the first day of November, if I have the date correctly. It was in a month of that time,—1918, and they were given notice in June, 1916, that after the expiration of that contract we could not supply them. We notified them to get ready to make other arrangements. War conditions came on and the Federal Fuel Administrator gave orders for the continuance of that service for another year. At the end of another year, they went to court and enjoined us. And then they secured the passage of the Miller Bill, which provides that no one could discontinue service to a municipality without the permission of the Public Utilities Commission. This was simply a contract between our company and the distributing company. We went through the Supreme Court, and they decided in our favor, and the Common Pleas Court granted a temporary injunction upon which we have not been able to get a hearing so far.

Q. What is the situation touching St. Clairsville?

1362 A. St. Clairsville was notified last fall, I think it was. We had to give them six months' notice. They use a very small amount of gas and we notified them that we would discontinue their supply May 31st. The Public Utilities Commission have ordered us not to discontinue the supply.

Q. What was the occasion for your desire to discontinue this service? Was it lack of supply?

A. Lack of supply.

Redirect examination.

Mr. Eagleson:

Q. Mr. Daly, you spoke, in answer to a question on cross-examination, in substance, that the 75,000,000 feet shortage last winter was due to additional domestic consumers. I ask you whether or not the weather conditions and the low temperature of last winter did not also contribute largely to that shortage?

A. The question, Mr. Eagleson, applied to our shortage the coming winter, on account of additional consumers. We were probably not 75,000,000 feet short last winter, but about 60,000,000. The weather was unusually cold, and we had very prolonged periods of cold weather. During those periods of cold weather, when the pressure once gets down, the people use the gas just as fast as it

1363 comes through the line, and in consequence you are unable to store any over night. Where you haven't got an abundant supply to take care of it all the time, that results in very bad service. We were very short of gas last winter, and will probably suffer greater shortage next winter.

Q. Will the shortage, if such there be, in winters to come, depend to a greater or less extent upon the coldness of the weather?

A. Yes, sir; cold weather creates increased demand.

Q. From your thirty-seven years' experience in the natural gas business, what would you say as to low prices for natural gas in comparison with other fuels, contributing to excessive use or waste in all sections where it is used?

A. There can be no question about the waste of gas caused by low prices, domestic as well as industrial.

A. And from your long experience in Ohio, and with particular reference to your company and its consumers, under the sliding scale upward rate called the Daly System, is it not a fact that the low-priced gas invites the use and waste in commercial and industrial ways?

A. Yes, sir; I have no hesitancy in stating that, and it is borne out by statistics. The statistics probably would not be available, as to the use of gas applied to industrials, but they are available

1364 for the domestic use. In cities where they have a very low price, people use a very considerable quantity more per annum per capita than they do where the price is proportionately higher. There seems to be about the same amount of money spent and the same service rendered for gas, whether it is sold at 50 cents or whether it is sold at 25 cents.

Q. When the supply of gas which a company may have for distribution gets below a certain point, what is your opinion as to whether or not there is very great danger involved in its consumption?

A. There is no doubt but that the condition you describe would bring about a hazard in the use of gas, which might result in loss of life and property, by reason of explosions and asphyxiation. Fires could not be left burning over night with any degree of certainty or safety, and it would render the service not only unsatisfactory but dangerous.

Q. And would or would not that danger be greatly augmented if the source of supply was intermittent?

A. Well, that would bring about even a worse condition, unless there was provision made for advance notice of several days to consumers. One day would not be sufficient, because many homes might be vacant. People might be away from home and the gas in the furnace go out, gas escape, and somebody go in with a lighted match or a sigar or cigarette, and that would be an additional
1365 hazard for the gas company and it would require caution on the part of the user of gas, to say the least.

Q. Mr. Daly, you spoke, in answer to Mr. Steptoe's inquiry, of having declared during the life of your company some stock dividends?

A. Yes, sir.

Q. Please advise us if you have in mind the particulars with reference to the cash dividends of your company?

A. Our first cash dividend was paid in 1909, about eleven years after the company started in business.

Q. Was that the first dividend of any kind or character declared by the company in its life up to that time?

A. No; the stock dividend I think was $4,500,000. There was a dividend declared in 1909 of $300,000. The investment at that time was approximately $13,000,000, making the percentage 2.35. The next dividend was in 1910, $596,944, an average percentage on the investment of 1.67 per cent. The next dividend was in 1911, $700,000, and on the investment was 1.94 per cent. The next dividend was in 1912, $1,700,000, 4.43 per cent. The next was in 1913, the same amount of money, but an additional investment brought the percentage down to 4.23 per cent. The dividend in 1914 was $1,700,000, a percentage on the investment of 4.10 per cent; 1915, $1,700,000, brought the percentage down to 4.03 per cent; 1916, $1,700,000, investment $44,000,000 plus, brought
1366 the percentage down to 3.83 per cent; 1917, the dividend was $1,700,000, or 3.77 per cent on the investment; 1918, the dividend was $2,943,000, or 6.30 per cent. Those were the only cash dividends we have been paid.

Recross-examination.

Mr. Steptoe:

Q. Referring to the consumption, use and distribution of gas in relation to price, as a matter of fact, the whole situation of gas con-

sumed, the nature of its use, and the nature of its distribution, and where used, is very largely a matter of price, is it not?

A. No; the company that I represent is unfortunate enough to have some contracts at a low price, compared with what we are getting in other places, but that does not influence us in any way in giving those people their just proportion or quota of gas. We have not tried to. The contracts were taken in 1911 or '12 for a period of ten years, and municipalities are not as a rule inclined to change prices for public utilities, especially on an upward grade.

Q. Isn't it true that the production of the independent producer is getting to the point of the highest price?

A. That would be true to the extent that his product would
1367 be concerned; but that is usually purchased by the utility that has to distribute it in the communities that they may be under contract to serve, so while it would apply to the independent producer, it could not apply to the public utilities. They would have to serve all people alike.

Q. It would also apply to the industrial or private consumers receiving gas directly from the independent producer?

A. Yes, I think that is so.

Q. And isn't it true that a very, very large proportion of the gas produced is by independent producers in the field?

A. Well, that is true in the fields from which the East Ohio purchases gas. I think probably the independent producer is responsible for about 50 per cent of the output there.

Q. In the cross examination, Mr. Daly, you promised me certain statements, touching the domestic and industrial consumption year by year, operated and unoperated acreage, and wells year by year, as well as certain other information. Are you prepared to give that information now?

A. The information is not available to me now, but I will have it prepared upon my return to Cleveland, and send it to any point you designate.

The Commissioner: Let the information be sent to Mr.
1368 Eagleson, who will place it on the transcript as soon as he is able to have the information in hand, it being assented to by counsel on both sides that this course shall be followed.

JOHN B. TONKIN, recalled, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Tonkin, you promised us before you left the witness stand, that you would have prepared and furnished a statement showing the acreage, gas sales and gas produced in Pennsylvania and West Virginia, the number of producing gas wells, number of wells drilled, number of consumers, domestic, industrial and other companies, and the amount — sales, domestic, industrial and other companies, fuel used in pump stations and drilling wells, for the

years 1910 to 1919, inclusive. Have you prepared such a statement?

A. I have.

Q. Will you please read that into the record?

1369 A. (Reading:)

	1910.	1911.
Operated Acreage—Acres	48,895	48,604
" " Cost	286,750.00	275,974.53
Unoperated Acreage—Acres	136,282	161,1616
" " Cost	229,544.10	164,113.74
Gas Produced—M Cu. Ft.	9,570,665	7,414,355
Gas Purchased (Penna.) M cu. ft	1,251,571	927,447
" " (W. Va.) "	20,427,446	19,885,811
No. Producing Gas Wells	539	544
No. Wells Drilled	42	36
No. Consumers—Domestic	41,673	43,115
" " Industrial	291	285
" " Other Companies	6	5
Amt. of Sales, Domestic—M cu. ft.	5,782,157	5,8383,125
" " " Industrial— "	**21,800,835	19,566,354
" " " Other Cos. "	3,666,690	2,793,134

**Includes Gas for own operations as follows:

Fuel Used at Pump Stations, etc.	1,372,777	769,372
Pumping & Drilling Wells (Est.)	200,000	200,000
Total Gas for Operations	1,572,777	969,372

1370

	1912.	1913.
Operated Acreage—Acres	53,092	56,765
" " Cost	298,177.73	297,544.22
Unoperated Acreage—Acres	217,779	197,823
" " Cost	168,436.42	164,207.24
Gas Produced—M Cu. Ft.	7,801,806	10,963,966
Gas Purchased (Penna.) M Cu. Ft.	673,311	1,139,061
" " (W. Va.) "	23,303,041	20,176,604
No. Producing Gas Wells	633	693
No. Wells Drilled	59	83
No. Consumers—Domestic	43,449	51,522
" " Industrial	251	302
" " Other Companies	6	3
Amt. of Sales, Domestic—M Cu. Ft.	6,389,219	6,223,958
" " " Industrial— "	**21,750,172	22,749,043
" " " Other Cos.— "	3,638,767	3,306,630

**Includes Gas for own Operations, as follows:

Fuel Used at Pump Stations, etc.	683,278	669,828
Pumping & Drilling Wells (Est.)	200,000	300,000
Total Gas for Operations	883,278	969,828

1371

	1914.	1915.
Operated Acreage—Acres	58,400	59,739
" " Cost	297,761.99	290,639.67
Unoperated Acreage—Acres	205,360	227,240
" " Cost	161,010.64	165,556.31
Gas Produced—M Cu. Ft.	9,382,830	10,100,508
Gas Purchased (Penna.) M Cu. Ft.	2,019,195	2,089,466
" " (W. Va.) "	17,919,695	21,597,627
No. Producing Gas Wells	721	747
No. Wells Drilled	42	50
No. Consumers—Domestic	58,583	64,958
" " Industrial	290	296
" " Other Companies	3	3
Amt. of Sales, Domestic—M Cu. ft.	6,945,094	7,353,320
" " " Industrial— "	**18,921,819	22,205,260
" " " Other Cos.— "	3,454,807	4,229,021

**Includes Gas for own operations, as follows:

Fuel Used at Pump Stations, etc.	835,377	1,117,196
Pumping & Drilling Wells (Est.)	200,000	200,000
Total Gas for Operations	1,035,377	1,317,196

1372

	1916.	1917.
Operated Acreage—Acres	66,439	74,768
" " Cost	288,932.17	287,399.91
Unoperated Acreage—Acres	310,850	318,621
" " Cost	187,056.87	190,783.11
Gas Produced—M Cu. Ft.	13,152,893	14,041,262
Gas Purchased (Penna.) M Cu. Ft.	1,448,496	1,453,773
" " (W. Va.) "	26,251,185	23,276,116
No. Producing Gas Wells	846	945
No. Wells Drilled	120	174
No. Consumers—Domestic	70,131	74,021
" " Industrial	276	236
" " Other Companies	4	4
Amt. of Sales, Domestic—M Cu. Ft.	8,222,760	10,069,736
" " " Industrial— "	**28,303,675	25,031,622
" " " Other Cos.— "	4,326,139	3,659,793

**Includes Gas for own Operations as follows:

Fuel Used at Pump Stations, etc.	1,723,272	1,922,760
Pumping & Drilling Wells (Est.)	450,000	550,000
Total Gas for Operations	2,173,272	2,472,760

1373

	1918.	1919.
Operated Acreage—Acres	82,277	85,819
" " Cost	283,773.58	374,382.22
Unoperated Acreage—Acres	310,461	302,559
" " Cost	179,304.29	167,966.53
Gas Produced—M Cu. Ft.	13,850,362	12,223,833
Gas Purchased (Penna.) M Cu. Ft.	1,269,314	6,948,119
" " (W. Va.) "	18,209,928	6,496,994
No. Producing Gas Wells	1,042	1,108
No. Wells Drilled	146	130
No. Consumers—Domestic	75,697	79,112
" " Industrial	206	227
" " Other Companies	5	5
Amt. of Sales, Domestic—M Cu. Ft.	9,715,074	9,654,042
" " " Industrial— "	**18,377,988	12,264,921
" " " Other Cos.— "	5,236,542	3,749,983

**Includes Gas for Own Operations, as follows:

Fuel Used at Pump Stations, etc.	1,283,737	574,062
Pumping & Drilling Wells (Est.)	550,000	250,000
Total Gas for Operations	1,833,737	824,062

Q. You also promised to prepare a statement showing the net income and surplus of the Peoples Natural Gas Company from
1374 the year 1910 to 1919, inclusive. Have you prepared such a statement?

A. I have prepared such a statement.

Q. Will you please read that into the record?

A. (Reading:)

The Peoples Natural Gas Company.

Statement Showing Net Income and Surplus Years 1910 *to* 1919, *Inclusive.*

	Net Income.	Surplus.
1910	1,316,913.93	667,886.75
1911	1,344,888.97	652,775.72
1912	793,451.51	39,127.27
1913	1,452,727.22	354,354.45
1914	1,131,658.32	823,012.77
1915	1,253,322.05	1,056,334.82
1916	2,001,653.45	930,488.27
1917	1,992,326.00	1,822,814.27
1918	1,975,300.34	2,918.114.61
1919	2,383,178.21	3,651,292.82

Q. You also promised to have prepared a statement of your company, showing the amount of investment on January 31,
1375 1903, when the company was acquired by your people, up to December 31, 1919, inclusive. Have you prepared such a statement?

A. I have.

Q. Will you please read that into the record?

A. (Reading:)

The Peoples Natural Gas Company.

Statement Showing Amount of Investment Jan. 31st, 1903, to Dec. 31st, 1919.

January 31, 1903, ...	2,866,168.37
December 31, 1903, ...	3,356,291.66
" " 1904, ...	5,542,687.20
" " 1905, ...	5,720,388.09
" " 1906, ...	5,840,844.73
" " 1907, ...	6,166,291.77
" " 1908, ...	6,926,445.78
" " 1909, ...	7,711,793.13
" " 1910, ...	8,895,543.06
" " 1911, ...	9,055,152.74
" " 1912, ...	9,713,904.90
" " 1913, ...	10,736,887.28
" " 1914, ...	11,855,830.50
" " 1915, ...	12,324.018.03
" " 1916, ...	13,409,435.93
" " 1917, ...	14,207,497.76
" " 1918, ...	14,955,003.89
" " 1919, ...	16,442,234.71

Q. At my request, you also agreed to make a computation on the subject of dividends of your company. Have you made those computations?

A. I have.

Q. What was the percentage of dividends declared by the Peoples Natural Gas Company, from the time it was acquired up to
1376 the present time, on the amount of its investment? What percentage would it be, per annum?

A. On the amount of its investment, it would be 7.45 per cent minus.

Q. How many years was it in which you declared no dividends at all from 1903 to 1909?

A. I think it was five.

Q. Taking all the dividends declared, it would amount to 7.45 per cent minus on the investment of the company?

A. Yes, sir.

Cross-Examination.

Mr. Steptoe:

Q. How much was your investment upon which those dividends were paid here built up of earnings?
A. About $9,000,000.

Mr. Weil: It appears that a copy of the contract — the Pittsburgh and West Virginia Gas Company and the United Fuel Gas Company was referred to on cross examination of Judge Reed, and was to be produced later. It is agreed by counsel for the respective parties that a copy of this agreement is to be furnished to the stenog-
1377 rapher, identified as an exhibit, and attached to the testimony of Judge Reed as one of the exhibits of the defendant.

The Commissioner: The adjournment will be to Columbus, Ohio, where at 10 o'clock in the morning of July 20, 1920, the hearing will be resumed in the Hearing Room of the Supreme Court of the State of Ohio, in the State Capitol, by consent of counsel.

By consent of counsel, all notice of this resumption of the taking of testimony is waived.

Mr. Steptoe: I think we desire to say that the date is acceptable, and we will be present; but in so far as agreeing to the date is concerned, counsel for the State of West Virginia desire to direct attention to a statement by counsel for complainants, shown on pages 916 and 917 of the transcript, indicating an intent to apply to the Court for extension of time. In view of that statement, we desire now to say that the State of West Virginia is ready and willing at all times to meet and take this evidence; but believe it advisable, in view of that statement, to protest against the short hours
1378 and the numerous adjournments that have taken place in the past, and we will, of course, oppose any such application as suggested. We recognize the rights of counsel to conduct their case in their own way, and regulate the hours, times and places of taking of their testimony, but we do not desire to be put in the position of assenting to hearings protracted as these have been, and the shortened hours which may hereafter be the basis of the proposed application for an extension of time. The date mentioned as the time to meet at Columbus is acceptable, and we will be present, but we do not care to be in the position of agreeing, for the reasons stated.

The Commissioner: Let the record show the statement of counsel.

ORIGINAL, #20 & #21.

October Term, 1920.

1379 THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Tuesday, July 20, 1920.

And now Tuesday, July 20th, the hour of 10:00 o'clock A. M. having arrived, parties met pursuant to adjournment.

Present: The Commissioner, Levi Cooke, Esq.; for the State of Ohio, Attorney General John G. Price, Freeman T. Eagleson and E. E. Corn of counsel; for the Commonwealth of Pennsylvania, A. Leo Weil, Esq.; for the State of West Virginia, Attorney General Edward T. England, Philip P. Steptoe, Esq., Fred O. Blue, Esq., and W. S. John, Esq.

1380 The Commissioner: Have any of counsel a recollection as to the Exhibits or extracts from contracts which Mr. Eagleson's last witness was to produce?

Mr. Eagleson: They will be here in a minute.

The Commissioner: What is your recollection as to what they were to be?

Mr. Weil: The record will show. I was to file a couple of contracts that were to be supplied in connection with Judge Reed's testimony I think; either Judge Reed or the other witnesses' testimony.

The Commissioner: Mr. Eagleson, at page 613 of the printed record there appears the following question:

"Q. In the Cross-examination, Mr. Daly, you promised me certain statements touching the domestic and industrial consumption year by year, operated and unoperated acreage, and wells year by year, as well as certain other information. Are you prepared to give that information now?

"A. The information is not available to me now, but I will have it prepared upon my return to Cleveland, and send it to any point you designate.

"The Commissioner: Let the information be sent to Mr. Eagleson, who will place it on the transcript as soon as he is able to have the information in hand, it being assented to by counsel on both sides that this course shall be followed."

Is that the matter to which you referred?

1381 Mr. Eagleson: Yes, your Honor; I have just got it this minute. You may want to glance at this for a minute before I place it on the record (handing same to Mr. Blue).

The Commissioner: Are you ready?

Mr. Eagleson: I was waiting until these gentlemen examined these statements.

The Commissioner: If you will, just make a statement, Mr. Eagleson, in response to that.

Mr. Eagleson: If the Commissioner please, in the cross-examination of Mr. Daly he was asked for certain statements touching the domestic and industrial consumption year by year, operated and unoperated acreage, and wells year by year, of his company, the East Ohio Gas Company, to which he answered; "The information is not available to me now, but I will have it prepared upon my return to Cleveland, and send it to any point you designate"; whereupon the Commissioner suggested that the information so requested might be sent to me, Mr. Eagleson, at Columbus, and upon reconvening for further testimony at Columbus I would spread that information upon the record; all of which being acceptable to counsel in the case, I now have that information so furnished by Mr. Daly and present the same, upon inspection of counsel for the Commonwealth of West Virginia, to the stenographer.

The Commissioner: Now, without objection of counsel for West Virginia it will be placed upon the record as if it was entered by Mr. Daly in person. Is that satisfactory?

1382 Mr. Blue: The State of West Virginia reserves the right, however, to further examine the statements offered, although they may go in at this time, and to call for any amplification thereof if counsel for West Virginia believes there should be amplification thereof and reserves the right to make any further examination respecting the Exhibits offered.

Mr. Price: That is further cross-examination?

Mr. John: No; just to see that these comply with the request and if they have all the data desired.

Mr. Eagleson: That is agreeable, and the information is on three separate sheets. The first is headed "The East Ohio Gas Company, Gas Consumption Years 1910 to 1919, inclusive." The second is headed "The East Ohio Gas Company, Summary of Gas Produced and Purchased, together with a list of the number of consumers of that company, 1910 to 1919, inclusive." The third is headed "The East Ohio Gas Company, Gas Consumption January 1 to May 31, 1920," by the various classes of consumers of that company.

And thereupon the statements last above referred to are herewith copied into the record, in the order of their introduction, and are in the words and figures following, to wit:

Gas Consumption Years 1910 to 1919, Inclusive.

	1910.		1911.	
	No. accts.	M cu. ft	No. accts.	M cu. ft.
Domestic	161,054	16,482,413	174,197	17,481,084
Gas Engines	342	382,907	365	391,219
Street Lights	6	20,292	7	24,425
Other Gas Co's	3	343,395	2	435,473
Industrial—				
Steel Plants	65	4,567,882	57	4,946,121
Brick Plants	13	1,236,980	14	1,499,907
Potteries	1	271,857	1	161,822
Laundries	18	207,582	23	199,596
Green Houses	2	1,025	2	801
Well Drillers	.....	.....	.....	.....
Auto & Tire Plants	6	488,995	5	222,384
Carbon Works	1	44,521	2	271,353
Ice Plants	3	295,773	3	272,923
Chemical Co's	2	5,411	2	30,593
Ship Bldg. Co's	1	163,614	1	162,561
Breweries	6	479,852	7	465,433
Other Industrial Companies	57	1,453,013	74	1,319,504
Total Industrial	175	9,216,505	191	9,552,998
Grand Total	*161,580	26,445,512	*174,762	27,885,199

	1912.		1913.	
	No. accts.	M cu. ft	No. accts.	M cu. ft.
Domestic	200,167	20,118,835	223,247	22,012,221
Gas Engines	365	421,844	491	502,073
Street Lights	11	27,984	15	58,392
Other Gas Co's	3	399,575	3	515,139
Industrial—				
Steel Plants	93	6,215,963	73	7,078,178
Brick Plants	16	980,542	14	1,076,525
Potteries	4	566,631	3	439,296
Laundries	26	213,720	27	250,441
Green Houses	1	878	1	848
Well Drillers	2	6,458	9	25,024
Auto & Tire Plants	4	98,329	2	130,300
Carbon Works	7	184,539	2	16,197
Ice Plants	3	282,044	4	363,566
Chemical Co's	3	60,565	3	1,046,408
Ship Bldg. Co's	1	112,913	1	148,200
Breweries	7	438,446	8	617,065
Other Industrial Companies	117	1,336,970	95	1,743,977
Total Industrial	284	10,497,998	242	12,936,025
Grand Total	*200,830	31,466,236	*223,998	36,023,850

	1914.		1915.	
	No. accts.	M cu. ft.	No. accts.	M cu. ft.
Domestic	244,917	24,885,872	263,688	27,228,000
Gas Engines	507	519,894	506	567,176
Street Lights	15	109,639	15	145,453
Other Gas Co's.	5	527,905	5	858,615
Industrial—				
Steel Plants	196	9,689,724	223	14,708,857
Brick Plants	10	655,331	12	1,238,340
Potteries	12	1,174,931	16	1,214,906
Laundries	39	515,332	37	494,453
Green Houses	1	1,027	1	1,051
Well Drillers	5	11,478	93	440,609
Auto & Tire Plants	5	227,440	15	506,776
Carbon Works	1	89,103	3	209,881
Ice Plants	1	349,251	3	428,402
Chemical Co's.	3	1,255,663	3	1,416,099
Ship Bldg. Co's.	1	152,674	1	115,188
Breweries	7	637,211	9	799,341
Other Industrial Companies	174	2,882,981	102	2,074,945
Total Industrial	455	17,642,146	518	23,648,848
Grand Total	*245,899	43,685,456	*264,732	52,448,092

1386

	1916.		1917.	
	No. accts.	M cu. ft.	No. accts.	M cu. ft.
Domestic	288,955	31,898,650	308,690	38,331,044
Gas Engines	471	2,070,096	413	416,033
Street Lights	12	182,393	12	160,008
Other Gas Co's.	2	83,781	4	2,220,475
Industrial—				
Steel Plants	232	22,913,522	113	9,541,774
Brick Plants	12	1,102,339	13	532,309
Potteries	15	608,574	1	87,479
Laundries	47	406,554	18	118,399
Green Houses	1	1,176	.....	.....
Well Drillers	41	202,827	23	153,508
Auto & Tire Plants	19	427,450	8	157,331
Carbon Works	3	268,906	2	247,347
Ice Plants	2	447,795	17	503,286
Chemical Co's.	3	1,453,058	3	460,498
Ship Bldg. Co's.	1	109,542	4	87,215
Breweries	10	719,766	11	356,773
Other Industrial Companies	115	1,186,540	821	2,887,808
Total Industrial	501	29,848,049	1,034	15,133,727
Grand Total	*289,941	64,082,969	*310,153	56,261,287

	1918.		1919.	
	No. accts.	M cu. ft.	No. accts.	M cu. ft.
Domestic	308,350	36,969,772	328,153	35,705,038
Gas Engines	386	396,036	384	343,832
Street Lights	16	159,539	15	157,578
Other Gas Co's.	4	735,613	6	632,458
Industrial—				
Steel Plants	71	7,013,712	62	3,398,637
Brick Plants	6	354,680	5	461,487
Potteries	1	77,926	4	119,324
Laundries	8	53,279	5	58,671
Green Houses	.....	.....	.....	.....
Well Drillers	23	242,936	24	154,693
Auto & Tire Plants	6	84,353	7	58,300
Carbon Works	1	257,131	2	104,794
Ice Plants	3	403,107	3	272,186
Chemical Co's.	2	203,528	1	691
Ship Bldg. Co's.	1	39,311	.....	.....
Breweries	3	65,055	1	54,284
Other Industrial Companies	219	1,621,371	333	1,947,920
Total Industrial	344	10,416,389	447	6,630,987
Grand Total	*309,100	48,677,349	*329,005	43,469,893

1388

	Totals.	
	No. accts.	M cu. ft.
Domestic	2,501,418	271,112,929
Gas Engines	4,230	6,011,110
Street Lights	124	1,045,703
Other Gas Co's.	37	6,752,429
Industrial—		
Steel Plants	1,185	90,074,370
Brick Plants	115	9,138,440
Potteries	58	4,722,746
Laundries	248	2,518,027
Green Houses	9	6,806
Well Drillers	220	1,237,533
Auto & Tire Plants	77	2,401,658
Carbon Works	24	1,693,772
Ice Plants	42	3,618,333
Chemical Co's.	25	5,932,514
Ship Bldg. Co's.	12	1,091,218
Breweries	69	4,633,226
Other Industrial Companies	2,107	18,455,029
Total Industrial	4,191	145,523,672
Grand Total	*2,510,000	430,445,843

1389 The East Ohio Gas Company.

Summary of Gas Produced and Purchased.

Year.	Gas produced and purchased. M cu. ft.	Increase over previous year. M cu. ft.	Increase over previous year. Per cent.	Decrease over previous year. M cu. ft.	Decrease over previous year. Per cent.
1910...	26,445,512	.....	.....	.....	....
1911...	27,885,199	1,439,687	5.44	.....	....
1912...	31,446,311	3,561,112	12.77	.....	....
1913...	37,049,257	5,602,946	17.82	.....	....
1914...	46,195,129	9,145,872	24.69	.....	....
1915...	54,770,929	8,575,800	18.56	.....	...
1916...	64,662,960	9,892,031	18.06	.....	...
1917...	55,429,756	.....	.....	9,233,204	14.28
1918...	49,096,107	.....	.....	6,333,649	11.43
1919...	43,968,911	.....	.....	5,127,196	10.44

* Actual number of accounts for Domestic Consumers. For Industrials, the actual number of establishments.

Consumers.

1910	161,635
1911	174,709
1912	200,776
1913	224,207
1914	245,978
1915	264,773
1916	289,944
1917	309,761
1918	309,028
1919	328,955

1390 The East Ohio Gas Company.

Gas Produced and Purchased 1910-1919, *Inclusive.*

1910.

Hope Natural Gas Company	26,381,236	M Cu. Ft.
Other Wells	64,276	" " "
Total	26,445,512	M Cu. Ft

1911.

Hope Natural Gas Company	27,784,565	M Cu. Ft.
—— ——	100,634	" " "
Total	27,885,199	M Cu. Ft.

1912.

Hope Natural Gas Company	31,242,971	M Cu. Ft.
Cuyahoga County Field	117,471	" " "
Other Wells	85,869	" " "
Total	31,446,311	M Cu. Ft.

1391 1913.

Hope Natural Gas Company	34,170,148	M Cu. Ft.
Cuyahoga County Field	577,036	" " "
Wooster Field	1,694,464	" " "
Mohican	552,288	" " "
Other Wells	55,321	" " "
Total	37,049,257	M Cu. Ft.

1914.

Hope Natural Gas Company	27,832,757	M Cu. Ft.
Cuyahoga County Field	14,641,927	" " "
Wooster Field	2,975,402	" " "
Mohican	745,043	" " "
Total	46,195,129	M Cu. Ft.

1392

1915.

Hope Natural Gas Company	21,725,967	M Cu. Ft.
Cuyahoga	29,163,827	" " "
Wooster Field	3,753,485	" " "
Mohican	127,650	" " "
Total	54,770,929	M Cu. Ft.

1916.

Hope Natural Gas Company	45,788,609	M Cu. Ft.
Cuyahoga County Field	16,197,571	" " "
Wooster Field	2,508,263	" " "
Other Wells	168,517	" " "
Total	64,662,960	M Cu. Ft.

1917.

Hope Natural Gas Company	43,290,476	M Cu. Ft.
Cuyahoga County Field	8,467,073	" " "
Wooster Field	3,359,928	" " "
Other Wells	312,279	" " "
Total	55,429,756	M Cu. Ft.

1393

1918.

Hope Natural Gas Company	36,620,243	M Cu. Ft.
Cuyahoga County Field	7,749,942	" " "
Wooster Field	4,433,504	" " "
Uhrichsville District	102,260	" " "
Mohican	27,705	" " "
Cadiz Field	26,284	" " "
Dover Field	4,980	" " "
Other Wells	131,189	" " "
Total	49,096,107	M Cu. Ft.

1919.

Hope Natural Gas Company	32,841,102	M Cu. Ft.
Cuyahoga County Field	7,087,420	" " "
Wooster Field	3,184,989	" " "
Uhrichsville District	31,508	" " "
Mohican	457,595	" " "
Cadiz Field	250,288	" " "
Other Wells	116,009	" " "
Total	43,968,911	M Cu. Ft.

1394 The East Ohio Gas Company.

Gas Consumption January 1 to May 31, 1920.

	No. accounts.	M Cu. Ft.
Domestic	335,329	22,077,029
Gas Engines	374	141,143
Street Lights	12	63,191
Other Gas Companies	3	293,431
Industrial:		
Steel Plants	60	1,406,938
Brick Plants	5	251,453
Potteries	1	9,571
Laundries	2	5,883
Well Drillers	24	42,030
Automobile & Tire Plants	7	30,367
Carbon Works	1	50,307
Ice Plants	2	6,388
Chemical Companies	1	106
Breweries	1	19,605
Other Industrial Companies	439	464,572
Total Industrial	543	2,287,220
Grand Total	336,261	24,862,014

Actual number of Accounts for Domestic Consumers.
For Industrials, the actual number of establishments.

1395 T. J. JONES, a witness produced on behalf of complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Price:

Q. You may state your full name, Mr. Jones.
A. T. J. Jones.

Q. Where do you reside?

A. Columbus.

Q. And what is your business, generally?

A. I am manager of the Natural Gas Properties of The Pure Oil Company, which includes Columbus, Dayton, and Springfield, Ohio.

Q. Now, Mr. Jones, in a general way I wish you would state the time, positions and nature of service that you have had in the natural gas industry.

A. I came to Columbus in October, 1913; I, at that time, became connected with The Columbus Gas and Fuel Company, after which time what was The Ohio Cities Gas Company procured the properties of The Federal Gas and Fuel Company, The Springfield Gas Company, and The Dayton Gas Company. Prior to 1913 I had been engaged mostly in the manufactured or artificial gas business, the manufacturing and distributing end. That dated back to 1898, part of which time I spent in Lansing, Michigan. Thereafter I was in Noblesville, Indiana, distributing natural gas for a couple of years; I then went to Chicago Heights, Il-
1396 linois, where we started a new artificial plant, and operated that for about a year, when I went to El Paso, Texas, as manager of a gas property there, and stayed there until I came to Columbus, a period of about nine years. Since 1913 I have been engaged here in Columbus.

Q. Now, with what company are you engaged at this time?

A. I am manager of the distributing properties of the Pure Oil Company, which was formerly the Ohio Cities Gas Company.

Q. How many companies, if more than one, are associated in that industry?

A. There is The Columbus Gas and Fuel Company, of Columbus; The Federal Gas and Fuel Company, of Columbus; The Dayton Gas Company, of Dayton; and The Springfield Gas Company, of Springfield.

Q. Can you give a brief history of those various companies?

A. Not very clearly, because as I say I have only been connected with them for a short period. What I have learned of the Columbus Gas and Fuel Company, they were one of the first to distribute natural gas from The Clinton Field in Ohio, and produced and distributed gas up until March 31, 1914, at which time they began to purchase all gas distributed in the City of Columbus from The Ohio Fuel Supply Company, beginning April 1, 1914. About that time, and I think it was that date, The Columbus Oil
1397 and Fuel Company purchased the stock or the property of The Federal Gas and Fuel Company from The Ohio Fuel Supply Company, and they also, at that time, entered into a contract to purchase all gas distributed in the City of Columbus by them from The Ohio Fuel Supply Company. Early in the year 1915—or rather early in the year 1914, the Columbus Oil and Fuel Company purchased The Springfield Gas Company, and in November of that year they entered into a contract with The Ohio Fuel Supply Company for all gas to be distributed in the City of

Springfield, Ohio. Early in 1916, The Ohio Cities Gas Company purchased the property of The Dayton Gas Company and entered into a contract with The Logan Natural Gas and Fuel Company for the supply of gas for Dayton. It may be well for me to state that The Ohio Cities Gas Company was organized in 1914, and which, through an exchange of stock, secured The Columbus Gas and Fuel Company, and through a purchase from The Columbus Oil and Fuel Company, secured the Federal Gas and Fuel Company and The Springfield Gas Company.

Q. Your company is purely a distributing company?

A. Yes, sir.

Q. Now, Mr. Jones, I wish you would state, as far as you know, the advantages and the convenience and the cost of natural
1398 gas for domestic and other purposes, as compared with other fuels.

A. Well, natural gas is, first, much more economical than any other fuel and is, of course, a much more desirable fuel than any other class of fuel. It relieves considerable work and considerable dirt in the home and makes it a much more desirable fuel in that respect.

Q. Can you state the total number of consumers served by your company?

A. In the three cities it has 112,000—a little over 112,000.

Q. What three cities do you refer to?

A. That is Columbus, Dayton and Springfield.

Q. And you operate exclusively in those cities?

A. Yes, sir, and the outlying districts, the suburbs of the three cities.

Q. What are some of the results of a shortage of gas, Mr. Jones?

A. In the first place it is very unsatisfactory both to the public and to the company, and next it increases the hazard of supplying gas, a hazard that may result in loss of property as well as injury and loss of life.

Q. That comes from the danger of explosion?

A. Yes; it would be more likely with a sudden change in
1399 volume or pressure that fires may possibly go out; some may remain lighted and the gas escaping into the home would likely explode. Otherwise all fires may go out when parties are away and they come home and not realizing the condition they might strike a light and thereby cause an explosion.

Q. Now, Mr. Jones, you stated the number of consumers that you had, and you also stated that you served three cities. Can you separate those consumers and give the number in the various cities?

A. I have a list here, yes, sir, that I prepared showing that. I have it for a period of years beginning March the 31st, 1915. The reason I fix that date is it is the fiscal year of the company, and I placed it on March 31st.

Q. That is as far back as you can go, or as far back as your statement is prepared?

A. Yes, sir; The Columbus Gas and Fuel Company, March 31st,

1915, had 41,270 consumers; The Federal Gas and Fuel Company, 12,644, and The Springfield Gas Company, 10,950. I have not the Dayton Gas Company for that year because we did not have the property.

Q. Will you give me those figures again?

A. Do you wish me to read them all?

Q. Just the totals.

A. Columbus, 41,270; that is, The Columbus Gas and Fuel Company; The Federal Gas and Fuel Company, 12,644, and
1400 The Springfield Gas Company, 10,950.

Q. Now, you say that you have not the data as to the Dayton Company?

A. Not for that year; I have for the next year and the following years.

Q. Now will you proceed with the statement showing the following years from 1915 up to the present time?

A. Columbus Gas and Fuel Company 42,718.

Q. What year is that?

A. 1916—Federal Gas and Fuel Company, 13,660, and The Dayton Gas Company, 28,427, and The Springfield Gas Company 11,755. 1917—The Columbus Gas and Fuel Company 44,472; The Federal Gas and Fuel Company, 14,722; The Dayton Gas Company, 32,398, and The Springfield Gas Company, 12,752. 1918—The Columbus Gas and Fuel Company, 45,522; The Federal Gas and Fuel Company, 15,348; The Dayton Gas Company, 33,825, and The Springfield Gas Company, 13,371. 1919—The Columbus Gas and Fuel Company, 46,117; The Federal Gas and Fuel Company, 15,567; The Dayton Gas Company, 34,837, and The Springfield Gas Company, 13,730. 1920—The Columbus Gas and Fuel Company, 46,737; The Federal Gas and Fuel Company, 15,915; The Dayton Gas Company, 35,820, and The Springfield Gas Company, 14,161.

Q. Now, Mr. Jones, for what purpose was the gas furnished to these consumers that you have referred to?

1401 A. Why for cooking, lighting, heating, heating hot water, and some industrial or commercial gas.

Q. Of the amount that you have stated was any of that of your own production?

A. No, sir.

Q. It was all purchased?

A. Yes, sir.

Q. And distributed by your company?

A. Yes, sir.

Q. Now, Mr. Jones, you may state what if any amount of your Gas is distributed to public buildings and for public purposes.

A. Yes, sir; there is.

Q. And where?

A. In the three cities we supply gas to the United States Government, to State buildings, County buildings, City buildings, Schools and Hospitals.

Q. What is any other public purpose?

A. Well, we supply gas to churches.

Q. What proportion of the amount of gas distributed by you would you say was distributed to this particular class of consumers designated here as "Public"?

A. Why that would be impossible for me to answer. I have not segregated the amount that they have consumed.

Q. What, if any, contracts have you with the state for State buildings here in Columbus; to what extent have you contracts with them?

1402 A. We have no special contracts. We supply them under the same contract as we do any other consumer, which is our ordinary contract.

Q. You are familiar with the State buildings generally here,—the City and State institutions?

A. Yes, sir, generally so.

Q. Such as the State Hospital and the different institutions of the State separate and apart from the State House proper; what is the situation with reference to supplying gas to those outlying institutions?

A. Well, we supply gas to the Hospital for Feeble Minded, the Hospital for the Insane, the School for the Blind, the School for the Deaf and Dumb; we supply gas for The Ohio State University, and all of the State institutions that there are in the City.

Q. What, if any, especial provision has been made to your knowledge in the State institutions for the use of gas to the exclusion of other fuel?

A. I think at the present time most of the buildings belonging to the State use gas for cooking and perhaps heating hot water; I think very few of them use gas for general heating purposes.

Q. To what extent, Mr. Jones, have your consumers in residential parts of the City constructed their houses for the purpose of using gas exclusively, if you know?

A. That would be difficult to say without making a complete survey. We have had a survey of the residential districts,

1403 or the homes equipped for heating with furnaces, and of those I think there is about thirty per cent of our consumers who are equipped for heating with furnaces. Of that thirty per cent there is maybe twenty-five or thirty per cent that are using entirely or exclusively gas furnaces. The balance of them heat with coal, and a small proportion of which are equipped with gas burners. The balance of them heat with coal—that is on the furnace end. The balance of our consumers, which are about seventy per cent, so far as we can tell, heat chiefly with grates and stoves, gas stoves.

Q. What would be the result, according to your best judgment, if these houses, that have been constructed for the use of gas exclusively were deprived of the gas?

A. Well, that would be an estimate, without going into the matter more carefully. There are a large number of houses that are equipped—or rather I may state the flues are so equipped that it would be impossible to use coal in them without changing their flues. Undoubtedly there are a great many flues in which gas has

been used for a long period of time which would not be suitable for using other fuel, but to what extent that is true I cannot state.

Q. Well, does it exist to any considerable degree?

A. Quite a considerable extent.

Q. Now, Mr. Jones, are you able to classify your list of
1404 consumers in Ohio in the three cities referred to?

A. In what way?

Q. Well, as to the general classification, whether they are domestic consumers, industrial or otherwise.

A. About 90 per cent of the consumers are purely domestic consumers. The other ten per cent are made up of all classes of consumers, not household consumers, which would be the small consumer in the office, stores, manufacturing of all classes in which gas is used.

Q. And in that list that you have just enumerated you include the churches, school buildings, hospitals and so forth?

A. Every consumer, yes, sir.

Q. And public buildings?

A. Yes, sir.

Q. Now, Mr. Jones, what is the duration of the term of service; that is do they extend from one end of the year to the other during the winter and summer seasons?

A. Just what is your question?

Q. Do they continue to secure gas from you during the winter and summer seasons, these consumers you have referred to, from one end of the year to the other?

A. Do you mean all consumers?

Q. Yes, as a general rule.

A. In the winter time, when the occasion arises, we discontinue the service to the larger consumers.

1405 Q. I was just about to inquire about that, what method you followed when it becomes necessary to curtail the supply of gas; what method do you follow in shutting off gas?

A. We notify them to discontinue and then inspect them to see that they do discontinue.

Q. Well, in what order do you send those notices?

A. We follow, as nearly as we can, the order issued by the Utilities Commission, taking the larger industrial and the larger commercial first and cutting them on down.

Q. Mr. Jones, can you give the capital stock,—the original capital investment together with the additions made for the purpose of conducting your business up to the present time?

A. Of the different companies?

Q. Yes.

A. I could not.

Q. Well, can you of any of the other companies?

A. I haven't it now, no, sir.

Q. In round numbers, what is your company valued at?

A. The Ohio Cities Gas Company—or rather The Pure Oil Company, and I beg your pardon for getting them mixed because the names were changed lately,—The Pure Oil Company paid some-

where between $12,000,000.00 and $13,000,000.00 for the four gas companies.

Q. You have given the value of The Pure Oil Company; what is the value of the other plants?

1406 A. No, sir; that is the value that The Pure Oil Company carries the four distributing gas companies on their books at.

Q. Oh, yes. Now, Mr. Jones, in the conduct of your business you have relationship with the companies in the State of West Virginia, have you?

A. Our relationship is with The Ohio Fuel Supply Company and The Logan Natural Gas and Fuel Company. Whether they operate in the State of West Virginia I am unable to say.

Q. What do you know concerning the dependency of your company upon the West Virginia Gas supply?

Mr. Blue: Wait a minute. The State of West Virginia objects to this question; for the reason, among others, that the witness has just stated that he does not know the relationship and, therefore, is not competent to testify.

The Commissioner: Note the objection and let the witness answer.

A. Our company operating in Dayton, that is, The Dayton Gas Company, purchases or secures its entire supply from The Logan Natural Gas and Fuel Company, which, as stated in the contract between the two companies, depends entirely upon the amount of gas that they secure from West Virginia, with purchase contracts that they have in West Virginia. In that respect The Dayton Gas Company depends entirely for its supply of gas upon what gas can be secured from West Virginia.

1407. Mr. Blue: The State of West Virginia moves to strike out the answer of the witness for the reasons, among others, first, that it is incompetent, and second, that the contract referred to by the witness is the best evidence of its contents and of the information that might be had therefrom, and the statement of the witness as given is merely hearsay and is improper.

The Commissioner: Let the transcript show the motion.

Q. Had you finished with your answer?

A. As to our supply in the cities of Springfield and Columbus I am unable to state what proportion of that gas comes from West Virginia.

Q. Now, Mr. Jones, with reference to the supply at Dayton, has that supply been adequate?

A. It has not.

Q. To what extent has it been short, would you say?

A. In the winter time I should judge that we get about 50 per cent supply there; not more than that.

Q. What would be the result if the supply of West Virginia was cut off further by reason of the enforcement of the Act in question?

Mr. Blue: Wait a minute; the State of West Virginia objects to the foregoing question, as incompetent, improper, irrelevant and immaterial and for the further reason that the witness is not competent to testify upon that question or give his opinion in re-
1408 spect thereto, and for the further reason that that question assumes a construction of the Act which is not proper at this time.

The Commissioner. Note the objection on the record.

A. The Dayton Gas Company, depending entirely upon its supply from The Logan Natural Gas and Fuel Company, which Company secures the gas from West Virginia, and having no other source of supply, if the gas was cut off entirely, would immediately have to turn to other fuel. If the gas was only partially curtailed the consumers would have to be limited undoubtedly to cooking, heating water, some lighting and perhaps a little auxiliary heating.

Q. Well, what would be the effect upon your company in a business way, Mr. Jones?

Mr. Blue: Wait a minute. The State of West Virginia objects to the question for the reasons above stated.

The Commissioner: Note the objection and let the witness answer.

A. The earnings of The Natural Gas Company depend upon the volume of gas which it can sell at the present prices. Either The Dayton Gas Company would have to receive a much larger price for its gas or they would go into the hands of a receiver.

Q. What are the possibilities of storing natural gas?

A. It is impracticable.

Q. And how can the consumers best be supplied with gas, direct or through storage facilities?

1409 A. Direct.

Q. Can you explain why, Mr. Jones?

A. Well, it is impossible to store gas. The cost of building holders to store any quantity of gas would run up into a very large investment, and that perhaps would only take care of it for a very short period. It is really impracticable to do it.

Q. Now, Mr. Jones, you have enumerated the number of consumers that are supplied by your company in these various cities. State, if you know, how many people are dependent upon the natural gas supplied by your company in these various cities.

A. I should judge about 475,000; approximately that.

Q. And if your supply of gas from West Virginia was curtailed by reason of the putting into force of the Act in question here, what would be the result of that on your company as a company and your consumers and those dependent upon your company.

Mr. Blue: The State of West Virginia objects to the foregoing question for the reasons, among others that the witness is not competent to answer the question, and secondly it calls for a construction of the Act not warranted by the terms of the Act. The question calls for an answer that is, in its nature, speculative, and further the

question is incompetent, improper and irrelevant and as call-
1410 ing for a legal conclusion by the witness.

The Commissioner: Note the objection and let the witness answer.

A. The service, as I have stated, would be very unsatisfactory and very hazardous. The consumers would be limited to gas for cooking and lighting and heating hot water. It would be necessary for them to provide other means for taking care of their comforts in the way of heating. As I stated, the earnings of the companies depend upon the volume. If the volume is very materially reduced, or is materially reduced, it would necessitate either much higher rates or the bankruptcy of the companies.

Q. Assuming that the supply was entirely shut off from your company what would be the result on your company and the result on the consumers and those dependent upon your service?

Mr. Blue: The State of West Virginia objects to the foregoing question for the reasons heretofore given.

The Commissioner: Note the objection and let the witness answer.

A. If the gas were cut off entirely the companies would be put out of business, would lose their investment, or would have to proceed to erect manufacturing plants and produce manufactured gas
1411 and distribute the same to the people of the different cities.

Q. Now, Mr. Jones, in case your company did resort to the manufacture of artificial gas, how would the facilities you have for the distribution of natural gas be utilized, or could they be utilized in their present form?

A. Partially so; to what extent would depend entirely upon a very thorough investigation and experience in some cases after you would undertake to distribute artificial gas. Ordinarily natural gas distributing systems are not so laid that they can be used for the distribution of artificial gas. There is more or less condensation with artificial gas which must be taken care of. Lines must be laid to grade, dripping to certain points where the condensation can be removed.

Q. Can you state the total amount of gas supplied to your consumers during the past five years, giving the years from 1915 on?

A. I can state the amount of gas purchased by the different companies during those years and distributed in the different cities.

Q. I wish you would state that please.

A. For the year ending March 31st, 1915, in the City of Columbus, there was delivered 7,186,370,000 cubic feet; in the City of Springfield; 1,310,515,000 cubic feet. 1916,—this is March 31st, 1916——

1412 Mr. Blue: You did not give Dayton.

Witness: We did not have Dayton that year and I have not the record of it.

Mr. Blue: All right.

Witness: 1916—Columbus, 7,836,869,000 cubic feet; Springfield,

1,476,898,000 cubic feet. I have no record for Dayton for that year either.

1917—Columbus, 9,139,689,000 cubic feet; Dayton, 3,158,040,000; Springfield, 1,779,488,000 cubic feet.

1918—Columbus 10,656,209,000 cubic feet; Dayton, 3,787,926,000 cubic feet; Springfield, 2,151,710,000 cubic feet.

1919—Columbus, 9,385,064,000 cubic feet; Dayton, 3,886,965,000 cubic feet; Springfield 1,778,095,000 cubic feet.

1920—Columbus, 9,900,467,000 cubic feet; Dayton, 3,487,583,000 cubic feet; Springfield, 1,907,139,000 cubic feet.

Q. Mr. Jones, can you state the amount of gas furnished by your company to the State Institutions here in Columbus and elsewhere throughout the state where you serve them?

A. I cannot definitely.

Q. Can you procure that information?

A. I think perhaps I can, yes, sir.

Mr. Price: I believe that is all.

1413 Cross-examination.

Mr. Blue:

Q. To make clear I will ask you what company furnishes the City of Columbus with natural gas.

A. The Columbus Gas and Fuel Company and the Federal Gas and Fuel Company are the distributing companies. They purchase their supply from The Ohio Fuel Supply Company at or near the City limits.

Q. And who is the owner of The Columbus Gas and Fuel Company and The Federal Gas and Fuel Company?

A. The Pure Oil Company.

Q. And when did The Pure Oil Company acquire The Columbus Gas and Fuel Company and The Federal Gas and Fuel Company?

A. In 1914.

Q. Do you know when The Columbus Gas and Fuel Company began furnishing consumers of gas in the City of Columbus with gas?

A. In 1888 or 1889, I am not positive.

Q. Do you know when The Federal Gas and Fuel Company began furnishing gas to consumers in the City of Columbus?

A. No; I cannot say definitely. My recollection is about 1898.

Q. Did The Columbus Gas and Fuel Company supply consumers in the City of Columbus with natural gas in 1888 and 1889 and for the years subsequent to that?

A. Well to clear that up, The Columbus Gas and Fuel Company under that name was organized in 1907. Prior to that my
1414 recollection is, it was The Central Ohio Natural Gas Company from about 1888 or 1889——

Q. Well, The Central Ohio Natural Gas Company then was supplying natural gas to consumers in Columbus in 1888 or 1889?

A. Yes, sir.

Q. Was that company organized for the purpose of supplying natural gas to consumers in the City of Columbus or for the purpose of supplying artificial gas to the citizens of Columbus?

A. Natural gas.

Q. Do you know whether, prior to that time, artificial gas had been furnished to consumers in the city of Columbus?

A. Yes, sir; it had.

Q. By what company?

A. The Columbus Gas Company.

Q. Was there any relation or connection of any kind between that artificial gas company and the company that later furnished natural gas to the consumers in the City of Columbus.

A. None that I know of until, as I stated, 1907 they were consolidated into The Columbus Gas and Fuel Company—1906 or 1907.

Q. And did that company furnish artificial gas to consumers in Columbus?

A. After the consolidation do you mean?

1415 Q. Yes.

A. For a short period and for a small number of consumers; it was a very small number.

Q. Did your company acquire the artificial plant?

A. We took the entire property, yes, sir.

Q. Where was the gas produced that furnished the consumers in The City of Columbus in the years 1888 and 1889 and immediately subsequent thereto?

A. Down near Lancaster, in the Clinton Gas Field of Ohio.

Q. For how many years did that field supply gas to the consumers in the City of Columbus?

A. The Clinton Field supplied The Columbus Gas and Fuel Company up until the contract with The Ohio Fuel Supply, which was April 1, 1914.

Q. Was that the single and sole source of supply of natural gas for consumers in the City of Columbus up to the time you have just mentioned?

A. At times they purchased some gas in the winter time from the Ohio Fuel Supply Company—emergency gas.

Q. But otherwise from the Clinton Field?

A. Otherwise from the Clinton Field, yes, sir.

Q. Is the Clinton Field still producing gas?

A. Some, yes.

Q. Where is it being marketed?

A. I presume some of it comes to Columbus, I don't know.

Q. Is that field nearing exhaustion?

1416 A. From all reports that I have been able to get, it is. I am not familiar with the producing end.

Q. Was it a good gas field at one time?

A. Considered so; very good.

Q. Sufficiently ample to supply the needs of the Company furnishing consumers of natural gas in the City of Columbus?

A. Yes, sir.

Q. And what is the name of the Company furnishing consumers of natural gas in the City of Dayton?

A. The Dayton Gas Company.

Q. And as we understand it, your company acquired that com pany?

A. Yes, sir.

Q. Do you know when natural gas was first furnished to con sumers in the City of Dayton?

A. No; I think originally the gas supplying Dayton was fron the Trenton field—the Trenton sand field in northwestern Ohio.

Q. Do you know whether, previously to the use of natural gas i Dayton, whether there was an artificial gas plant there?

A. There was.

Q. Do you know whether the pipes and other appliances of tha artificial company were used later for the delivery of natura

1417 gas to consumers in Dayton?

A. I think perhaps there may be, I would say thirty t thirty-five per cent of the consumers were supplied through line formerly supplying artificial gas.

Q. You have said that the natural gas consumed in Dayton cam from the Trenton Field.

A. That is my recollection.

Q. In northwestern Ohio?

A. Originally, yes, sir; later from the Clinton field.

Q. How long did the Trenton field supply natural gas to consu mers in The City of Dayton?

A. I could not answer that.

Q. Does the Trenton field supply natural gas to the City of Day ton at this time?

A. No, sir.

Q. What has become of that field?

A. It is practically depleted, if not entirely so.

Q. When did the Trenton field become practically depleted?

A. I could not answer that.

Q. Approximately how long ago?

A. It was before my coming to Ohio and I never investigated it

Q. When was natural gas first delivered to consumers in the City of Springfield?

A. I could not answer that.

Q. Your company was not the first company to deliver natura gas to Springfield?

A. No, sir.

1418 Q. It was being delivered there by the company that you company took over?

A. Yes, sir.

Q. Do you know where the gas was produced that first supplie consumers thereof in the City of Springfield?

A. My understanding is that they also acquired gas from th Trenton Gas field originally and later from the Clinton field.

Q. Then, Mr. Jones, the plants that were put in in the cities o Columbus and Dayton and Springfield for the purpose of supplyin natural gas to consumers in those cities were put in to deliver gas t

said consumers, from the Clinton and Trenton fields in the State of Ohio?

A. My understanding is that is where they received their supply first.

Q. And those plants were not put in nor the investments were not made in those plants for the purpose of supplying citizens and consumers in the cities named with gas from the West Virginia fields?

A. Not originally.

Q. Are the public buildings and public institutions referred to in your direct examination located in or near the cities of Columbus, Dayton and Springfield?

A. I think in practically every instance they are within the city limits.

Q. Do you know whether they were being furnished with natural gas during the days when the Clinton and Trenton Fields
1419 were furnishing gas to the companies delivering it in the cities, of Columbus, Springfield and Dayton?

A. Some of them likely were; others were not.

Q. What were the institutions not being furnished with gas, or what fuel were the institutions not furnished with gas, using?

A. Some of the institutions that I referred to have since been established in those cities.

Q. The distributing companies in the three cities to which you have referred turned to the Ohio Fuel Supply Company for gas after the exhaustion of the Clinton and the Trenton Fields, did they not?

A. When we entered into the contract with The Ohio Fuel Supply Company there was no gas being received from the Trenton Gas Field. The Columbus Gas and Fuel Company was producing gas in the Clinton field, which at that time they disposed of to the Ohio Fuel Supply Company and as stated, secured the Federal Gas Company and other contracts in the City of Columbus and the suburbs thereof. As to the supply at Springfield I believe they had been receiving gas from The Ohio Fuel Supply Company; that is the Springfield Gas Company had been receiving gas from The Ohio Fuel Supply Company for ten years prior to the time that we secured that property.

Q. Did The Ohio Fuel Supply Company take over the
1420 Trenton Field also?

A. We had no interest in there.

Q. You stated on direct examination that the Dayton Gas Company purchased gas from The Logan Natural Gas and Fuel Company. What was the Logan Natural Gas and Fuel Company, and at what point did The Dayton Gas Company purchase gas from the Logan Natural Gas and Fuel Company?

A. Near the City Limits.

Q. What is The Logan Natural Gas and Fuel Company?

A. The Logan Natural Gas and Fuel Company is both a producing, distributing and wholesaling company as I understand it.

Q. Where is it producing?

A. I think it produces chiefly in Ohio, if not entirely so.

Q. Is the Logan Natural Gas and Fuel Company furnishing gas to consumers either directly or indirectly in the City of Dayton at this time?

A. The Dayton Gas Company distributing all the gas within the City of Dayton, secures its supply from The Logan Natural Gas and Fuel Company at the city limits.

Q. Well, is the quantity of gas furnished by the Logan Natural Gas and Fuel Company sufficient to supply all of the consumers of natural gas in the City of Dayton?

A. Not an adequate supply in cold weather.

Q. Otherwise is it sufficient?

1421 A. Except in the cold weather, yes, sir.

Q. In what counties, in the State of Ohio, does the Logan Natural Gas and Fuel Company find and produce natural gas?

A. I do not know.

Q. You have given, on direct examination, the number of consumers in the cities you serve in the State of Ohio, and by the statement you have given the total number of consumers in 1920 is 112,633, that being the highest number of consumers during any year in your statement. Can you state, approximately at least, the number of consumers of fuel of all kinds for domestic purposes in the cities of Columbus, Dayton and Springfield; take for instance the year 1920?

A. Domestic consumers only?

Q. Yes.

A. I should state about 90 per cent of those were strictly domestic consumers; home consumption.

Q. Well, what I am asking though is this, how many consumers of fuel of all kinds, gas, coal and any other fuel would you say are in the three cities of Columbus, Dayton and Springfield, for domestic purposes?

A. I don't know just whether I get your question.

Q. Well, I will make it clearer by asking you whether all of the consumers of fuel in the cities named are furnished with natural gas?

1422 A. All the consumers are furnished with natural gas, yes, sir.

Q. No; I have not made it clear to you yet——

A. If you mean for heating entirely why I would be unable to answer that whether they depend entirely upon gas for heating.

Q. I will ask you the question in another way. You stated on direct examination that the number of persons depending upon gas in the three cities named was 475,000; how many people are dependent on fuel of all kinds in the three cities?

A. Oh, I don't know; there would be perhaps 500,000 or 510,000. I am taking the cities and the suburbs and so forth.

Q. How many people are there in the City of Columbus depending upon fuel?

A. Well, there are 62,000 consumers all told; fifty-six thousand and some purely home consumption.

Q. What is the population of Columbus?
A. I think the last census was 237,000 or 240,000.
Q. When you gave your figure 475,000 you meant to include
ie entire population of Dayton, Columbus, and Springfield and
ie suburbs?
A. Yes, sir.
Q. Well, does the entire population of those three cities use gas
fuel?
A. Practically so. There may be some few who do not.
423 Q. Those that do not have natural gas use coal for fuel?
A. Undoubtedly so.
Q. You have given the number of—or rather you have stated
ie percentage, but not the number; you have stated the percent-
ge of gas used, but not the number of industrial consumers in
ie cities you served. Can you state the number of industrial con-
mers of your company in the three cities?
A. What do you mean by "Industrial consumers," if I may ask
at question?
Q. That is entirely proper; I mean for manufacturing purposes.
A. I could not exactly say, no, sir. When I stated about 90
r cent were domestic consumers, the other ten per cent are all
asses that are not strictly home consumption. That would in-
ude manufacturers and stores and offices and all other consump-
on.
Q. Well, you could make up a statement could you not showing
e number of factories, manufacturing plants to which you are
rnishing natural gas for fuel?
A. Yes, sir.
Q. We will ask you to do that.
A. Do you want all classes regardless of the size,—I mean of
anufacturing consumers?
Q. Yes, and stating the character, in a general way, of each of
these plants, and I will ask you for how many years you
424 can, yourself, furnish such a statement.
A. Well, it would be a little difficult because the larger
mber are small factories or manufacturing establishments which
did not keep a separate account of, but for the year ending
arch, 1920, we went through and listed those, the small and the
rge.
Q. We have some misunderstanding among ourselves here as
whether you said that 90 per cent of your consumers were do-
estic or whether you said that 90 per cent of your gas was con-
med by domestic consumers and we will ask you to state which
y that is.
A. 90 per cent of the consumers are purely domestic consumers,
me consumers.
Q. How much of your gas was used, say in the years, 1919 and
20, by industrial consumers?
A. Now, as I understand, you mean strictly manufacturing con-
ners?
Q. You may answer it that way, or you may answer it in the

way that your company has classified, itself, industrial consumers.

A. My recollection is that purely manufacturing, about nine or ten per cent. All non-domestic runs from 20 to 25 per cent.

Q. Now, what does that classification of 20 to 25 per cent include?

1425 A. It includes everything that is not strictly home consumption.

Q. In making up your statement will you include in it the information as to the part of your gas that has been consumed for industrial purposes for the years that that statement may cover?

A. I will be glad to do that, but it will take sometime, as I stated before, for the years previous to the year, ending March 31, 1920, because we will have to go through all the accounts and segregate them, which we did not have prior to that time.

Q. In view of what you have said in your last answer as to the difficulties you will have to furnish the information, I will ask you if you can state approximately the part of your gas for the years 1915, 1916, 1917, and 1918 consumed for industrial purposes.

A. I think that my judgment would be that it would be approximately the same as it was the previous years; it may be a little higher the previous years than for the last year.

Q. That is you mean it is about the same or a little higher than it was for the year 1919?

A. Yes, sir.

Q. And in respect to which you have answered?

A. Yes, sir.

1426 Q. I mean in respect to which year you have answered.

A. Yes, sir.

Q. In view of the statement you have just made then we will not ask you to go to the difficulty of setting out this information in the statement called for.

A. Thank you.

Q. We will excuse you from that.

A. Thank you.

Q. On your direct examination you stated, as we understood you, that about 30 per cent of your consumers, in the cities you supply use fuel other than natural gas for heating, although using natural gas for cooking and lighting. If we have misunderstood your answer we will ask you to correct us or to make clear what you had in mind when you made the statement to which we refer in this question.

A. That statement should pertain particularly to Columbus. My statement was that of our domestic consumers, as near as our records show, and which were taken during the last winter, that there are about 30 per cent of the consumers who are heating their homes with furnaces; of that 30 per cent who are heating their homes with furnaces about 25 per cent are strictly gas furnaces. Of the others, some are coal furnaces in which gas burners have been placed, and some undoubtedly are using coal entirely

1427 for heating.

Q. Then you mean two things; that the houses in the first instance were built with—some houses were built with coal furnaces in which gas burners were afterwards placed.

A. Some of them, yes, sir, and some of them in which there were no burners placed.

Q. Those in which gas burners were placed can be very easily converted back to coal furnaces?

A. Yes, sir.

Q. And then you have a certain part of your consumers in Columbus who use gas for cooking and lighting, using coal, however, as a fuel in their furnaces?

A. A certain percentage. The balance,—the 70 per cent of the domestic consumers we have not a complete record of, but so far as we can tell they use gas through heaters, grates and stoves.

Q. Now, many of these houses to which you referred on your direct examination were built prior to the furnishing of natural gas as a fuel in the cities to which you have referred?

A. Yes, sir.

Q. In fact a very large proportion of the houses in these cities were built prior to the bringing of natural gas into the city?

1428 A. I think not. These cities have increased very rapidly in the last ten to twenty years in population.

Q. While that is true, yet at the same time they were considerable cities before natural gas was brought into them at all.

A. Yes, sir, but——

Q. They were in fact rather good sized towns and cities before gas was brought into them?

A. Yes, sir.

Q. And the houses were built for the purpose of using coal as fuel?

A. Those at that time were, yes, sir.

Q. And many of the houses that have been built since, as we understand you, put in furnaces for the use of coal, some of which have been used or equipped for the purpose of using gas as a fuel by putting gas burners in them, and many of them were using coal and have been using coal from the beginning.

A. Undoubtedly so.

Mr. Blue: That is all.

The Commissioner: Are you through with the witness?

Mr. Blue: Yes, sir.

Here a recess was taken until 2:00 o'clock P. M.

1429 COMMONWEALTH OF PENNSYLVANIA and STATE OF OHIO

vs.

STATE OF WEST VIRGINIA.

Tuesday Afternoon, July 20, 1920.

And now, the hour of 2:00 o'clock P. M. Having arrived, hearing resumed pursuant to recess.

T. J. JONES resumes the stand.

Redirect examination.

Mr. Weil:

Q. Mr. Jones, you testified this morning that the original investment made by those respective companies in their plant and so forth was made with reference to the gas fields in Ohio. I wanted to ask you if in addition thereto, subsequently, on account of a contract made for West Virginia gas, any extensions were made to those investments and enlargement of plant and so forth?

A. There are extensions being made each and every year for the enlargement of the properties. After making our contract at Dayton we laid a sixteen-inch line to connect with their line and our city lines, and other extensions have been made. At Springfield we laid about eleven miles of ten-inch line to connect with the measuring station of The Ohio Fuel Supply Company and the city lines at Springfield, and, of course, within the cities, there are extensions being made each year.

1430 Q. When was this change made, from the supply of your own plants, from the local Ohio fields to the supply from West Virginia—how long ago?

A. We entered into our contracts with The Ohio Fuel Supply Company for Columbus as of April the first, 1914. For Springfield, as I recall, November, 1914, and for Dayton with the Logan, I think it was June, 1916. Prior to that time Springfield was being served by The Ohio Fuel Supply Company and the Dayton Gas Company was being supplied by the Logan Natural Gas and Fuel Company, and a portion of the city of Columbus was being supplied by The Ohio Fuel Supply Company.

Q. That is prior to the dates that you have given?

A. Yes, sir.

Q. And can you approximately give us about how long prior to that time—just about the time; I don't care for the exact date?

A. My recollection is that The Ohio Fuel Supply Company came into the city of Columbus about 1902 or 3. I may be wrong as to a year or so there. I understand that Springfield was receiving a supply from The Ohio Fuel Supply Company for ten years prior to that time. How long Dayton had been receiving gas from the Logan, I am unable to state.

Q. And these companies, if I understand you correctly, were drawing their supplies from West Virginia?

A. The gas supplied by The Ohio Fuel Supply Company at
1431 Columbus and Springfield was partially, at least, from West Virginia, is my understanding. And the entire supply of the Dayton company as supplied by the Logan Natural Gas and Fuel Company, was coming from West Virginia.

Recross-examination.

Mr. Blue:

Q. These extensions you referred to in your redirect examination, you mean the extensions made from year to year were the natural extensions with the growth of the business that they got?

A. The natural growth of the business and the lines at Dayton and Springfield were for the purpose of supplying a larger supply to the cities.

Q. And these extensions were going on before your company or your company's predecessors began getting any gas from West Virginia?

A. Undoubtedly there were some, yes, with the growth of the cities.

Q. So these extensions were not made upon the basis of your getting gas from the State of West Virginia; that is right, isn't it?

A. No, not entirely.

Q. Wherein is it not right?

A. At Dayton we were getting our entire supply from the
1432 State of West Virginia.

Q. When did you begin getting this entire supply from the State of West Virginia for Dayton?

A. We have since we secured the property.

Q. Well, I mean when did Dayton begin?

A. I couldn't tell you that.

Q. Well, was it getting any before the time you have just referred to when you say that you or "we" were getting our entire supply from West Virginia?

A. Yes, sir, we were receiving gas prior to that.

Q. How much?

A. Their entire supply for the consumers that they were supplying in the city of Dayton.

Q. When did Dayton begin receiving West Virginia gas?

A. I could not answer that.

Q. Have you any idea?

A. No, sir.

Q. Do you know that they were getting any?

A. My understanding is that——

Q. Well, do you *know* that it was getting any?

A. No, other than what I have been told.

Mr. Blue: The State of West Virginia moves to exclude the answer of the witness in so far as he has stated in response to the last
1433 question or any previous question respecting the supply of gas for the city of Dayton, for the reason that the witness has just stated that he does not know when the city of Dayton began getting gas from the State of West Virginia, the quantity or the amounts thereof.

The Commissioner: Note the motion.

Q. To your knowledge you can not say and you do not say, as we now understand you, that the city of Dayton is or has been getting any gas from the state of West Virginia, is that not right?

A. If you mean by that that I know that the gas that is supplied at Dayton actually comes from the State of West Virginia, through experience, knowing the production and transportation ends, yes. All that I know is that our contract specifically states that the gas comes from the state of West Virginia.

Q. You mean then by your answer that you do not know of your own personal knowledge whether the gas does or does not come from the state of West Virginia?

A. To the extent that I stated, yes.

Q. And do you know now that the gas supplied the city of Springfield comes from the state of West Virginia?

A. Not as I stated before, from personal contact with the gas in the production and transportation of it.

1434 Q. Do you know that the gas supplied to the city of Columbus comes from the state of West Virginia?

A. No, sir, not to that extent, because I am not in the producing end, nor in the transportation end.

Mr. Blue: The State of West Virginia moves to exclude all of the evidence of the witness, in so far as the witness has stated that the gas supplied the cities of Columbus, Springfield and Dayton comes from the state of West Virginia, in view of the statement just made by the witness that he has no personal knowledge respecting this matter.

The Commissioner: Note the motion.

Attorney General Price: Will you read the motion, please.

(The motion was read.)

Mr. Weil: In reply to that motion, the witness stated that he obtained part of his information from contracts made for West Virginia gas, and part of his information from the records of the company. His answer to the question was that he didn't have any personal knowledge of the fact of where any molecule of gas came

1435 from, as he was not connected with the producing and transporting end.

Q. In view of your statements, you would not attempt to state the quantities thereof, if any quantities at all, that come from the state of West Virginia and consumed in the cities of Columbus, Dayton and Springfield?

A. I would be unable to say, as I said, from personal experience, what quantity of gas comes from West Virginia that is distributed in the cities of Columbus and Springfield, also in the city of Dayton, other than our contract specifically states that the gas we receive at Dayton comes from West Virginia through contracts held by the Logan Natural Gas and Fuel Company.

Q. And those contracts were made 1914 or '15?

A. '15 or '16 at Dayton.

Q. 1915 or '16?
A. At Dayton. The others were 1914.
Q. And for many years previously thereto these cities had been furnished with natural gas by the predecessors of your company?
A. Yes, sir.
Q. Gotten from fields within the state of Ohio?
A. In and out to the best of my knowledge.
1436 Q. In so far as out of the state of Ohio, what is your knowledge as to the fields from which the gas was produced and the quantities coming out of the state fields?
A. Nothing more than what I have already stated.
Q. I don't believe that you have stated anything in respect to any quantities that were delivered to consumers in the cities named by you, as coming from without the state of West Virginia prior to the time of these contracts that you have referred to in 1915-16; is that not right?
A. I don't know whether I understood your question.

Mr. Weil: No, you are mistaken about that, Senator.
Mr. Blue: Well, if I am I will just withdraw the question.

Q. What gas within your knowledge was furnished to the consumers in the three cities named by you, that came from the state of West Virginia, prior to the time of the contracts of 1915 and '16?
A. I am unable to state.
Q. Do you know that there was any?
A. Only as I have been told by the producing or transporting companies—the wholesale companies.

Mr. Blue: The State of West Virginia renews its motion to
1437 strike out the testimony of this witness in so far as the witness has attempted to say, or his testimony can be construed as meaning, that West Virginia gas has been delivered to consumers in the cities of Columbus, Springfield and Dayton.

The Commissioner: Note the motion.
Mr. Weil: Nothing more.
The Commissioner: Anything further? You are excused Mr. Jones; but, Mr. Jones, you will furnish the information that you took memorandum of?
Mr. Jones: Yes, sir.
The Commissioner: Will you want Mr. Jones back after you have examined that?
Mr. Blue: I don't think so.
Mr. Johns: If so he can be recalled.
The Commissioner: Is it agreeable that he can be recalled if they want him?
Mr. Eagleson: Yes, certainly.
Mr. Commissioner, I have a letter from Mr. M. B. Daly, who testified in these cases at Pittsburgh, which letter I have sub-
1438 mitted to counsel for the State of West Virginia, and they very kindly consent that I read from this letter the following language into the record:

"In my testimony at Pittsburgh I stated that there were approximately ten thousand artificial gas consumers. We find upon investigation that there are about 3,200. I got confused owing to the fact that we had about 7,000 street light contracts, but I find these lights are supplied with natural instead of artificial gas."

The Commissioner: Let the statement be taken by the consent of counsel on the other side.

Mr. Eagleson: This, as counsel will remember the record, has particular reference to the city of Cleveland.

L. B. DENNING, a witness produced on behalf of complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Eagleson:

Q. State your name and place of residence.

A. L. B. Denning, Pittsburgh, Pennsylvania.

Q. Mr. Denning, what is your present connection, if any,
1439 with the natural gas industry, and with particular reference to The Ohio Fuel Supply Company?

A. Vice-President of The Ohio Fuel Supply Company.

Q. Any other position in connection with that company, or office?

A. Not of The Ohio Fuel Supply Company, no, sir.

Q. You are not a director?

A. Oh, yes, if you mean that—yes, a director.

Q. How long have you been connected with The Ohio Fuel Supply Company?

A. I have been identified with the gentlemen who organized The Ohio Fuel Supply Company for some months prior to its organization. I have been actively identified with it in some form or other since its organization in 1902.

Q. What relationships have you held with The Ohio Fuel Supply Company since 1902, and state in connection with that answer the nature of your duties and services rendered?

A. From 1902 to 1910 I had the relation of counsel in the Southern District of Ohio, having general charge with their public relations, franchise work, rate matters and matters of similar nature. On March the first, 1910, became their general counsel and a director. On May the first of 1918, I became assistant to the president
and secretary of the company and a director. In June of
1440 this year I became vice-president. It would be rather hard to make a classification of my duties as vice-president. During my time as assistant to the president I was directly responsible and answerable only to the president in matters in relation to carrying out company policy and matters that fall to the chief executive of a corporation of that kind. Since becoming vice-president my duties have been very much the same.

Q. During the time of your connection with this company, have you had a part to do with or supervision of the production, trans-

rtation and distribution of gas, either produced or acquired by this
npany and distributed to consumers?
A. More or less to do with all those matters.
Q. Then may I ask if you are as a result of this experience famil-
with the different phases of the company's business?
A. I think I am.
Q. Have you a map, Mr. Denning, of the transportation lines and
operty of The Ohio Fuel Supply Company?
A. Yes, sir, right here.
Q. Please produce it.
A. (Here witness does as requested.)

Q. I ask you to examine this map which may be marked
41 for identification Ohio Exhibit Number 2, and ask you to state in a brief and general way, what it purports to repre-
nt?

(Map marked "Ohio Exhibit No. 2.")

A. It represents the main trunk lines and transmission lines of
he Ohio Fuel Supply Company, together with the various commu-
ties to which it is obligated to supply gas either directly to its own
nsumers, or through contracts which it has with other distributing
mpanies and municipalities in Ohio.

Mr. Eagleson: We offer in evidence "Ohio Exhibit Number 2."

Q. Mr. Denning, in addition to the representation on this map of
he Ohio Fuel Supply Company's lines and property generally,
oes it not also indicate the lines, especially the main transportation
nes, of the Northwestern Ohio Natural Gas Company, and if so
ate briefly that representation on the map.
A. It shows on this map the line of the Northwestern Ohio Nat-
ral Gas Company from the compressing station at Sugar Grove
here we receive the delivery of gas which is delivered at Toledo,
distributed at Toledo, from Sugar Grove to Toledo. It does not
ow, however, the connecting line between the Sugar Grove station
f the Northwestern into West Virginia, because this map displays
only lines owned by The Ohio Fuel Supply Company or lines
442 under its control. The red line shown here as line E from the Ohio River to Sugar Grove is The Ohio Fuel Supply
ompany's line from Sugar Grove to West Virginia and has no re-
tion whatsoever to the connecting link between Sugar Grove and
ie Northwestern on one hand and its supply from West Virginia on
ie other hand.
Q. Is Sugar Grove located on this map near the designated place
alled Horn's Mills, at the star?
A. Yes. The legend here gives the star indicating compressing
tation. The star at the junction point marked Horn's Mills indi-
ates Sugar Grove. The star immediately below that, is another
maller compressing station which we use, as what we call a booster
tation.
Q. Now is that the second or the third star?

A. Both the second and third stars are smaller compressing units, used to pick up gas and to deliver up to the larger compressing station. The Sugar Grove compressing station handles not only the gas for The Ohio Fuel Supply Company system but the gas for the Northwestern Ohio system, as well.

Q. You note, Mr. Denning, in the legend of this map here it refers to Wheeler Compressing Station and also to Laurel
1443 Compressing station?

A. Yes, sir.

Q. Pine Grove Compressing station and Creola Compressing station?

A. Yes.

Q. But that does not refer here to——

A. Sugar Grove.

Q. To Sugar Grove.

A. Well, when I say Sugar Grove, it really is Wheeler station; Wheeler station is the name of the station; Sugar Grove is the name of the place where the station is located.

Q. Is there any other compressing station on the system?

A. Yes, there are several.

Q. Well, while you are discussing compressing stations, just locate them all.

A. Well, Treat Compressing station, located at Homer, in Knox county, Ohio, is the main compressing station for the northern section of Ohio-produced gas. That is assisted and helped out by a compressing station at Perrysville, which is further north, and the Ashland Compressing station, which is still further north. On the Northwestern Ohio system there is an additional compressing station at Tonkin, which is much farther north on the Northwestern lines.

1444 Q. What have you to say as to the compressing station over on the eastern part of the system designated as Elk Compressing station?

A. Well, that is just simply a small pick-up station in the field; it is of importance locally only. The two main stations are the Treat station at Homer and the Wheeler station at Sugar Grove. Both of those stations are——

Q. How do you designate Homer on this map?

A. I don't think it is shown "Homer"; I think it is simply shown Treat station.

Q. That is practically due north of Sugar Grove?

A. Yes.

Q. Or Wheeler station?

A. About forty or forty-five miles due north of Wheeler station, Sugar Grove.

Q. Now, Mr. Denning, beginning down on the river in the Southern part of the state, below Chester, I wish you would take the pipe line of your company and describe that as you go northward, and in a brief, concise way, describe your pipe line system, giving dimensions of the pipes, with particular reference to the main and transportation lines, giving their dimensions as well, and distances?

445 A. Well, there are, generally speaking, two main transmission systems. Bringing gas from West Virginia, we take the s from the United Fuel Gas Company on the Ohio Side at the point here the map shows the junction line on the Ohio side of the river. is then transported through an eighteen inch line a little over sixty-ree miles until it reaches Sugar Grove or Wheeler station at Sugar rove. The gas brought from West Virginia is there mingled into s coming up from Vinton county through this due north and uth line extending from Sugar Grove—the gas is there mingled th that gas and becomes a part of the general gas supply at that int. The line from Wheeler to Gahanna running in a general rth-westerly direction from Wheeler is a West Virginia line.

Q. Where is Gahanna, Mr. Denning?

A. Gahanna is just a short distance east of Columbus. And is the ain feed supply line for gas from that section into Columbus city. he other general transmission system begins away up northeasterly, ove the point marked "Ashland Compressing station," and gas is ought on down into Treat Station at Homer, and then sent down Zanesville; and into what we term the Cincinnati eighteen inch ne, which extends from the Treat Compressing station at Homer to incinnati and is this line which is shown extending down to Cincinnati. Coming back to what might be called the South-

446 ern system, we have line Y, 20 inch, which is a double—another line lying alongside of our West Virginia 18 inch, hich takes gas from that particular section of the country and rings it up to Wheeler. Line S from Wheeler to Gahanna is 16 ch. Then there is another line, branching off the West Virginia 8 inch line.

Q. Can you give those distances approximately, Mr. Denning, as ou go along?

A. Well, now, yes, the 18 inch line from the Ohio River to Sugar rove, Line E, is 63.9 miles. Line Y, 20 inch from Union Furnace Sugar Grove is 20.21 miles. Line S from Sugar Grove to Gahanna, 6 inch, is 33.3 miles. The other line I was just going to refer to, hich leaves the West Virginia 18 inch near Chester and extends ver to Pomeroy, is 7.4 miles. In connection with that is a further xtension which parallels the Ohio River to Gallipolis, and then exends north-westwardly up into Jackson county, reaching the towns f Jackson and Vinton counties and fed from this West Virginia line, s about thirty-five to forty miles in length.

Q. What is your connection or service, if any with Point Pleasant?

A. The Ohio Fuel Supply Company owns The Point Pleasant Natural Gas Company and takes gas back into West Virginia to supply Point Pleasant.

447 Q. Just state a little more in detail where it gets that gas and what transportation there is in connection with that gas ack to the consumers in Point Pleasant.

A. The gas distributed in Point Pleasant by The Point Pleasant Gas Company comes from West Virginia, from the United Fuel Gas Company, is transported to the connection at Chester, passes through he Pomeroy and Gallipolis line until it reaches the connection, the

connecting line to Point Pleasant, and is then transmitted across the river and distributed there to consumers in Point Pleasant, being entirely West Virginia gas.

Q. Pardon me, did you state whether or not Point Pleasant is in West Virginia?

A. I did.

Q. Or in the state of Ohio?

A. It is in West Virginia.

Q. Now, from Gallipolis, in a northwesterly direction, up to your Jackson division, supplying Jackson, Wellston and other municipalities there; is that exclusively West Virginia gas?

A. The gas passing through that line is exclusively West Virginia gas, yes, sir. There is some gas coming into those towns from a local field, however, so that I don't want to be understood as saying
1448 that those towns are entirely dependent on West Virginia gas, but the gas passing through that line and the greater proportion of the gas distributed in Wellston, Jackson, Glen Roy, and Hamden comes from West Virginia.

Q. Well, now take the division from the Sugar Grove, from the Wheeler compressing station that runs apparently due south down to Allensville and to McArthur, describe that division briefly?

A. That is what we would call an intake or suction system that is used for transporting gas produced in Ohio in the northern part of Jackson county and the southern part of Vinton county, bringing it up to Wheeler station at Sugar Grove.

Mr. Blue: Would you mind reading that question?

(Previous question read.)

Q. Now, Mr. Denning, take from the Wheeler compressing station running across in a northeasterly direction to Zanesville, and describe that main transportation line to and on beyond Zanesville, and its function?

A. Well, to Zanesville it has one function and beyond Zanesville another. From Wheeler station, it is used as a discharge transmission line, which supplies the towns you see indicated on the map, and also a portion of the supply of Zanesville and the
1449 towns on the connecting lines south of there. Beyond Zanesville the gas flows in the opposite direction. These lines over here are lines which pick up the gas produced in that section.

Q. When you say "over here" where do you mean, Mr. Denning?

A. The area beyond, east of Zanesville.

Q. Yes, sir.

A. The gas flows in the opposite direction to what it does on the line from Wheeler to Zanesville.

Mr. Blue: In other words it flows west.

A. It flows west, yes. It picks up the gas produced in that section indicated on the map here and supplies these towns which you see indicated, and the surplus, or whatever is left finds its way to augment the supply at Zanesville.

Q. What size line is it from Zanesville back to Wheeler compressing station, if you know?

A. From Zanesville back to the compressing station?

Q. Yes.

A. I really couldn't tell you, Mr. Eagleson, but my impression is, it is either twelve or sixteen inch.

Q. Do you know the distance?

A. No; I should say about forty miles, however; between
1450 forty and fifty miles.

Q. Now, briefly describe your system east of Zanesville, on down into Guernsey, in Belmont and Monroe counties?

A. Well, that is what I referred to when I said the gas flowed from that section west.

Q. Oh, you covered that?

A. I covered that in the answer, or at least intended to do so.

Q. Very well. Now, take up your main transportation lines leaving Wheeler Compressing station, and extending westward and northwestward, finding their terminus at Springfield and Beatty, and beyond, over to Sidney, and describe that division, the distance, the size of lines and the gas transported?

A. There are two lines here, both running generally westerly and then bending up to the northwest, the one line terminating at Springfield and one line terminating at Sidney. The line terminating at Springfield is a line which The Ohio Fuel Supply Company owned for a number of years. The line terminating at Sidney is one which we acquired I think in 1917, by purchase from The Central Contract and Finance Company. The flow of gas as is indicated by the arrow alongside of the indicated line, is from Wheeler station, and the gas is the gas furnished or supplied through those two lines, is the commingled gas coming from West Virginia and from the Jackson and Vinton fields and pushed
1451 on up into these towns for distribution. As to the sizes of those lines, Mr. Eagleson, and the distances, I could only approximate, as I haven't that data here. I could get it for you, however, if you desire it, and wish it.

Mr. Eagleson: I would like to have that by tomorrow, Mr. Denning.

Q. Describe, Mr. Denning, if you will please, the transportation system that carries gas to Cincinnati in the southwestern corner of the state?

A. That line is 18-inch and begins at the Homer or Treat compressing station at Homer, and extends in a generally southwesterly direction down to Cincinnati, approximately 170 miles.

Q. What is the size of that line, Mr. Denning?

A. 18-inch.

Q. And 170 miles long?

A. Approximately that, yes.

Q. Can you give us the date of its construction?

A. About 1905.

Q. What is the source of the gas which you draw and and trans-

port through that line to the municipalities along the line that you serve, to and including Cincinnati?

A. Two general sources of supply; gas produced in Ohio and that produced in West Virginia.

1452 Q. What are your sources for gas that you distribute to consumers, Mr. Denning?

A. Two general sources, gas produced in Ohio and in West Virginia.

Q. And how do you acquire that gas, by production yourselves or any by purchase, or in what manner, in the different ways that you come in possession of it?

A. Why, Ohio gas is acquired by production of our own. We are very active in drilling a large number of wells, and we purchase all the gas produced in Ohio that we can obtain. Our West Virginia gas is acquired by reason of our contract relations with United Fuel Gas Company.

Q. Now, Mr. Denning, I believe we have gone over the system pretty well, except perhaps the north branch which runs up into the Western Reserve, along in the Ashland fields; I wish you would describe——

A. That is northeast.

Q. In the—well, what do you call that division up in that field?

A. Ashland field.

Q. The Ashland field; describe your transportation there, and what its purpose is?

A. That is generally to be described as intake lines which pick up the gas produced in the Ashland and Wayne and Medina county field, Ohio, and brings that on down through Perrysville and

1453 Ashland compressing stations and delivers it to Treat station at Homer, for transmission generally to the various distributing points.

Q. Mr. Denning, I wish you would describe a little more in detail the route of the gas obtained from the United Fuel Gas Company, down at the river, as it goes to Cincinnati, giving its connection to the so-called Cincinnati line or division?

A. The system generally, Mr. Eagleson, is so arranged as to be interchangeable, or rather I should say, I fancy, inter-connecting. The point being to keep gas flowing to the distributing points as nearly uniform as can be done. Gas received from the United Fuel at its delivery point on this side of the river in Ohio, and coming from West Virginia, passes along through line E, the 18-inch line until it reaches Wheeler station at Sugar Grove. As I explained before, it is there mingled with the other gas which is brought up from Vinton and Jackson counties and the other producing territory in the Sugar Grove field. It then can be thrown in any one of several directions. It can be sent to Zanesville over this line and these intermediate points as shown on the map. It can and is sent to Columbus through the line indicated by red, or through the line indicated by blue. It can in emergency be sent up through

1454 the cross line, clear up to Treat station, so that in the event of an emergency, assuming that Treat station should for some

eason or other be put out of business, we might be able to render ome service to this section of the country controlled by Treat sta- ion, from Wheeler station; or it can and most usually is taken hrough one or the other of these cross lines running westerly from Wheeler station, connecting with the Cincinnati 18-inch line, as an dditional safeguard, for Xenia, Hamilton, London and Cincinnati, nd the intermediate towns supplied.

Q. That connection you last described intersects with the Cin- innati Division line over by South Charleston?

A. Yes, sir.

Q. Is there any gas that goes into this Ohio Fuel Supply line rom the river north to the Wheeler station, from the United Fuel Gas Company, that is delivered to or goes on to the northwest up nto the system of the Northwestern Ohio Natural Gas Company?

A. Do I understand your question, be any gas received from the Jnited Fuel Gas Company——

Q. Yes.

A. Delivered to the Northwestern?

Q. Yes.

A. There is not. Not under ordinary conditions at all.
455 Conditions might arise in the event of an emergency where it would be necessary to do that, but——

Q. Well, in case of emergency you would have the facilities hereby you might do that?

A. In the case of emergency it is so arranged that that might be one, but it is not done under ordinary operating conditions, because n the Northwestern we depend entirely for our supply from West Virginia, through the connecting line, which is entirely a separate ine, not shown on this map.

Q. Is it a fact, or to what extent is it a fact that your system as escribed by you, is so intersected that you can by changing or by- assing gas, transport natural gas obtained from the United Fuel Gas Company, in the way you have described, to almost every division f your system in Ohio?

A. Well, the system is so arranged that that can be done, to the xtent of the volume and pressure we would have to carry it. I on't mean to say that could be done with all points, because that ould be mechanically impossible.

Mr. Weil: Not at the same time.

A. Not at the same time; that would be mechanically im-
456 possible.

Q. This map, Mr. Denning, does not attempt or purport to how your gathering lines, field lines, connections and so forth?

A. It does not. It simply undertakes to show the transmission ystem, both main and minor transmission systems and the munici- alities supplied.

Q. Can you from memory give in general in a brief way the Ohio as fields, or territory which The Ohio Fuel Supply Company is perating?

A. Well, I can give it in general terms, Mr. Eagleson, yes. To he northeast, and tributary to the Treat station are two general

fields, known as the Ashland field, which embraces Wayne, Medina—those counties up in that section of the state—and the Knox-Licking field. Then passing over to the line extending eastwardly from Zanesville, there is a relatively small field in that section from which we produce some gas, but not such a very large field. Then to the south of Wheeler station is the Jackson-Vinton, the northern end of Jackson County and the southern portion, relatively speaking, the southern half of Vinton County. Relatively speaking I may say this: there is no gas production of The Ohio Fuel Supply Company at any point west of the main transmission system. Nothing in here at all (indicating), no production. The production all lies east.

1457 Q. That would be no production in territory west of a straight line running north and south through——

A. Well, if you were to take Wheeler station as a starting point and project a line due north, I would say, generally speaking, there is no production west of that line.

Q. Mr. Denning, let me ask you here what the connection if any is between The Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company?

A. The Ohio Fuel Supply Company owns all the stock of the Northwestern Ohio Natural Gas Company except directors' qualifying shares.

Q. Can you give us amount of land held by leaseholds of The Ohio Fuel Supply Company in the State of Ohio, and also operated acreage and unoperated acreage, for the period of time, 1910 to 1920, inclusive; and also the gas production in Ohio of The Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, and the totals thereof for the period of time 1910 to 1920, inclusive; and also the gas produced in Ohio by The Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, together with the total of the two for the period 1910 to 1920, inclusive; and in addition give us the gas purchased that has

1458 been produced in West Virginia and transported into Ohio by The Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, and the total of the two for the time 1910-1920, inclusive?

A. The fiscal year of both The Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company are coincidental with the Calendar year. I can give you the information you request for the full calendar years from 1910 to 1919, inclusive. The 1920 figures would have to be on the basis of the first five months of the year, because that is the extent to which our accounts have been brought, in that regard.

Q. Will you please give us those figures in answer to that question.

A. —

The Ohio Fuel Supply Company.

The Amount of Gas Production and Lease Holdings in Ohio.

Leaseholds.

	Acres.	
	Operated.	Unoperated.
1910	39,549	414,117
1911	41,222	535,350
1912	45,865	582,722
1913	53,630	402,779
1914	70,407	396,540
1915	74,960	504,403
1916	76,485	434,301
1917	103,040	730,924
1918	114,595	848,446
1919	119,045	865,131
1920 (For five months)	122,506	934,953

1459 *Gas Production.*

	L. F. S. Co. M cu. ft.	N. W. O. N. G. Co. M cu. ft.	Total. M cu. ft.
1910	9,978,844	24,079	10,002,923
1911	9,938,057	20,404	9,958,461
1912	12,761,771	18,886	12,780,657
1913	12,879,098	9,717	12,888,815
1914	13,195,382	9,256	13,204,638
1915	13,967,006	9,219	13,976,225
1916	15,830,681	9,182	15,839,863
1917	20,234,567	7,788	20,242,355
1918	20,536,358	5,255	20,541,613
1919	22,418,827	3,445	22,422,272
1920 (For five months)	12,999,012	2,048	13,001,060
Total	164,739,603	119,279	164,858,882

Gas Purchased—Ohio.

	O. F. S. Co. M cu. ft.	N. W. O. N. G. Co. M cu. ft.	Total. M cu. ft.
1910	4,190,151	.....	4,190,151
1911	3,052,481	92,445	3,144,926
1912	2,822,510	298,961	3,121,471
1913	3,274,072	9,118	3,283,190
1914	5,038,151	65,494	5,103,645
1915	5,637,253	122,746	5,759,999
1916	7,044,858	605,897	7,650,755
1917	5,330,200	331,337	5,661,537
1918	3,842,184	309,331	4,151,515
1919	3,864,509	273,310	4,137,819
1920 (For five months)	2,065,214	523,523	2,588,737
Total	46,161,583	2,632,162	48,793,745

1460 *Gas Purchased—West Va.*

1910	2,852,604	3,494,456	6,347,060
1911	3,989,010	3,730,237	7,719,247
1912	4,683,365	4,162,036	8,845,401
1913	5,045,974	4,585,340	9,631,314
1914	6,952,652	5,114,277	12,066,929
1915	6,846,418	5,128,283	11,974,701
1916	10,002,914	5,293,766	15,299,680
1917	10,753,311	6,347,845	17,101,156
1918	11,500,964	6,059,661	17,560,625
1919	9,455,428	5,709,498	15,164,926
1920 (For five months)	4,674,999	2,553,491	7,228,490
Total	76,757,639	52,181,890	128,939,529

Q. Mr. Denning, can you give us the gas sales of The Ohio Fuel Supply Company in the State of Ohio for the years 1910 to 1920, 1920 being the current year, the first five months of this year, classified as to show the amount sold to consumers for domestic purposes, for public buildings, for industrial purposes and other or miscellaneous, and by wholesale to municipalities and other utilities, number of consumers and the total of the whole, and in each classification giving the number of consumers if you can, and in addition to answering those inquiries give the gas sales of
1461 the Northwestern Ohio Natural Gas Company for the period of 1910 to the end of the fifth month of 1920, inclusive, to the domestic consumers, giving the number of consumers, the amount consumed, industrial consumers and the amount consumed, to consumers other than domestic and industrial and the amount consumed, and the total number of consumers, and the total amount of gas those companies sold?

A. Yes, sir, I have prepared a tabulated statement showing that information, which however, might require a little explanation in order to represent the true conditions. The statement shows domestic number of consumers and thousands of cubic feet, public buildings consumers and thousands of cubic feet, other consumers and thousands of cubic feet, and wholesale municipalities and utilities consumers and thousands of cubic feet. Under the item of "Other" that embraces gas largely used for pumping purposes, free gas consumers by reason of right of way contracts, or something of that nature, and is gas for which no revenue is received. Under the item of wholesale, municipalities and utilities, is embraced the various distributing companies to whom we sell gas wholesale, such as The Columbus Gas and Fuel Company, The Federal Gas and Fuel Company, The Springfield Gas Company, The Middletown Gas and Electric Company, The Union Gas and Electric Company at
1462 Cincinnati, the City of Hamilton, the Village of Tarlton, and I think one or two other smaller communities, to which we sell gas wholesale. The major, or the greater proportion of that gas is really domestic gas, although not classified so by us.

I merely call attention to that so that the statement will be understood.

The Northwestern statement is purely Northwestern gas. Those figures are as follows:

1463 The Ohio Fuel Supply Company.

Gas Sales.

	Domestic.		Public bldgs.	
	Cons.	M cu. ft.	Cons.	M cu. ft.
1910	53,908	5,929,074	259	582,165
1911	55,563	6,195,805	316	750,379
1912	59,023	6,754,603	340	1,019,261
1913	61,452	5,915,499	399	794,368
1914	43,693	5,349,320	205	557,972
1915	44,880	4,872,235	184	426,020
1916	45,846	4,838,829	152	376,398
1917	50,814	5,658,839	153	322,245
1918	60,822	5,869,968	275	297,632
1919	62,182	6,020,735	351	271,870
**1920	63,060	3,881,832	415	180,356
		61,285,739		5,578,666

The Northwestern Ohio Natural Gas Company.

Gas Sales.

1910	34,579	3,193,190
1911	37,101	3,482,266
1912	39,382	3,855,030
1913	41,799	3,849,051
1914	44,444	4,023,629
1915	47,072	4,259,843
1916	50,108	4,761,600
1917	48,921	6,219,154
1918	52,365	5,947,414
1919	53,966	5,620,150
**1920	54,119	3,321,095
		48,532,422

1464 The Ohio Fuel Supply Company.

Gas Sales.

	Industrial.		Other.	
	Con.	M cu. ft.	Con.	M cu. ft.
1910.....	220	5,900,928	216	1,302,546
1911.....	194	5,485,500	211	1,096,605
1912.....	200	6,319,891	48	1,535,102
1913.....	168	7,302,154	36	1,445,150
1914.....	179	7,593,930	39	1,148,152
1915.....	151	7,113,164	32	755,443
1916.....	160	8,357,036	84	1,223,089
1917.....	173	5,638,537	56	2,164,342
1918.....	308	5,695,538	60	1,924,508
1919.....	351	5,125,871	31	1,816,347
**1920.....	385	1,892,073	16	1,084,700
		66,424,622		15,495,984

**Figures for 1920 are for first 5 months only.

The Northwestern Ohio Natural Gas Company.

Gas Sales.

1910.....	3	230,353	1	4,558
1911.....	4	132,030	1	2,524
1912.....	6	303,268	1	7,380
1913.....	9	407,126	1	303
1914	8	657,710	.	....
1915.....	9	632,656	.	....
1916.....	1	619,616	9	16,423
1917.....	1	42,265	6	37,103
1918.....	1	47,255	4	41,223
1919.....	1	48,001	4	32,793
**1920.....	1	16,741	4	28,117
		3,137,021		170,424

1465 ## The Ohio Fuel Supply Company.

Gas Sales.

	Wholesale—Municipalities—Utilities. M cu. ft.		Total. Cons.	Total. M cu. ft.
1910	137,854	3,170,032	54,603	17,021,599
1911	228,149	3,223,110	56,284	16,979,548
1912	273,537	4,365,252	59,611	20,267,646
1913	323,557	5,418,411	62,055	21,199,139
1914	397,492	10,139,319	44,116	25,186,185
1915	418,018	12,865,797	45,247	26,450,677
1916	495,132	15,251,628	46,242	30,542,112
1917	660,066	17,882,010	51,196	32,326,039
1918	853,158	17,191,057	61,465	31,831,861
1919	963,766	16,463,802	62,915	30,662,391
** 1920	496,459	8,946,470	63,876	16,481,890
	5,247,188	114,916,888		268,949,087

**Figures for 1920 are for first 5 months only.

The Northwestern Ohio Natural Gas Company.

Gas Sales

1910	34,583	3,428,101
1911	37,106	3,616,820
1912	39,389	4,165,678
1913	41,809	4,256,480
1914	44,452	4,681,339
1915	47,081	4,892,499
1916	50,118	5,397,639
1917	48,928	6,298,522
1918	52,370	6,035,892
1919	53,971	5,700,944
* 1920	54,124	3,365,953
		51,839,867

Total number of consumers May 31, 1920 118,000

Q. Can you give us the cost of the main lines of The Ohio
1466 Fuel Supply Company, for the purpose of transporting and distributing West Virginia gas in Ohio? And if you can, Mr. Denning, as a part of your answer to that question, give us the size of the lines and the miles and the gas, and the points from and to which they extend?

Mr. Blue: The State of West Virginia objects to the foregoing question for the reason, among others, that the question calls for an answer upon an assumption that the lines were built for the purpose of transporting West Virginia gas when no such assumption is supported by the evidence.

The Commissioner: Note the objection and answer the question.

A. Line E from the Ohio River to Wheeler station at Sugar Grove, used exclusively for the transportation of gas out of West Virginia, 63.9 miles in length, 18 inch in size, cost $879,802.96. Line D, from Wheeler station to Valley Crossing, just to connect in to the Columbus feed system at Valley Crossing, 12 inch, 33.26 miles long, cost $280,043.91.

Line F, from the junction point on line E near Chester,
1467 to Pomeroy and extending beyond Pomeroy to Gallipolis and into Jackson county, consisting of part 6 and part 4 inch line, 61.19 miles long, used for the transportation of West Virginia gas exclusively, cost $226,450.11.

Line A, from Columbus to Norwood, known as the Cincinnati 18 inch, which was not built exclusively for the transportation of West Virginia gas, but which we estimate as devoted fifty per cent. of its

(* Figures for 1920 are for first 5 months only.)

cost to the transportation of West Virginia gas, being 18 inch in size, 54.30 (?) miles long, cost $762,177.56. Line J, extending from Sugar Grove, Wheeler station, across to the intersection of the Cincinnati 18 inch line——

Mr. Blue: At South Charleston?

A. At Selma, which is near South Charleston, just west of it, consisting of part 12 and part 10-inch line, being 63.97 miles long, cost $278,731.43. Line Y, extending from Sugar Grove south-easterly to Union Furnace, and paralleling the West Virginia 18-inch line, which is not devoted exclusively to West Virginia gas, being 19.88 miles long and 20 inches in Diameter, cost $554,204.06. Line Z consisting of part 10 and part 8 inch, extending from Wheeler station at Sugar Grove, in a general north-westerly direction to Sidney, Ohio, 126.62 miles long, cost $524,116.79. That line is not devoted exclusively to gas transported from West Virginia. That is
1468 all the investment made by The Ohio Fuel Supply Company for West Virginia gas.

The Northwestern Ohio——

Q. That would be all the investment by The Ohio Fuel Supply Company for the purpose of transporting West Virginia gas as relating to the main line system, would it not?

A. Yes, for main line transmission system, yes.

Q. But that would have no reference to any additions, betterments or extensions to various distributing systems occasioned by the marketing of that West Virginia gas?

A. No reference at all to distributing systems.

Mr. Weil: Or to the compressing stations.

A. Or to the compressing stations; no, sir, that would all be in addition to these figures.

Q. Yes, sir.

A. The Northwestern investment for West Virginia gas, represents their entire investment, or $6,112,730.48.

I probably should qualify that statement to this extent, that the Northwestern has some slight production in I believe Northern Ohio, but it is so small and so limited that we do not really consider it any factor at all; so for all general intents and purposes it is correct to say that the entire investment of the Northwestern is devoted to West Virginia gas.

Q. And originally those main transportation lines from
1469 the Sugar Grove station through the state of Ohio to the north-west, were laid for the purpose, solely, of transporting West Virginia gas to the Toledo country?

A. The 18-inch line of The Ohio Fuel Supply Company, extending from Wheeler Station south-easterly to the Ohio River and connecting with the 18-inch line of the United Fuel Gas Company, was laid, built, and the investment made for the express and only purpose of procuring and transporting gas from West Virginia. The

lines of the Northwestern—its transmission system—were built and laid exclusively and for the sole and only purpose of obtaining gas from West Virginia.

Q. Then, Mr. Denning, the lines which you have just described giving the cost thereof and location, with the exceptions you have noted, both as to The Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, were designed, constructed and are being maintained for the purpose of handling and marketing West Virginia gas?

A. Yes.

Q. Mr. Denning, could you give us an estimate of what
1470 it would cost under present conditions to acquire and construct the system of transportation lines which you have just described, and the original cost of which you have given us?

A. It would only be an estimate, but based upon figures which I have had compiled, personally made myself, recently, the average cost of pipe line in general construction has increased about 110 per cent over the prices prevailing in 1914. The Ohio Fuel Supply 18 inch line from Wheeler to the Ohio River was built in 1909, under particularly advantageous prices and conditions. The Northwestern line was I believe built prior to that time; I can't give from memory the exact date. I think it would be fair and well within conservatism to say that the cost today would be more than double the figures which have been given.

Q. Mr. Denning, can you give us the names of the cities, towns and municipalities in Ohio supplied in whole or in part with gas acquired in West Virginia, by your company?

A. That would be extremely difficult to answer with any particularity of detail, Mr. Eagleson. I might say in general terms that Columbus and the towns between Columbus and Sugar Grove
1471 on that line in there, are practically almost wholly dependent upon West Virginia.

Q. Can you give us approximately the number of municipalities in Ohio served by The Ohio Fuel Supply Company?

A. Served direct through its own distributing systems, approximately 150 towns. When I say that I include smaller municipalities, from unincorporated hamlets up to the larger cities. Served through other distributing companies whom we supply wholesale, are Columbus, which is served through The Columbus Gas and Fuel Company and the Federal Gas and Fuel Company; the city of Springfield, which is served through The Springfield Gas Company; the City of Washington Court House, which is served through The Washington Gas and Electric Company; the city of Middletown, which is served through the Middletown Gas and Electric Company; the city of Hamilton, which is served by a municipally-owned plant—owned by the city—the village of Tarlton, and I think one or two other small communities who own municipal plants; and the Union of the city of Cincinnati. We do not *not* supply all the city of Cincinnati.

Q. Can you give us a list of the municipalities that you supply gas to, that is that The Ohio Fuel Supply Company supplies gas to, regardless of its sources?

A. You mean from all sources?

Q. Yes.

1472 Q. Please do so.

A. That list is a tabulated statement of the towns which we supply direct by the Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, but does not include the names of the municipalities which are not supplied direct by us.

By The Ohio Fuel Supply Company:

St. Clairsville.
E. Richland.
Belmont.
Bethesda.
Morristown.
Barnesville.
Somerton.
Miltonsburg.
Quaker City.
Spencer.
Cambridge.
Byesville.
Pleasant City.
Derwent.
Buffalo.
Senecaville.
Caldwell.
Sarahsville.
Claysville.
Rix Mills.
1473 Belle Valley.
Coal Ridge.
Mt. Vernon.
Fredricktown.
Academia.
Gambier.
Howard.
Millwood.
Bangs.
Brandon.
Martinsburg.
Croton.
Appleton.
Johnstown.
Alexandria.
Lock.
Perrysville.
Hayesville.
Mifflin.
Zanesville.
South Zanesville.
New Lexington.
Junction City.
Rushville.
W. Rushville.
Bremen.
Shawnee.
New Straitsville.
Corning.
Hemlock.
Ludington.
Drakes.
Buckingham.
Millerstown.
Rendville.
Glouster.
Trimble.
Jacksonville.
Logan.
Haydenville.
Enterprise.
Nelsonville.
Carbon Hill.
Midway.
McArthur.
Hamden.
Wellston.
Coalton.
Glenroy.
Jackson.
Allensville.
Gallipolis.
Middleport.
Pomeroy.
Chester.
Gahanna.
New Albany.
Canal Winchester.
Waterloo.
Crooksville.
Roseville.
Beem City.

Hanover.
East Fultonham.
Dresden.
Hooker.
London.
Xenia.
1474 Wilberforce.
Miamisburg.
Germantown.
Monroe.
Sharonville.
South Charleston.
Rockbridge (Field.)
Tremont City.
Lawrenceville.
Buckeye Lake.
Colfax.
Pleasantville.
South Pleasantville.
Pickerington.
Lancaster.
White Cottage.
Old Washington.
Crafton.
Sedalia.
Piqua.
Sidney.
Fultonham.
Frazeysburg.
Carroll.
Sugar Grove.
West Jefferson.
Cedarville.
Somerset.
Franklin.
West Carrollton.
Bethany.
Urbana.
Mt. Sterling.
Murray City.
North Hampton.
Groveport.
Camp Grounds.
Horns Mills.
Baltimore.
Thurston.
Basil.
Nashport.
Trinway.
Lore City.
New Carlisle.
Beattytown.
Troy.
Tippacanoe City.

Covington.

By The Northwestern Ohio Natural Gas Company:

Toledo.
Bowling Green.
North Baltimore.
Maumee.

Perrysburg.

By Point Pleasant Natural Gas Company:

Point Pleasant, West Virginia.

1475 Q. Can you give us also the list of towns supplied by the Northwestern Natural Gas Company?

A. That is included in the list, Toledo, Bowling Green, North Baltimore, Maumee, Perrysburg, and by the Point Pleasant Natural Gas Company, Point Pleasant, West Virginia.

Q. Mr. Denning, can you give us the amount of gas sold by The Ohio Fuel Supply Company at wholesale for the year 1919, to utilities and municipalities in Ohio, and also the amount of gas for like utilities sold to the municipalities, of Tarlton, Williamsport, and Hamilton, with totals, and then the summary of the gas sold by your company in the year 1919, with the total, together with the number of municipalities, churches, schools, state institutions and public

buildings furnished gas by your company during the year 1919, in thousands of cubic feet?

A. Yes, sir.

Q. Please do so.

A. It is as follows:

1476 The Ohio Fuel Supply Company.

Wholesale Gas.

Year 1919.

Gas Sold to Utilities and Municipalities.

Utilities.	M cu. ft.	
Clintonian Fuel & Oil Co.	2,798	
Granville Fuel & Light Co.	104,599	
Washington Gas & Electric Co.	171,020	
East Ohio Gas Co.	19,781	
Buckeye State Gas & Fuel Co.	195,351	
Springfield Gas Co.	1,840,124	
Middleton Gas & El. Light Co.	486,793	
Union Gas & Electric Co.	3,459,522	
Columbus Gas & Fuel Co.	6,851,820	
Federal Gas & Fuel Co.	2,964,484	
Pt. Pleasant Natural Gas Co.	94,200	
Northwestern Ohio Natural Gas Co.	273,310	
Total		16,463,802
Municipalities.		
Village of Tarlton	8,161	
Village of Williamsport	19,278	
City of Hamilton	936,327	
Total		963,766
		17,427,568

1477 The Ohio Fuel Supply Company.

Wholesale Gas.

Year 1919.

Summary—Year 1919.

Retail Sales	18,935,767	
Wholesale Sales	17,427,568	
Total		36,363,335

Number of Municipalities, Churches, Schools, State Institutions and Public Buildings Furnished Gas During the Year 1919 by The Ohio Fuel Supply Company.

Municipalities	135
Churches	130
Schools	57
State Institutions	43
Public Buildings	170

1478 Q. Mr. Denning, to what extent is your company endeavoring to find and procure additional gas supply first within the state of Ohio, going into, if you will, please, the territory the efforts that you are making to find additional gas territory, your leasing department and your extent of your drilling, and a full general description of the efforts of your company to maintain if possible your natural gas supply for your consumers.

A. We are constantly on the search for new gas territory; we maintain a considerable force of men whose business it is to try to find all the leases for anything that looks like likely-looking territory.

The best indication I can give you as to our attitude in that respect is to be drawn I think from the statement heretofore given as to the operated and unoperated acreage in 1910 as compared with 1919. In 1910 the operated acreage was 39,549 acres; in 1919 the operated acreage had almost—increased from that figure to 119,045, or 80,000 acres more. The unoperated acreage in 1910 was 414,117 acres which had increased in 1919, to 865,131 acres, or over 100 per cent. One branch of our business or organization devotes its entire time to the attempt to discover—I won't say discover, because they don't always get it—the attempt to discover and develop and pro-

1479 duce gas—in fact I think I may say that the greatest amount of our epense is in the attempt to discover and produce gas.

Q. What do you say as to whether or not the recognized natural gas sands or deposits in Ohio, as described and defined by geologists and proven by actual test by those in search of gas, have been in the main in Ohio, either exhausted or in process of depletion?

A. Unquestionably the present known fields are in process of exhaustion, as compared with 1914. The number of non-productive wells or "dry holes" is greater in proportion to the total number of wells drilled today than it was in 1914. The average production per acre brought in by The Ohio Fuel Supply Company for the first five months of 1920, compared with 1914, showed a falling off of 34 per cent. in production; that is, wells produced in 1920, showed an average production of 34 per cent. less than wells in the same field in 1914.

Mr. Weil That is new wells.

A. New wells, yes, sir.

Q. Is that due to the fact that you are out of the heretofore and well-known deposit, in the less reliable or speculative acreage,
1480 or what is your explanation of that fall-off?

A. Well, that could be explained that way, as one factor. In my judgment, however, the main factor is that the gas is being gradually exhausted from the gas-bearing sands.

Q. What is the number of drilling rigs or equipments or the extent of your active physical operation at the present time in drilling wells?

A. I would have to speak from memory only on that, Mr. Eagleson, not having the figures before me; but I would say that we were operating directly under our own control probably 60 drilling rigs, and besides a considerable number contracted for with outside contractors and not under our own direct control. We have drilled to date this year, I think, about 140 wells. I would like to make that statement, however, subject to correction and get those figures tomorrow. In Ohio I am referring to now.

Q. And does that degree of intensity that you are now drilling fairly measure the efforts in the past months and year or years?

A. It is not so great as we have drilled in previous years due to inability to obtain men and materials. Since the War Period and during the War Period, we had to come in competition with many factors, and since that time—speaking now, since the Armistice was signed—generally we have experienced a very great deal of trouble in obtaining men and materials. At the present moment the
1481 transportation system of the country is in such condition that we can't rely for a minute on the railroads bringing us pipe and material. In a number of instances we have had to truck to get material into the field. So, while we are bending every effort to accomplish something in the way of additional production, we are handicapped by the matters that I have just spoken of.

Q. Are you making an effort or investigation in states outside of Ohio to find natural gas, within a radius of possible transportation to Ohio?

A. The Ohio Fuel Supply Company is not, no, sir. We know from experience in the past that it is idle to look for it in any contiguous territory in Indiana or Pennsylvania. The only known fields that we have to do with for a possible widening of production area is West Virginia. The Ohio Fuel Supply Company has no direct interest in production in West Virginia. It is wholly dependent upon the supply which the United Fuel Gas Company may give to it for The Ohio Fuel Supply Company and the Reserve Company, the producing company, in West Virginia, through the connecting line, the pipe line, may deliver to the Northwestern for Toledo and its other towns.

1482 Q. Then exclusive of the gas to be obtained in Ohio along the lines you have suggested, the future gas supply to be distributed by your company would necessarily come, if at all, from West Virginia?

A. So far as any source of supply is available today, I would say it must be, yes.

Q. I believe I neglected to ask you in connection with the numb of towns you supplied in Ohio, the number of gas consumers yo company has in the state?

A. The number of gas consumers which we supply direct, I ha already placed in the record in the statement made.

Q. Yes, and could you give in connection with that an estimate least, of the number of people in Ohio that are thereby depende upon natural gas for heat, light and fuel?

A. The number of consumers which The Ohio Fuel Supply Co pany supply direct?

Q. No, I am asking the number of people, I mean that as t population, as distinguished from the number of meters or co sumers?

A. Well, in answering that question I want to call attention to t fact that a very large proportion—I think roughly speaking abo 55 per cent of the gas sold by The Ohio Fuel Supply Company—

delivered to municipalities and other utilities, to which it d

1483 not supply the consumer direct, referring again to Columbu Springfield, Hamilton, Middletown and these other tow On the basis—and we figure approximately about 4½ persons f each meter connection—I haven't the population figures at han but I would say, including the volume of gas which The Ohio Fu Supply Company delivers to other municipalities and utilities, a adding thereto the total number of consumers which it suppli direct, The Ohio Fuel Supply Company, I would estimate is r sponsible for the natural gas supply of approximately one milli people.

Q. Now, with reference to these one million people depende upon your company for natural gas, as you stated, if the authorit in West Virginia, pursuant to the act in question here, were divert to persons, firms or corporations in West Virginia, for t services of the public, or any part of the public, for all purposes the State of West Virginia, a substantial amount of the gas th otherwise would come through the United Fuel Company lines the lines of your company for distribution to those consumers, wh effect would that have upon their gas supply in Ohio, and the oper tion of your company in their service?

Mr. Blue: The State of West Virginia objects to the foregoi question as incompetent, irrelevant and immaterial, and f

1484 the further reason that the question assumes a constructi of the statute not warranted by the terms of it and calls f the answer upon such an assumption; and for the further reas that the witness is not competent to construe, or is not called upon construe the statute in the terms of the statute; and that the answ given by the witness would be the statement of a conclusion upon legal question, and a question that is to be determined by the cou and not by the witness.

The Commissioner: Note the objection and let the witness answ

A. I understand your question to be what effect the diversion of substantial amount of the gas received from West Virginia wou

have upon the operations and property of The Ohio Fuel Supply Company and the people whom it serves. Is that a correct conclusion?

Q. That is correct.

A. A very disastrous and destructive effect upon both, of course more or less dependent upon the quantity of gas diverted. A substantial quantity diverted would have the immediate effect of disorganizing and disarranging the service to the consumers throughout the state, make necessary the entire elimination of service

1485 from a considerable number of consumers, a complete rearrangement of lines, compressing stations and operating conditions of the company and undoubtedly deprive a considerable portion of the people served by the company, of gas service, thereby destroying the investment which they have in appliances, and also result in a destruction of a considerable portion of the company's property, by reason of the fact that it would no longer be of any value or use in the company's operations, and would not have any value whatsoever, except what might be possibly obtained from a resale or junk or a salvage value. It would necessitate—I think I have already said—a complete elimination or discontinuance of service to a considerable number of consumers.

Q. Do you mean by that a considerable number of municipalities?

A. Yes; for instance, for illustration, take the city of Columbus——

Q. That is the capital of the state?

A. The capital of the state, yes; we rely almost entirely upon the volume of gas produced in West Virginia and transported through the West Virginia 18-inch line, to supply Columbus. If that were diverted or were to cease, Columbus would be, I may say, almost without gas service entirely.

1486 Q. Well, let me put this question right in that connection: In the peak load period of the Winter season, if the West Virginia gas were to be denied in whole or in substantial part, to The Ohio Fuel Supply Company through the connection you have described, would it or would it not in effect deny the city of Columbus any supply of natural gas at all?

Mr. Blue: The State of West Virginia objects to the foregoing question for the reasons heretofore assigned.

The Commissioner: Note the objection.

A. Last winter during the cold period, The Ohio Fuel Supply Company did not have enough gas from all sources produced or purchased in Ohio, and including the gas delivered to us from West Virginia, to supply cold-weather-demands of its consumers. To divert or discontinue or take away the supply of gas from West Virginia would leave Columbus absolutely without gas; that is, when I say "absolutely," I mean without any dependable gas service at all, and to all practical effects absolutely without gas. As applied to the Northwestern——

Q. Just a minute before you go to that, if I may. What
1487 would be the effect upon Springfield under the same statement?

Mr. Blue: Same objection.

A. The same result.
Q. The same result as to Springfield?
A. Yes.
Q. And to what extent would the result be the same as to Cincinnati, Ohio?

Mr. Blue: Same objection.
The Commissioner: Note the objection.

A. Well, with regard Cincinnati—I can put it this way: The Ohio Fuel Supply Company has prior obligations to its own consumers which it supplies direct. The obligations to supply Columbus, Springfield, Hamilton, are secondary. Well, I will include in that also Cincinnati and Middletown—are secondary to its obligations to supply its own consumers. However, it happens that Cincinnati and Middletown have prior rights over Columbus and Springfield and Hamilton, so that in the event of shortage we would take care of to the best of our ability, our own consumers first and what gas we would have left would be divided to Cincinnati and Middletown.

By the time we got around to the other towns I don't believe
1488 there would be any left.

Q. Now, Mr. Denning, you may take up the thread of your answer where I interrupted you, with the Northwestern, I believe you——

A. The Northwestern Natural Gas Company, as I have said before is wholly dependent and has been for years, upon the supply of gas produced in West Virginia, and delivered to it by us. Were that flow to be interfered with or to be stopped it would mean total destruction of natural gas service in those communities which it serves.

Q. That would rather wipe out the availability for any practical use or value, the transportation lines of the Northwestern Company as you have described, together with the distributing plants, so far as natural gas would be concerned, would it or not?

A. The distributing plants would have a measure of value on the assumption that manufactured gas could be established, or a manufactured gas plant could be built, which would be a question to be determined in the light of the facts to be existing at that time—the advisability of constructing a manufactured gas plant. The transmission system and compression system would have no value except their junk value. You understand, Mr. Eagleson, that the
1489 real value of natural gas service is continuity; your consumer must have the gas coming to him in an even flow at all times for his demands, whenever he wants it. When anything interferes with that continuity of service, which is always under his control, or under his demand, I should say, the result is disrupted and unsatisfactory service. It is not satisfactory to the consumer to have a

continuous gas service on Monday and Tuesday of the week, to be interrupted on Wednesday, Thursday and Friday and have it resumed again on Saturday and Sunday. The value of it to the consumer lies in the continuity as I have said before, so when that is interrupted, you destroy your service. The interruption need not be total; it may be only partial, and yet have the same effect.

An adjournment was here taken until Wednesday, July 21, 1920, at 10:00 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Wednesday, July 21st, 1920.

And now, Wednesday, July 21, 1920, the hour of 10:00 A. M. having arrived, parties met pursuant to adjournment.

L. B. DENNING resumes the stand.

Direct examination (continued).

Mr. Eagleson:

The Witness: Yesterday I stated, subject to correction, that in my judgment the number of wells drilled by The Ohio Fuel Supply Company this year was approximately 150. I find my statement to be incorrect and the correct figure is 91; that is for the five months' period ending June 30, 1920. You asked yesterday, I believe, Senator Blue, for the length of certain lines. I have now the exact length and size. Line J, from Sugar Grove, Ohio, to Salem, Ohio, is ten-inch pipe 40.8 miles and 12-inch pipe 24.5 miles, a total of 65.3 miles. Line Z, from Sugar Grove, Ohio, to Sidney, Ohio, is ten-inch 103.1 miles and eight-inch pipe 25.9 miles, or a total of 129 miles. The figure given yesterday on the line from Columbus to Norwood, I believe, was 54 miles. That is a mistake. The correct figure is 106.1 miles of 18-inch pipe. Line H, Sugar Grove to Zanesville, is also a part of that system consisting of eight-inch pipe
1491 31.2 miles and ten-inch pipe 4.6 miles, or a total of 35.8 miles. Line S, from Sugar Grove, Ohio, to Gahanna, Ohio, is 16-inch pipe 32.8 miles, 12-inch pipe .4 miles, or a total of 33.2 miles. In addition to that there are approximately 15 miles of large

size belt lines around the City of Columbus which cost approximately $70,500.00. The figures in relation to the cost of these lines that I have given are not changed.

Q. Mr. Denning, when we closed last evening you were telling us of the conditions that would obtain in Ohio as to the inability of your company to supply its consumers with enough gas to meet domestic purposes and so forth, together with its effect upon the company property in case the bill in question here were valid and enforced; I wish you would go a little further if you can and advise us what the result of such an occurrence would be upon the domestic consumer, or any consumer himself, as to the position it would leave him in in regard to fuel and fixtures, and how he would meet such a situation, if you know, including the cost and inconvenience that may follow to the consumer.

Mr. Blue: The State of West Virginia objects to the foregoing question, for the reasons assigned on yesterday to a question of like nature.

The Commissioner: Note the objection and let the witness answer.

A. Natural gas is the best and most economic and most
1492 convenient fuel for all general purposes that has ever been discovered. Its B. T. U. content of heat efficiency is generally from 100 to 150 per cent more than that of any manufactured gas or any solid fuel. For those reasons, and due to the practically unlimited supply in the past, the domestic consumer throughout Ohio, to the number of somewhere between four million and five million, have grown to practically depend upon the use of natural gas for all purposes of a general household nature, cooking, in a large measure for lighting and in a very large measure for heating, particularly in dwellings. As I said yesterday, one of the great values of natural gas service, and its prime requisite, is continuity of service; the ability of the consumer to step into his house any hour of the day for the 365 days of the year and by simply turning a little stopcock and lighting the gas, having instantaneous service at his command. The problem of the gas company has always been to supply that instantaneous demand and maintain that continuity of service. We have reached a point where, as I said yesterday, during extreme cold weather we are unable to meet the entire demand of the consumer. To have any considerable or substantial quantity of gas diverted or eliminated from our West Virginia supply means to so disarrange and disorganize, and I may say discontinue the service to the consumer as to render it practically worth-
1493 less to the domestic consumer. The effect of that upon the consumer direct is that he must turn to some other form of fuel, either gaseous or solid, to supply that need. If he turns to a gaseous fuel the only remedy he has, and the only thing he can have is a manufactured gas. He will not get the service from the manufactured gas that he gets from natural gas for the reason that the B. T. U. content of the artificial gas is rarely more than one-half of the B. T. U. content of natural gas. If he turns to a solid fuel

he then has the complete elimination of his present fixtures and appliances, the readjustment of household conditions, and with the further added inconvenience of the dirt and annoyance and the necessity of cleaning out ashes and removing ashes and that sort of thing. If he turns to the manufactured gas he can, to a limited extent, use the fixtures and appliances for cooking that he has now with some modification and adjustment at some expense. He cannot, however, except in a very limited way, use the heating appliances that he has, so he must necessarily not only sustain what I may call a loss in the way of better conditions in the household but also a substantial financial loss in the way of being compelled to junk and abandon appliances and fixtures which are already in the house and already in use and which have been in use for a good many
1494 years. The actual money outlay or loss sustained by the individual consumer would be purely a matter of conjecture, depending upon the individual conditions. I would estimate, due to the change in fixtures, a loss of from $50.00 to $75.00 per consumer as a minimum; due to the change in house conditions I fancy would be much more than that, although I am not prepared to give any figure as to that.

Q. Now you put the minimum at from $50.00 to $75.00, Mr. Denning, per consumer; what would you say the average would be?

A. Well, I am not sure that I quite understand your question, Mr. Eagleson; do you mean the total loss for the total number of consumers or the average loss per consumer?

Q. The average loss as distinguished from the minimum, if there is a distinction.

A. Well, it would be somewhere between—oh, I see; I get what you mean; well, that of course, is purely an estimate and an approximation on my part; I would say an average loss of $100.00 to $150.00.

Q. In the event the conditions would obtain, such as you have been discussing, and in addition to your answer of yesterday that it would render entirely useless many of your main lines, and for the most part many others of the size that they were constructed, what would be the result with reference to the distributing systems in municipalities to which you would be unable to supply
1495 gas?

Mr. Blue: We note a similar objection on the behalf of the State of West Virginia.

The Commissioner: Note the objection and let the witness answer.

A. With very few exceptions they would be reduced simply to their junk or salvage value, for the reason that they were constructed primarily for the distribution of natural gas without regard, or without thought of ever utilizing them in manufactured gas distributions. You understand that the principles of construction as between a natural gas plant and a manufactured gas plant are entirely different and we would have very little left out of the distributing systems which we own ourselves other than junk or reclaimed value.

I believe that some portions of the city of Toledo might be utilized in manufactured gas distribution, but even that is problematical.

Q. Well in the event that a portion of the system of Toledo might be found possible for artificial service, would it require, before the service of artificial gas, rather a reconstruction or readjustment or redrainage devices to be installed?

Mr. Blue: We note the same objection on behalf of the State of West Virginia.

The Commissioner: Note the objection and let the witness answer.

1496 A. It would require a complete survey and inspection of the entire system, with the elimination and reconstruction of such parts of the system as are not suitable for natural gas distribution. In addition to that it would require the construction of the benches, retorts and all the machinery necessary for the production or manufacture of manufactured gas itself which, in the City of Toledo, would run into quite a large sum of money, in my judgment in excess of $3,000,000.00.

Q. You spoke of the pipes and other facilities in a distributing system in case of discontinuance, for any cause, of natural gas, as having a salvage or junk value; would there be any instances, and if so, to what extent, where on account of underlaying municipalities where streets are paved and municipal improvements that were super to or involved the pipe lines, would there be instances where it would not be profitable or even feasible to lift the system at all?

A. Very much so; for instance in the town of Zanesville, in my judgment only a very small percentage of the distributing system would it pay to reclaim or to remove the pipe for the reasons I mentioned. I think the same would be largely true of Columbus.

Q. And in that event what would be the result on the capital investment of the gas company?

A. The cheapest and most expeditious way to get rid of it would be to let the pipe lay in the ground and charge it off. It would be a total loss.

1497 Q. Mr. Denning, in the service of consumers in Ohio, I wish you would give us briefly the classification, if such there be, of Ohio consumers and the practice as to their service, and under what authority such practice is maintained.

A. Speaking for the Ohio Fuel Supply Company alone, and without regard to the practice of other companies at the present time it is my belief that we make no distinction at present in the classification of consumers. That has not been true as to the past. Up to, I should say, about a year ago we classified consumers and during the war, in obedience to the orders of the Fuel Commissioner of the United States Government, there was a rather intricate and complicated classification in existence, but with the cessation of the war that classification was very largely abandoned, at least by our company, so that at the present time we do not make any particular distinction. I say that because I have not recently examined all our rate schedules, so there may be one or two places wherein the old classification is still in effect, but I do not think there are.

Q. Well, generally speaking, what two divisions or classes are consumers of natural gas regarded as being in?

A. Originally the general classification was into domestic and industrial. Later on some of the companies adopted a modification of that form or classification and created a commercial class with orders of priority inside each particular class. Some com-

1498 panies, I understand, still have that classification in effect.

Q. With reference to your company, if you know, Mr. Denning, in filing schedules with the Public Utilities Commission of the State of Ohio what is the classification therein set forth?

A. At the present time——

Q. That is the general or controlling classes?

A. Domestic and—if that is what you mean?

Q. Yes; and what is the other one?

A. Industrial.

Q. And how do they stand with reference to priority or right in case of failing or declining gas below an amount sufficient to meet the reasonable demands of all of both classes of those consumers?

A. We provide in the schedule and in the contracts with the industrial consumers, that in the event the supply of gas is insufficient at any time to meet the requirements of both the domestic consumers and the industrial consumers, the industrial consumers may summarily and without notice, be discontinued in favor of the domestic consumer.

Q. Is that a rule or relation between the gas company and the consumers with the approval of the Public Utilities Commission of Ohio, or by order of the Public Utilities Commission of Ohio or both?

1499 A. Well, I believe it is rather a combination of both, a rule established by the companies originally, and sustained and approved by the Public Utilities Commission and later on, when the shortage conditions became acute, summarily enforced by the Public Utilities Commission. I think that is really a true expression of the situation.

Q. Can you give us the action and practice of our Commission in Ohio relating to natural gas companies with reference to what are commonly called and legally designated by the Commission as its administrative orders as to the method of serving gas and the priority of rights between and among the different classes of consumers of the gas companies?

A. May I ask to have that question read please?

(Question read.)

A. The Commission have issued administrative orders requiring the discontinuance of gas service to industrial consumers in favor of domestic consumers at such times as the supply was insufficient to meet the requirements of both classes of consumers. They have been very active in that respect, in times of shortage sending their inspectors to various cities in the state to see that those orders are enforced.

Q. Do you know as a matter of fact, Mr. Denning, personally

whether or not the Public Utilities Commission of Ohio does
1500 not, under what it may call its emergency power under its emergency section, 614–32 order, even in the classification known as domestic, when gas is shut off from all other classes in the peak load or winter periods, that the Commission may not and does not, as a matter of practice, go into the first preferred class, the domestics, and by special orders, generally an application, provide that even the domestic consumer may not use beyond a certain number of thousand cubic feet of gas per month?

A. That action has been taken in the past, particularly in Cincinnati, where large domestic consumers—or I will put it this way—where domestic users of large quantities of gas were limited to a certain amount per month. For instance I believe in Cincinnati they established the rule of 100,000 cubic feet per month during the winter conditions of two years ago. You understand, Mr. Eagleson, that I am speaking now only from what I have learned from other companies, because we have not had that rule or those situations to meet ourselves, on account of our conditions being better than our cotemporaries in the business.

Mr. Eagleson: In connection with Mr. Denning's testimony at this point I desire to offer in evidence on behalf of the complainants certified copies of administrative orders of the Public Utilities Commission of Ohio relative to the discontinuing of gas to in-
1501 dustrial consumers during the winter period or during any period of natural gas shortage, to the end that the domestic consumers in Ohio may have sufficient gas to meet necessary domestic purposes. If counsel for the State of West Virginia will agree that these are bona fide certified copies without my having to call the Secretary of the Public Utilities Commission of Ohio to the stand to so testify I will offer them at this time with Mr. Denning on the stand.

Mr. Blue: There is no objection to them being introduced that way.

Mr. Eagleson: I will, therefore, offer in evidence Ohio Exhibits Numbers 3, 4, 5, 6, 7, 8, and 9.

The Commissioner: Do the gentlemen on the other side want those copied and furnished to them?

Mr. Blue: I think the substance of them has been stated.

Q. Mr. Denning, can you give us the capital stock of The Ohio Fuel Supply Company and its ownership?

A. The capital stock of The Ohio Fuel Supply Company is at present——

Q. Well, you may kill the last part of that question; just give me the amount of the capital stock of The Ohio Fuel Supply Company.

A. $19,873,000.00, and its ownership is vested in some four thousand stockholders—pardon me a minute—I said $19,873,-000.00; I should have said $19,813,000.00.

1502 Q. Has your company any affiliation, in any direct way or otherwise, with the Standard Oil Company, Mr. Denning, or any of its interests?

A. Well, there are quite a number of Standard Oil Companie I do not know just exactly what you have in mind. I will say thi however, the only ownership that we know of of any stock aris from the purchase by The Ohio Fuel Supply Company of Th Northwestern Ohio Natural Gas Company some years ago, at whi time, stock of the Ohio Fuel Supply Company was exchanged f stock of The Northwestern Ohio Natural Gas Company. In th transaction the Rockefeller Institute and John D. Rockefeller, an some of his associates acquired some Ohio Fuel Supply Compan stock. I have not examined the stock record recently to see wheth or not they have disposed of any of that stock, but at that time th stock ownership was relatively very small. So far as operation an management or dictation or control of company policy is concerne the group of men commonly designated as "Standard Oil," n any of the Standard Oil Companies have anything whatsoever to s as to the management and control or dictation of policy of Th Ohio Fuel Supply Company.

Q. Can you give us the original capital investment, or at lea approximately in amount, of the Ohio Fuel Supply Company?

A. At its organization in 1902 it had a capitalization
1503 $2,500,000.00.

Q. And has there been additions and betterments and i creased capital investment from time to time up to the present time

A. There has.

Q. Can you give me about what the present value of your pla would be?

A. The investment today, as carried on our books representin cost only, with liberal charges to those items of expense befo crediting to capital account, our total investment as of May, 192 for physical properties, was $24,588,676.99; material in stoc amounted to $1,159,727.92; accounts receivable amounted to $1,544 302.91.

Q. What would the items you have given us total?

A. Well, I have not totaled those items; it would be necessary t calculate them.

Q. Well, they would approximate $26,000,000.00, would the not?

A. Approximately $28,284,696.00.

Mr. Blue: How much?

Witness: $28,284,696.00.

Q. Mr. Denning, can you give us briefly the location, cost of con struction, capacity by horsepower, and service of your various pum stations or compressing stations?

A. I can give you the locations because they are identifie
1504 on the map.

Q. Well, we have really the locations.

A. Yes; you have the locations. The cost of construction an capacity in horsepower I cannot give you without reference to ou records.

Q. How convenient would it be to get that; that is could you ge it today or by tomorrow morning?

A. I doubt it. I might. I rather think I would have to send to Pittsburgh to get those figures. I don't think they are kept here. If desired, however, I can prepare and submit a statement of that.

Q. Well, I wish you would do that if it can be done with reasonable convenience.

A. Give me a memorandum as to just what you want on that Mr. Eagleson and I will see that it is obtained for you. I do not have those figures here with me.

Q. Mr. Denning, do you regard it as practical or possible to construct and operate what I will term as containers in which to store natural gas in the warm periods or the opposite of the peak load periods in order that there might be a surplus of gas to draw upon to tide over peak load periods in serving consumers in communities of considerable population like Columbus for instance?

A. Assuming the demand that we have now for natural gas I would answer your question by saying it is neither practical nor practically possible. Of course, you understand that within the limits of engineering and sound construction I can conceive
1505 of a situation where if you wanted to put sufficient money in, you might build a great battery of holders, that would hold a sufficient quantity of gas temporarily, but the cost of such construction would be a hopelessly prohibitive burden upon the public and financially impracticable. Secondly—well I will let it go at that. When you consider that the capacity of the average holder for manufactured gas, I understand, is in the neighborhood of 2,000,000 feet and when you further consider that on a cold winter day the town of Columbus would demand anywhere from 50,000,000 to 75,000,000 feet a day, you can very readily see how many holders you would have to have to carry over even a 24-hour demand.

Mr. Eagleson: You may inquire.

Cross-examination.

Mr. Blue:

Q. Your Ohio Fuel Supply Company was organized in 1902; what properties did your company first acquire?

A. It was substantially a consolidation of a number of smaller companies operating in Southern Ohio, among them being The Mount Vernon Natural Gas Company, The United Gas Company, The Corning Natural Gas Company, The Roseville & Crooksville Gas Company, The Bremen & Rushville Gas Company and The Great Southern Gas and Oil Company. They were all
1506 smaller properties operating in Central and Southern Central Ohio.

Q. And in what business had the smaller companies named by you been engaged?

A. In the natural gas producing and distributing business.

Q. In a short way where was The Mt. Vernon Gas Company en-

gaged in producing and distributing gas, and how long had it been so engaged?

A. I cannot answer that—the latter part of that question. You understand, Senator, these matters occurred before I had personal contact with them myself and I can only give them to you from what record information I can obtain. I would say generally the Mt. Vernon Gas Company was operating in the Knox-Licking Field and in the vicinity of Mt. Vernon, Ohio, in Knox County.

Q. And what community or communities did it serve?

A. I do not know.

Q. Well, where did it obtain its gas for its consumers?

A. Well, presumably in the immediate vicinity, in the Knox and Licking County Field.

Q. In Ohio?

A. Yes, sir, in Ohio.

Q. Where was the United Gas Company operating?

A. That, I understand to have been further over in Guernsey County, Ohio, Cambridge and in that vicinity.

Q. It was producing its gas in Ohio?

1507 A. Yes, sir.

Q. And had been for sometime?

A. Yes, sir. All these companies that I mentioned were producing their gas in Ohio.

Q. And the Corning Gas Company, do you know where it was engaged and what communities it served?

A. Yes, sir; the village of Corning in Southern Ohio in Perry County.

Q. And the Roseville & Crooksville Gas Company; where was it operating and what communities was it serving?

A. In the towns named, Roseville and Crooksville in Perry County, Ohio.

Q. And the Bremen Company; what is the name of that?

A. The Bremen and Rushville Gas Company.

Q. The Bremen and Rushville Gas Company; where was it engaged?

A. In the same general vicinity in Perry county; those towns are all in the same relative vicinity.

Q. And where was the Great Southern Company engaged?

A. At Zanesville.

Q. How much territory was it covering?

A. I do not know.

Q. Just in a general way will you indicate the territory served by the companies named by you by reference to the lines on Ohio Exhibit Number 2?

A. Well, that would have to be with reference to the present situation, Senator, because, very largely those lines have been

1508 taken up and the situation very materially changed. Taking the Mt. Vernon situation you will find Mt. Vernon on Exhibit number 2 north of the Treat Compressing station; the Great Southern Territory at Zanesville, over here (indicating); The Roseville, Crooksville, Rushville and the other towns mentioned are south of

Zanesville. But so far as my knowledge goes there are very few of those original transmission lines still in existence, the system having been entirely reorganized, and I may say rehabilitated.

Q. After taking over, or after acquiring the companies you have already indicated and named, you consolidated them into one service?

A. Yes, sir.

Q. And then you proceeded to extend your lines?

A. Yes, sir.

Q. Where were the first extensions and in what general way or direction or to what particular sections were your extensions made in their successive steps?

A. I think in point of time the first extension of any magnitude would be the 18-inch line from Treat Station to Columbus.

Q. Just approximate that time, will you please?

A. That would be somewhere about 1903 or 1904. About the same time, or in the year 1903 was the purchase of The Federal Gas and Fuel Company in Columbus with its fields in the
1509 Sugar Grove District and with the twelve-inch line extending from Sugar Grove up to Columbus, which line is very largely in existence today, and is one of the two lines shown there as extending from Sugar Grove to Columbus. I think next would follow, about 1907, the construction of the 18-inch line from Columbus down to Cincinnati or to Norwood rather. I may be incorrect as to the exact time, but this is speaking generally; in 1909, completed about December, 1909, was the construction of the 18-inch line from Sugar Grove to the Ohio river to connect with the line of the United Fuel Gas Company bringing gas from West Virginia. I may say in this connection that The Ohio Fuel Supply Company originally constructed the entire line into West Virginia and into the West Virginia field; afterwards sold it to the United Fuel Gas Company. Then later, I think about 1910, followed the acquirement of The Ohio Southern Gas Company which embraces that territory or those towns in Jackson and Vinton counties, and Gallipolis, Middleport and Pomeroy, and the line from Chester to Jackson shown on the map. In 1917, I think it was, we acquired, by purchase, the property of The Central Contract and Finance Company, which embraced acreage and producing wells in Vinton County, Ohio, and the pipe line extending from Sugar Grove to Sidney as shown on the map.
Those are substantially the larger developments and acquisi-
1510 tions of property.

Q. At the time you extended your lines to Columbus and from Columbus to Cincinnati you were receiving no gas from the State of West Virginia?

A. I think that is correct, Senator.

Q. And in a large measure the extension and development of your lines in the section shown on the map by Zanesville and the section east, as well as the section south in respect to the extensions of that line when extended, you were not receiving gas from the State of West Virginia?

A. There was no gas received from the State of West Virginia until the 18-inch line was completed in 1909.

Q. And between 1902 and 1909, your company had largely extended its lines and had entered upon the service of gas to very many communities in the State of Ohio?

A. Yes, sir.

Q. Between 1902 and 1909 you were getting your supply of gas from the gas fields in the State of Ohio acquired by you in the consolidation, or by subsequent purchases for your customers in the State of Ohio?

A. May I have that question read?

(Question read.)

A. My answer would be yes.

1511 Q. On yesterday you referred to a 20-inch line running parallel to your line from the West Virginia line to Wheeler's station at Sugar Grove—your Y, I believe, you called it?

A. Yes, sir.

Q. When was your line Y—your 20-inch line built?

A. I think sometime in the latter part of 1917.

Q. Your company has drilled a large number of wells in the field described by you yesterday as the Ashland field as well as in the Clinton, and to make it short, all the other gas fields in the territory?

A. I presume first and last, Senator, we have drilled in the neighborhood of 3,000 wells in Ohio fields.

Q. And as you drilled those wells, you extended your lines and you extended your service in the State of Ohio?

A. That don't necessarily follow. For instance, we have not extended service in the State of Ohio to any new towns with the exception of one small community in northern Ohio, for three or four years, the towns that I spoke of on that line running from Sugar Grove to Sidney were acquired by purchase, and the real controlling feature in that purchase was not the distributing systems, but the source of production, or potential source of supply behind the property. In other words, we bought the property on the basis of acreage and possible gas production they had rather than the market

1512 they had. Today our struggle is not to take on new towns, but to maintain and take care of the markets we have.

Q. Well, take for instance your field and your lines east of Zanesville; after acquiring the properties you have already referred to by specific name, you proceeded to develop the gas fields east of Zanesville and to extend the lines of service from those gas fields, did you not?

A. That was the early period of development, yes, sir.

Q. And you were relying then upon the gas that you found in the State of Ohio, and your development in that section was based upon your gas supply in the State of Ohio?

A. Yes, sir; that is true.

Q. Take your field north of—we will say north of the Treat Compressing Station; you developed your gas field up in that section; found the gas and extended your line for service to consumers in the State of Ohio, depending upon your gas production in your fields in Ashland and that section did you not?

A. I think a correct answer to that would be that we extended our lines into that new field to take care of present consumers rather than new prospective ones at that time.

Q. When did you extend your line up into the Ashland field?

A. I cannot give you the exact date of that off hand.

1513 Q. You may approximate it if you can do so.

A. Well, it would be pure conjecture; if you want that answer I can give it to you, but if you want the answer more accurately I would rather look it up and give it to you.

Q. Well, for the present you may answer it the best you can, reserving to yourself the right to correct it.

A. My impression is about 1911.

Q. Had you built no lines north of your Treat Compressing Station before 1911?

A. I would not say that, no sir; I have in mind, however, the development of the lines, as you see them extending north.

Q. Did your company take over any old operating companies or previously existing operating companies in the section north of the Treat Compressing Station?

A. No.

Q. The line there your company built?

A. Yes, sir.

Q. Your line from Columbus to Cincinnati you have said you built in 1907. Where were you getting the gas for the consumers on and along that line?

A. The Cincinnati line was built after the opening up of a new discovery in the Knox-Licking field. There came in a very large body of gas rather unexpectedly, as sometimes happens in the gas business, and we acquired a large acreage there and were able

1514 to purchase considerable quantities of gas and we had an excess at that time over and above what our regular market was taking, and the line was built to Cincinnati to dispose of that gas as being the nearest attainable market. You understand, Senator, in relation to Cincinnati, that our supply at Cincinnati is relatively very small compared to the entire consumption at Cincinnati. We do not begin to supply near the demand.

Q. Relative to the map, Ohio Exhibit Number 2, will you indicate by some of the names appearing thereon the location of the Knox-Licking Field?

A. The counties are not shown on this map. Mt. Vernon, however, is the County Seat of Knox County. Newark is not shown on this map but is the County seat of Licking county, and if you will indicate on the map a point about five miles east of Granville as shown on the map you will have the relative location of Newark. Generally speaking the Knox-Licking Field would be embraced in that district between the two towns of Newark and Mt. Vernon.

Q. Well, take the Treat Compressing Station as a point from which to indicate the location of your Knox-Licking Field, in other words where would the field be in respect to that station?

A. Generally speaking, south, east and north.

1515 Q. Then when you built your line in 1907 from Colum to Cincinnati you had a surplus supply of gas produce the State of Ohio?

A. At that time, yes, sir.

Q. And that line was built, as we understand, to take care of surplus supply in the State of Ohio?

A. Yes, Senator, but my answer probably should be qualified another set of conditions, which had a great influence. At that the development was beginning in West Virginia and representat of The Ohio Fuel Supply Company had even, at that date, acqu acreage, leaseholds and gas developments in West Virginia. At time the project of going into West Virginia was in its initial st of development and in contemplation as a secondary source of sup You understand there are really two factors controlling in the nat gas business that we always have to contend with; one is the la diminishing supply and the other is the law of increasing cost. know in order to keep in the business we have to be constantly l ing for new sources and it was with that thought and that ide mind that when the Cincinnati line was projected we were alr putting through the initial stages of development in West Virgi and the construction of the West Virginia lines was simply carr out the policy established at that time.

1516 Q. But the point that we are developing now is that w ever you might have had in contemplation and not actu physically constructed lines, was that you had a surplus of gas in State of Ohio that justified you in extending your lines and ext ing your service prior to 1909?

A. I would say this; we had a surplus of gas in the State of over and above the needs of our then present market. I would say that the line would or would not have been built without the templated additional supply from West Virginia.

Q. Not only did you have sufficient gas to justify you in reac out to the City of Cincinnati, but also you had a sufficient suppl construct lines off of your main line to Cincinnati to supply sumers along that line, did you not, and did you not have in cont plation the furnishing of gas to consumers along that line when built it in 1907?

A. We had in contemplation the supplying of gas to consu off that line. Originally the line was built to Norwood. We n extended the line into Cincinnati.

Q. Norwood is a suburb of the City of Cincinnati?

A. Yes, sir.

Q. You might say it is your gate to Cincinnati?

A. I think the corporation line is the dividing line.

Q. And that Cincinnati,—while you were not distributing in cinnati yourselves, yet you delivered to a distributing c

1517 pany in Cincinnati for distribution to consumers?

A. We afterwards made a contract with The Union and Electric Company, which is still in effect, for a certain quan of gas.

Q. Now prior to 1909, with this surplus amount of gas produced in Ohio, and for which you desired to find a market, you were also extending your lines out to towns and communities in the State of Ohio, were you not?

A. Not from that same source of supply.

Q. Well, I am speaking from your source of supply in Ohio, whether it came from this particular Knox-Licking Field or whether it came from some other field in the State of Ohio.

A. Speaking from the standpoint of general development I would say yes.

Q. Then whatever might have been in contemplation, as an actual fact, or rather existing conditions, you did have at that time a supply of gas for your demands in Ohio with a surplus supply of gas that led you to an extension of lines and to the addition of consumers to your system?

A. We had a supply of gas over and above the then present market needs which led us to continue developing the property, yes, sir.

Q. And to the increase of your market needs in the State of Ohio?

1518 A. That naturally follows, yes, sir.

Q. In the statement made by you yesterday it appears that your Ohio fields are producing quite large quantities of gas at this time; in fact it appears that in the year 1919 your production in the State of Ohio was greater than that for the year 1918; from your statement it would seem that your production in Ohio for the year 1919 is the largest year's production of any year you ever had. If your company is experiencing a shortage in gas, therefore, is it not because of your extensions of service and your addition of consumers to your system?

A. I would think not, except in the sense that you have a certain number of customers; they may be new or old, and you have not enough of your product to supply your customers, in that event you have got a shortage. You may argue that that shortage is due to the fact that you have too many customers, or you may argue that it is due to the fact that you have not enough gas. In that sense the fact that you have a certain number of customers would have its effect.

Q. Well, it is a fact, isn't it, that your production in Ohio, in 1919, was your largest production?

A. Yes, sir; that is true.

Q. Then if you have a shortage in gas it is because of your increased demand in the State of Ohio, or rather in the com-

1519 munities which you serve in the State of Ohio?

A. I think that is very largely correct, Senator, it is due to two factors, an increased demand and not enough gas.

Q. Well——

A. I may say in that connection, however, that while the year 1919 showed us the maximum production of any year since 1910, the year 1920 will not come anywhere near 1919.

Q. But we have been speaking here from the actual experiences of the years that have passed, and we do not understand yet your

explanation or your qualification in your answers as to why you have a shortage in the amount delivered to your consumers when your production for 1919 in Ohio is practically two billion feet in excess of any year's production preceding that time.

A. During the past two or three years, Senator, there has been a largely increased demand for natural gas consumption, owing to the facts that fuel conditions, other fuel has been so short; that has resulted in an increased demand for natural gas, and it has had its effect upon the output and production.

Q. Well, now, how does that increased demand arise and how has it arisen?

A. Many houses that heretofore used coal, that is in furnaces, have come on for gas. There is a largely increased demand for industrial purposes. In fact I could not enumerate, off hand, the number or the character of the increased demands that have
1520 come.

Q. Now, are you meeting those increased demands in the State of Ohio by adding additional consumers, domestic and industrial, to your lines?

A. We are not.

Q. You are not?

A. No, sir.

Q. Then why can there be a shortage, since your production was larger last year than for the years previous?

A. You understand, Senator, this shortage is not a continuous one. It comes during periods of extreme cold weather. Simply putting it in plain language it is that the consumer does not get enough gas; he does not get all he wants. To illustrate, here in the City of Columbus last year there was almost,—within I think about 40,000,000 feet of as much gas put into this town as there was during the extreme cold winter of 1917 and 1918, during which time everybody was satisfied and we had no complaint. But, notwithstanding the fact that there was that small, or relatively small difference in the amount of gas delivered to the City of Columbus, during this preceding winter there were days when the town was almost out of gas. Now, population grows; increased demands come in; increased uses for gas come in over which we have no control whatsoever and the real point is that notwithstanding what our figures of production are, we did not have all the gas the do-
1521 mestic consumers wanted. It was a condition that we could not meet.

Q. Then as we understand you your shortage arises in your inability to meet the requirements of your consumers?

A. Exactly.

Q. In other words, the requirement of your consumers to give them the gas that they need or the gas that they demand or the gas they want.

A. Exactly; it is that difference between the demand of our consumers and our ability to supply, that creates the shortage.

Q. Now in your experience when did that shortage in extreme cold weather begin?

A. So far as The Ohio Fuel Supply Company is concerned, we have had what I might call isolated cases of shortages in various communities for some time; take the towns over in the east end of the system depending upon local fields and not connected up with our main sources of supply, they have had cases of shortage for several years, not real serious. The acute shortage did not arise, so far as The Ohio Fuel Supply Company, is concerned, until this past winter. The shortage, however, for The Northwestern Ohio Gas Company has been a recurrent one and has been for every winter that I have had any experience with the property extending over a period of years.

1522 Q. Now in what particular communities did you experience this shortage in the time that you have just referred to in your answer?

A. The most acute, in the city of Columbus this last winter.

Q. What part of the winter; what months?

A. I think December, January and February.

Q. What did you do or attempt to do to meet that condition?

A. The industrial business was discontinued and all resources turned to here. We took gas from other places to supply Columbus. Our contract requirements for Cincinnati called for I think about 16,000,000 feet per day during the cold weather and we gave them 6,000,000 feet. We gave it to Columbus. We really took gas from the Cincinnati line to give to Columbus.

Q. Did Cincinnati have a surplus of gas so that you could do that?

A. They did not; there was no such thing as surplus gas in Ohio last winter, Senator.

Q. Has your company declined, or is it its present rule or intention to decline to give to consumers, service who apply for service?

A. That question is rather broad, Senator; it embraces a good many things. If you are asking if we have declined to give service, I would say no. If you are asking if we intend to decline, I would say that from now on we will be compelled to take, I think we will be compelled to take—although we have not decided upon a

1523 policy of that kind as yet,—the position that we are unable to extend service any further. And when I say, "Extension of Service" I mean within the limits of the communities where we are already established. We are not taking on any new towns, and have not taken on any new towns for several years past, with the single exception of the little village of Grafton up in Northern Ohio, which is supplied from a local field and whose consumption is very small and is supplied from a local field at a relatively very high price.

Q. Well, to make it clear we will ask you whether, in the communities where you are serving consumers, whether you have declined to take on additional consumers; take for instance in cities or towns in which you are serving gas?

A. We have, and in obedience to the orders of the Fuel Commissioner during the war period, declined to make any extensions to our street main systems over the entire system. Since the ending of the war we have followed that policy. You understand, of course,

that we are subject to the orders of the Public Utilities Commission of Ohio and must obey their instructions and they have control over the subject of extensions. I do not know of any instance
1524 wherein the commission has issued an order or that there has been an application to the commission to issue an order covering such a case as you mentioned.

Q. Well to make it clear I will ask you further, taking for instance the City of Columbus; have you declined to extend your service in the City by refusing applicants for service, gas?

A. We do not have anything to do with Columbus in a retail or distributing way, Senator; we wholesale entirely.

Q. Well, I will ask you to give me the name of some city or town where you do supply.

A. Well, take for instance Zanesville.

Q. Well, in Zanesville have you refused to extend your service by the refusal of gas to consumers who apply to you?

A. Not within my knowledge, Senator. Matters of that kind very rarely reach me; they are handled by the local agents. Not within my knowledge have we refused to make any such extensions, nor within my knowledge have any applications been made to us to make extensions.

Q. Has the Public Utilities Commission of Ohio permitted you to refuse gas to domestic consumers in the towns in which you are engaged in furnishing gas?

A. The question has not been raised, to my knowledge, before the Commission.

Q. But now to make it further clear, I am not speaking of extensions of mains but I am speaking of the connection from the
1525 house to your main where you have the main in front of the house; you are not refusing to make connection in instances of that kind when applications are made?

A. No; I would say not. That is largely dependent upon local conditions and, as I say, it does not come up to me at all, but I would say, as a general policy, we have not refused.

Q. Well, under the orders of your Public Utilities Commission in Ohio you are not permitted to refuse that service, are you?

A. Well, as I said before that is a question that has not been passed upon.

Mr. Eagleson: If you will permit us a suggestion, I believe most of the franchise ordinances have provisions in them that connections will be made where mains are in the street.

Mr. Blue: I did not understand you, Mr. Eagleson.

Mr. Eagleson: Pr bly much of what you are inquiring about is covered by the fran e contracts under which the company went into the municipali s, that there should be connections given to consumers where mains are along the streets.

Mr. Blue: Well, I might ask him that question.

Q. Under the franchises held by your company in the cities and towns where it does distribute gas are you not required to deliver gas

from your mains to the houses along your mains upon ap-
1526 plication of people along your lines or along your mains.

A. I do not recall a single instance, wherein the franchise expressly imposes upon the company the burden of constructing services from the street mains into a curb box, which is as far as we go. My idea has always been that that burden was imposed upon us by law. But whatever specifications or whatever burden is laid upon us for the duty of making street main extensions in the franchise are nearly always in reference to street mains. I think we have always treated the matter of laying pipe from the main to the curb as part of our public service duty.

Q. And you do lay your lines from your main lines to the curb?

A. Yes, sir.

Q. As you put in your mains?

A. When that is done, yes, sir.

Q. The service line from that point into the building, you recognize, and it is the practice recognized by everybody, for the owner of the property to build that service line himself?

A. Yes, sir.

Q. But the point that I am asking you is this; you don't refuse the service when it is required, to the property owner or the people or the person living along your main?

1527 A. Our distributing systems have been in so long, Senator, and the towns are what we call so thoroughly saturated that we are rarely called upon to put in new services, particularly in the smaller communities. As I said before, I do not know of a single instance where we have refused to lay a service line.

Q. In other words, you recognize the obligation upon you to meet the requirement when it is made upon you by persons along your lines?

A. So far as the legal burden and duty is imposed upon us, yes, sir.

Q. Will you put into the record a statement showing the number of domestic consumers on your lines, for the years beginning with 1910?

A. I think that is already in the record, Senator.

Q. Let us see; may be it is.

A. In the statement furnished to the reporter yesterday.

Q. If it is, I will not ask for it again.

A. It is on the long sheet headed "Sales".

Q. Oh, yes, I see it; you already have it here; I beg your pardon.

A. As I explained yesterday, the column headed "Domestic consumers" takes into account only the domestic consumers supplied direct upon the Ohio Fuel Supply Company's distributing system. It does not take into account the domestic consumers upon the distributing systems where we supply the gas wholesale, such as Colum-
1528 bus, Springfield and Hamilton.

Q. The increased number of domestic consumers of your company shown on your statement filed yesterday was caused by the connections made in response to the requirements of persons along your lines.

A. In part only. That is one factor. Another is that we have

acquired, by purchase, some communities which we did not own in 1910. For instance, when we purchased the Central Contract and Finance property we acquired the towns of Sidney, Piqua, Urbana and South Charlestown and those communities along that line.

Q. But your statement shows that there has been a constant increase even since the purchase of the property referred to in your last answer and has that increase been caused by the recognition of your company to give the required service to those applying for it?

A. Undoubtedly that has had its effect, Senator, yes, sir; the natural growth in the communities would account for that.

Q. Then your company, experiencing the shortage of gas, and notwithstanding that, has, in recognition of its duty to those along its lines, increased the number of consumers along its lines?

A. I believe there are decisions of courts to the effect that
1529 regardless of whether or not we have enough gas to go around to give anybody adequate service, we must divide up what we have. Now, it does not necessarily follow from those figures, Senator, that those increases have occurred in the communities which have experienced shortages. These figures are aggregate figures for the entire system and I cannot tell you, offhand, now where these increases have occurred in the number of consumers. As I said before, we have experienced shortages here before in various sections, but they were, very largely, due to local conditions controlling. The first winter that we have experienced a general shortage was last winter, speaking of the Ohio Fuel Supply Company alone. We are already preparing for shortage conditions next winter by advising all our consumers that they cannot depend upon a supply of gas for the coming winter to meet their requirements.

Q. Your statement in the record yesterday shows that approximately 75 per cent of the gas furnished to your consumers is produced or purchased in the State of Ohio, and of this 75 per cent your statement indicates that 19 per cent thereof is furnished by your company to industrial consumers, and that approximately 54 per cent of the gas procured by your company in West Virginia is, or the equivalent of it, to the amount of 54 per cent, is furnished to in-

dustrial consumers in the State of Ohio. Now, with this
1530 shortage of gas to which you refer, with its attendant dangers, to your domestic consumers, why do you furnish 25 per cent of the gas produced and purchased by you in Ohio and approximately 54 per cent of that purchased by you from the State of West Virginia to industrial consumers in this State?

A. You will notice, Senator, that the deliveries from West Virginia last year were in excess of 2,000,000,000 feet less than they were in 1918.

Q. They were 2,000,000,000 less?

A. 2,000,000,000 less, yes, sir. So that we fell short of what might be called normal delivery from West Virginia by 2,000,000,000 feet last year. We sold the volume of gas indicated in the statement for industrial purposes. But after all, the controlling feature is the cold weather demand. These are aggregate figures representing the entire amount of gas sold for all purposes during the year;

not the volume of gas sold for any particular purpose at any given time or period of 24 hours. Now we were absolutely unable last year to supply our requirements during the cold weather periods, notwithstanding the discontinuance of all industrial gas. We will be unable to supply our requirements this coming winter notwithstanding the elimination of all industrial gas. Now you asked me why we sell industrial gas. The reason is that the domestic consumer has not yet reached a point where he is willing to pay a price sufficient to justify the companies in withholding the sale of
1531 gas for industrial purposes, and until such time as the domestic consumer meets that condition, the companies, in order to live, must and will be compelled to sell industrial gas. But I want to make clear this point, that notwithstanding all that, it is the cold weather condition that controls. Then is when the acute demand arises, and we had not enough last winter to meet that demand, regardless of the industrial situation and speaking from the domestic standpoint purely. So that we might sell a very large volume of industrial gas during the summer period and the aggregate figures would run up very high, and yet would have absolutely no reference or control to the winter condition at all.

Q. Independently of the gas you furnished to industrial consumers in Ohio you have approximately enough gas in Ohio to take care of your domestic consumers?

A. Absolutely not.

Q. How much are you lacking or how much do you lack in gas produced and purchased in Ohio to take care of your domestic consumers if you would eliminate the quantity sold by your company to industrial consumers?

A. I cannot tell you that. That is looking ahead. I cannot tell what the weather conditions are going to be next winter. I cannot tell what the result of our drilling campaign will be between now and winter. But based upon present indications, assuming a
1531*a* normal winter and a mean average temperature somewhat similar to last winter, I would say that we will be 25 per cent short of our domestic requirements in cold weather this coming winter. That, of course, you understand, is purely an approximation.

Q. Well, now in quantities of gas how much would that be?

A. I do not know.

Q. Well, I mean your twenty-five per cent; stating your twenty-five per cent in gas quantities; what would the quantities be?

A. I cannot give you that.

Q. To state the question in another way, when you say that you will be short 25 per cent how much do you mean in thousands of feet of gas by that 25 per cent?

A. I cannot answer that, Senator, for the reason that I would have to go into our records and get out the delivery charts and make or have made a series of complicated calculations to determine the average daily deliveries, determine the peak load deliveries, and then calculate from that the estimated volume of gas we may have,

and when I am though I would have a not much better approximation than I have given.

Q. Stating it in another way, what would the base figures you have given amount to, from which you made this computation of a shortage of 25 per cent?

A. I am simply basing that upon the general conditions which existed here in Columbus last winter and over the system,
1532 and assuming which I believe I have a right to assume from conditions as we know them now, that they will be somewhat worse, if not considerably worse, this coming winter than last winter. As I have explained, after all it is merely an approximation.

Q. Well, assuming that conditions for the coming winter will be similar to the conditions of last winter both as to weather and as to gas supply, what quantity of West Virginia gas would your company require to meet your demands?

A. All we can get through that line?

Q. In the State of Ohio?

A. All we can get through that line; the full capacity of that line if they can deliver it. They are supposed to deliver us approximately 50,000,000 feet a day. They delivered us during the cold weather last year 26,000,000 feet a day. We have been vigorously going after them over there to increase their output and deliver to us, and they say they are not sure they are going to increase it at all. As applied to local conditions in Ohio we know that of the producing wells drilled to date the average production is 34 per cent under what it was previously.

Q. Well, can you state, and will you do so in concrete form, the quantity of gas that you would require to meet the require-
1533 ments in Ohio, assuming that the conditions during the coming winter will be similar to those of last winter?

A. Do you mean by that question, Senator, the entire output over the system to meet all domestic requirements?

Q. To meet your requirements in the state of Ohio; what quantity of gas, under the conditions indicated in the last question, would you require from the State of West Virginia?

A. I cannot answer that off hand.

Q. In my question, of course, you understand what I am confining my question to the requirements of consumers on your system and not the entire State of Ohio?

A. Well, I understand you are making your question as to the requirements upon the Ohio Fuel Supply Company's system including its own consumers and those with which it has contract obligations?

Q. Well, whatever demands,—whatever legal demands might be made upon you in the State of Ohio.

A. The only way I know that we can get an approximate answer to that would be to get the peak load requirements for last year plus an estimate as to the amount we were short, and I cannot give you those figures off hand.

Q. Now, this 25 per cent that you refer to, as we understand you, is to those whole periods when you require—or when your consumers

require what you call the peak load, and not to the every day demands upon you?

A. It is not to the everyday demands; the domestic con-
1534 sumer in the cold days of January or February will require from six to seven times the quantity of gas that he does in the summer time, and when I speak of an estimated 25% shortage I refer to the cold weather period alone.

Q. And to meet that demand for such days, and to give to your consumers in the State of Ohio that gas, you are demanding that there shall be sufficient gas delivered to you from the State of West Virginia?

A. We are demanding, in so far as we can, yes, sir, because we have a contract for it; we want it; we believe our customers are entitled to it; we believe we are entitled to it, and we have been very strong in our criticism of the man at the other end of the line because he has not delivered to us.

Q. Forgetting that he has some obligations to the folks along his own lines?

A. Not at all; whatever obligations he may have that are prior in time and point of right to ours.

Q. The communities served by your Company are so near the fields of West Virginia, from which the West Virginia gas comes, that the weather conditions in the two communities are about the same, are they not?

A. I don't know.

Q. In other words, when you have your peak load demands over here, there are conditions in the West Virginia sections so similar that there is a peak load demand over there; isn't that right?

1535 A. Presumably; it may be a coincidence in point of time such as to create those conditions, yes, sir; but as to the actual facts, I don't know.

Q. And what you are demanding, so far as you can demand it, is that you may have an adequate supply of gas for the requirements of your consumers in the State of Ohio in those peak load times?

A. What we are demanding is what we believe we have a right to, in justice, and under the contract obligations entered into years ago, to the extent of their ability to perform. In the sense that we are demanding an adequate supply of gas, we know that the chances are that cannot be done.

Q. Why not?

A. Because the gas supply is too rapidly diminishing.

Q. Now on that phase of the question, you testified in some respects on yesterday; what do you mean when you say that the supply of natural gas is diminishing; what do you mean by that?

A. I don't know that I can answer that better than to quote substantially the statement of Doctor White, the chief geologist of the State of West Virginia, made before the Public Utilities Commission of Ohio, wherein he said that in his judgment practically 75% of the available supply of gas in Ohio and West Virginia was exhausted.

Q. You mean that you accept Doctor White's statement as a fact, that 75% of the available supply of natural gas in the State of West

Virginia and the State of Ohio,—both states—is practically
1536 exhausted at this time?

A. I mean that I believe that Doctor White is as competent as any living man to express his opinion upon the known facts.

Q. Well, do you accept his opinion as a fact, or do you, as a satisfactory statement, agree that the facts stated by him are true?

A. I believe he had sufficient ground to express his opinion as a correct conclusion of fact.

Q. What is your own opinion on the subject, independently of Doctor White?

A. I cannot say that I have sufficient knowledge of West Virginia conditions to express an opinion in that regard.

Q. Well, do you accept Doctor White's opinion as a correct opinion?

A. Very largely so, yes, sir.

Q. Now let me ask you this question; you portrayed conditions yesterday in the event that you were not furnished an adequate supply of gas,—or rather the contract supply of gas; now in view of what you have just said, how long, in your opinion, will there be sufficient gas in Ohio and West Virginia to furnish consumers, as a commercial business?

A. I could not hazard a guess on that, Senator Blue, under present conditions. Any answer to that question would have to be modified to take into consideration so many factors; if you are asking me what the remedy for the present situation is, I can give you my
opinion. In my judgment, it is highly essential for the do-
1537 mestic consumers and the public authorities of both States to recognize the fact that we are dealing with a vanishing product. The condition of profligacy and waste must cease. We must devote the product to those uses for which it is best fitted, and we must put the price of the product at such a point as will, of necessity, compel the elimination of waste and misuse by the domestic consumer. If the domestic consumer will recognize that, and cooperate with the Gas Company, the length of time within which available commercial natural gas service can be given to domestic consumers will be very greatly lengthened. If they will not, and if they persist in their attitude by forcing the companies to sell very large quantities of industrial gas,—and I do not mean to say by that that you can eliminate industrial gas entirely, because you cannot, in my judgment,—the life of the natural gas business,— the life of the field, and the time within which the domestic consumer will receive and be able to utilize the best fuel ever created by nature, will be very much shortened.

A recess was here taken until 2 oclock p. m.

1538 Supreme Court of the United States, October Term, 1920.

Nos. 20 and 21, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Wednesday Afternoon, July 21, 1920.

And now the hour of 2.00 o'clock P. M. having arrived, hearing resumed pursuant to recess.

L. B. DENNING resumes the stand.

Cross-examination (continued).

Mr. Blue:

Q. You have spoken of your efforts to find gas in your fields in Ohio, I mean the fields that your company owns; have you been able to increase the production of gas in your Ohio fields?

A. As compared with what time, Senator?

Q. Well, compared with the year 1919, basing your answer upon your experience in the months of 1920?

A. The first six months' period of 1920, as compared with the corresponding period of 1919 shows a decrease I think. (After examining papers:) The first six months of 1920 ending with the last day of June, show a production to date for the year in
1539 all fields in Ohio, of 83,720,000 feet open flow, while for the corresponding period of last year it was 87,930,000 feet, open flow.

Q. And you spoke yesterday of the depletion of your fields in the state of Ohio; state whether or not in your opinion you regard your fields—your Ohio sources of supply, as depleted and if so, to what extent?

A. Well, taking the fields as an entirety and regarding them as one unit, my judgment is that the fields are considerably depleted, just how much or attempting to apply percentages, I am unable to answer. As I have said before, I think the best indication as to the measure of depletion is the fact that in what is called "inside territory,"—and by that I mean wells drilled in known fields, in close proximity to other wells,—show a decrease of 34 per cent as compared with 1914.

Q. Do you know whether that percentage of decrease is rapidly increasing?

A. I couldn't tell that until later on, when we get our figures of production later in the year. Those are the latest figures which we have.

Q. Are any of your fields in Ohio—I mean by that your company's fields—are any of them now exhausted or any of
1540 them about exhausted?

A. Yes, portions of fields have become exhausted. Take for instance the old Sugar Grove field. That at one time was a very prolific field for the production of gas, some years ago. It is today producing only in limited portions, with wells very small. We get wells in that territory and we will operate wells, with a capacity as low as fifty and sixty thousand feet daily open flow. Of course abandonments of individual wells are being made, I was going to say, almost daily, but right along continuously.

We have drilled probably in our entire operations in excess of three thousand wells. We have today under operation approximately fourteen hundred wells, so that during our period, or the history of our operations we have abandoned in excess of sixteen hundred wells.

Q. Based on your experience and your knowledge and assuming that the conditions will exist in the future as they are now respecting demand for gas, how long will your present supply of gas in Ohio continue?

A. The present supply of gas?

Q. Yes, or rather how long will your fields in Ohio continue to supply you with gas in marketable quantities?

A. That is purely a conjecture, Senator. I don't know that I could give even an approximate answer to that. There are
1541 too many "ifs" in it.

Q. Well, I framed the question to you in the way of assuming that the demand for gas will be the same in the future as it has been in the past, and from your knowledge of and your experience with your gas fields in Ohio, whether or not you can state approximately as a matter of opinion the length of time that your fields will furnish you gas, such quantities of gas as you can use commercially?

A. Well, that is still extremely difficult to express an opinion upon, and any opinion expressed must be after all, nearly conjecture. You take present conditions of fields and attempt to supply the present number of domestic consumers without the discovery of any additional source of supply, I would say that we would not last more than a few years. There could be of course an elimination of various communities and cutting down and we could continue to supply gas for a good many years.

Q. May I ask you to be just a little more specific and to say in numbers what you mean by the expression of "a few years"?

A. Well, bearing in mind the fact that any statement I may make on that is, as I have said before, simply sheer guesswork on my part, I would say, to maintain present conditions possibly, five

six years—eliminating any supply from West Virginia—could render some form of service to the entire domestic consumer.

542 Partial service could be rendered to a limited number of consumers for twenty to twenty-five years. I hesitate very rongly to express an opinion on that because the factors are too ncertain, and developments of one or two or three years might ange the entire situation and make my predictions entirely un-liable—more unreliable than they are now.

Q. Well, I will have you state it then in this way: Assuming at you receive no gas from West Virginia, how many years would ou conjecture your fields in Ohio would furnish you gas to sup-ly your consumers in the State of Ohio, assuming the same num-er of consumers in Ohio as you had at this time, and consuming as in the quantities that they consume at this time?

A. Won't do it now. We would meet that situation immedi-ely; they would not do it last winter.

Q. As to the quantities for peak loads upon the days when your resent supply in Ohio will not supply your demands in Ohio, you re unable, as we understand it, to express the same in quantities?

A. Yes, that is true.

Q. But as we understand it, your shortage on peak-load days or last winter was about 25 per cent of the amount that you re-quired?

543 A. No, I didn't say that, I don't think; at least I didn't intend to say it.

Q. Well, we will have you state it again in the way that you id intend to state it?

A. I stated, as I understood your question—I was forecasting as o what would occur this winter—this coming winter—and I ex-ressed the opinion that in view of conditions as they were now, hat we would probably—might have at least—a twenty-five per ent difference between the demands or requirements of our con-umers and our ability to supply it. As to last winter—we can each some conclusion on that by a knowledge of the figures which have not right here.

Q. Assuming that conditions are the same, what would you stimate as a matter of opinion, your percentage of shortage on eak-load days, to be, then in the winter following the winter for hich you give the twenty-five per cent?

A. Well, having in mind the fact that the gas supply has a ten-dency to diminish and is diminishing at all times unless a new upply is brought in through additional wells or new fields, the endency will be to increase that twenty-five per cent maximum ext year, rather than diminish it, and in the succeeding years following it.

544 Q. Would you indicate, please, on the record, the rate or the amount of that increase yearly?

A. I couldn't undertake to do that, Senator.

Q. Well, so as to get it specific, what would you estimate your hortage to be in the winter of 1920-21?

A. I have already said that unless something intervenes, which

we do not know now, that I would anticipate a twenty-five per cent shortage for next winter. I am unwilling to go beyond that, because I can't undertake to say what will happen beyond it.

Q. You are of opinion, however, as we understand you, that that increase in shortage will grow with the succeeding years?

A. I see no other outcome to it under the known facts, as we know them now.

Q. In other words in your opinion that will be a progressive increase in the shortage with the succeeding years?

A. Always assuming that there are no other commercially available sources of supply discovered, that would be the case.

Q. Do you know of any other sources of supply of gas in the State of Ohio than those that you know now?

A. I do not. I am unwilling to predict on that, because I have in mind that one of the best geologists in the country some
1545 fifteen years ago eliminated from possible consideration of source of supply a large section of southern Ohio, which ten or twelve years later became one of our main sources of supply. Now, if a trained geologist is in error to that extent, I certainly am not willing to express any opinion in that regard.

Q. Well, to put it in just plain language, the end of the supply of gas in the state of Ohio is not far away; is not that right?

A. I would say that we are approaching the end of the gas supply, not only in Ohio, but in West Virginia as well. It is one of these natural resources of the country, like our timber, that we have been very profligate in the use of, and I think just in recent years we have waked up to the value and the necessity of conserving.

Q. Inasmuch as the winter of 1919 is past and you know, therefore, as to the actual experiences, we will ask you to state the shortage of gas to meet your requirements during that winter?

A. I can't give you that, Senator. I can't give you that, for the reason that all the figures we would have would be the actual volume of gas sold. Now, just how far short we fell of requirements, I can't say because I don't know how much the consumers
1546 would want. I know that so far as domestic gas is concerned, there were days in Columbus here when sections of the town were entirely out of gas.

Q. You have stated on direct examination certain conditions which in your opinion would apply if you can not get West Virginia gas. Let us ask you now what conditions will follow when this diminishing supply of gas has failed, or in other words when it has been used?

A. You mean when the entire supply fails?

Q. Yes.

A. Well, there is only one answer to that; the gas companies will all be out of business, and the consumer will have to turn to some other form of fuel.

Q. That is a condition that you who are engaged in the gas business recognize is approaching, and approaching you very rapidly, do you not?

A. It is approaching undoubtedly; how rapidly is a matter of opinion only.

Q. And the conditions that you referred to as to your consumers in Ohio, is a condition that you know is coming to those consumers?

A. Ultimately, just as we know that every man will die some time.

Q. And the conditions that you referred to relative to the value of your property, your lines and your mains and the use
1547 that can be made of them, is a condition that you who are engaged in the gas business know is certainly approaching?

A. Some time or other, yes, sir. We don't like to see it hastened unnecessarily, though.

Q. As your supply of gas decreases, what will your company do; I mean from this time on and before you reach the time when it is no more commercially profitable to sell gas to consumers?

A. That is a problem which in my judgment at the present time more nearly concerns the consumer than it does the companies; in this, that it appears to me that the consumer has this question to answer; whether or not we will go along as we have been going, with admittedly wasteful and unreasonably large consumption of gas and all parties, both consumer and company, be out of business so far as natural gas is concerned, in a relatively short period of time, or will the consumer and the companies operate together and co-operate and prolong the life by reducing the use of gas and eliminating wherever practicable the waste and unnecessary use,—in other words true conservation. By so doing the length of time in which the consumer may be able to use this fuel will be very greatly extended. It is theoretically possible for the gas companies to so conduct their business that in the end when the time comes
1548 they must cease business, by reason of the exhaustion of their supply, that they will have the property converted into cash or salable property so as to be able to return to their stockholders their investment. Practically I don't think that will be the case, at least in some instances. There will inevitably be a loss.

Q. Inasmuch as your supply of gas will not be sufficient to furnish your consumers continually and indefinitely natural gas, what are you going to do?

A. In what respect?

Q. Well, as your supply decreases, are you going to reduce the number of your consumers, contract the area that you serve, or what are you going to do?

A. I don't know, Senator. I wish I did.

Q. Well, inasmuch as you can't continue to serve them all with gas because it is diminishing, will you not be required to contract your service and to serve a fewer number of consumers, if you are to give them that service that you spoke of on yesterday, namely, a continuity of service?

A. From the standpoint of good service, good business operation, my judgment is that that would be the proper thing to do; whether or not we will be permitted to do it by Public Service Commissions and other authorities I don't know.

1549 Q. Now, when you do reduce the number of your customers, will you continue to stretch this gas out over the whole of your line or will you contract your lines?

A. I still must say I don't know. That involves the question of policy and mingled with it a determination of legal rights which remain to be solved, and I can't undertake to forecast it.

Q. Well, in the end, in the nature of things, you will have to contract your lines of service with a diminishing supply, if you are to give that continuity of service that you spoke of on yesterday?

A. Undoubtedly that is true. After all, the fundamental question is whether or not we will be permitted to give good service to a more or less limited few, or attempt to give poor service, or practically no service at all, to a large number. Now, which?

Q. You say, as we understood you on yesterday, a poor service in gas is practically equivalent to no service?

A. It is true. That is true, and yet we must not lose sight of the fact that the women who are accustomed to gas service are exceedingly reluctant to let any kind of gas service get away from them.

Q. Now, with a given quantity and that quantity diminishing rather than increasing it will not be business for you nor practicable for you to do other than to contract your service in order

1550 to give a service and such service as you stated on yesterday was necessary to give to the consumers of gas; is not that right?

A. That would be the logical and good business, sound business sense and good service thing to do.

Q. Well, as a practical proposition, isn't that the thing that you will have to do?

A. We will have to come to one of two things, yes, Senator, as I have been trying to say, we will have to do that or attempt to give more or less limited and poor service to the total consumers. Which we will be permitted to do I do not know.

I recall in Indiana when this question arose, there was a very strong effort made through the courts to compel the division of what little gas supply there was amongst all. Now, if you are called upon to make a choice between communities to which community are you going to give it? We have an illustration of that before the Public Service Commission right now, in the village of Saint Clairsville. We procure our supply from another company for Saint Clairsville and have no source of supply of our own, and the company supplying us has served notice upon us that they haven't gas to give us for Saint Clairsville. We have applied for permission to withdraw from the city and we are very vigorously and bitterly contesting it, and the attorneys for the village of Saint Clairsville are exercising all

1551 their ingenuity and skill to hold us and the other company there. Now, in effect there will be a battle, when this question arises; there will be a battle between communities in a small way, just as there is one between Ohio and West Virginia as to which is going to get gas. We are giving an illustration here as to what is going to come all over the state.

Q. Well, now, from a practical standpoint, won't you find your-

? in this position, that if you undertake to give service to all, with iminishing and failing supply, that your service will be such that ır consumers will not want the service?

A. That will ultimately come, yes.

Q. And will that not force you to the contracted-area service, or e give no one any service satisfactorily?

A. I think that is true, yes.

Q. And is this not further the practical situation that with a iited supply of gas and a diminishing supply, when that time nes, when your service is not satisfactory to the consumers, that it ll be more practical for you from a financial standpoint, and the ly way that you can maintain yourself as a financial proposition, restrict your service to a limited area and to a limited number of nsumers?

A. That would be the more practical way to handle it, yes.

52 Q. Well, the fact is that it will not be practical from a financial standpoint any other way, will it?

A. I say that would be the more practical.

Q. Well, isn't it the only practical way from a financial standint?

A. Yes, I would go that far and say it is the only practical, from inancial standpoint, from a standpoint of company operations.

Q. That is what I am driving at.

A. From the standpoint of company operations.

Q. From the standpoint of company operations?

A. Yes, that is true.

Q. That would be the only practical way that you can then erate?

A. That time may come and doubtless will come when that ndition will obtain.

Q. And these conditions and these practical propositions I have st been asking you about must ultimately and necessarily arise, hether you get gas from West Virginia or whether you don't get s from West Virginia; is not that true?

A. That is a question of time in my judgment.

Q. In other words you mean to say that the only difference is it ill be postponing for you the day, if you get this gas from West irginia?

A. Yes.

53 Q. As your supply is diminishing and you are contracting your lines what are you going to do with these lines that you ıve eliminated?

A. I don't know.

Q. Now, on your direct examination you said that your original ıpital stock was $2,500,000.00, and that your present capital stock nineteen million and some thousands of dollars. Will you state, lease, whether this increase in your capital stock has all been made y the actual payment of money for this stock or has it been increased y other ways?

A. Actual payment in cash for the stock.

Q. It has all been paid for in cash?

A. I think that is my understanding, yes, sir; I don't know of anything that has not been.

Q. What surplus, if any, does your company have?

A. (After examining paper): Surplus from operations $17,759,926.98. You understand, of course, Senator, that is merely a book figure.

Q. That surplus is an earned surplus, is it?

A. Surplus from operations, yes, sir.

Q. In addition to this surplus of seventeen million and some thousands of dollars, have you any reserves or have you laid aside reserves on account of depletions or for any other purpose?

1554 A. Reserve for depreciation, $3,841,364.54.

Mr. Eagleson: Just a minute, will you read the question to which that last was an answer.

(Previous question repeated.)

Q. That was reserves earned from operations of the properties?

A. Yes, sir.

Q. On your direct examination you stated that your investment on your books as of May, 1920, represents $24,580,000.00, and materials on hand of $1,159,000.00. I will ask you if this item of investment includes or is made up rather of appraisals of your properties?

A. No; that represents actual cash outlay at cost for our physical properties.

Q. Will you state, please, somewhat in detail—as much as you may be able at this time—the items that go to make up this sum of $24,580,000.00.

A. I couldn't give you very much detail because I have not the detail sheets with me. I may say that this represents the investment or cash outlay in the construction of lines, the construction of the distributing systems, the drilling of wells, procuring the leases, and generally those items which are charged to investment.

1555 Q. Does the item of $24,580,000.00 include any item of valuation for your leaseholds?

A. It does not.

Q. That is exclusive——

A. Exclusive; I gave you exclusively the actual cost of the investment as shown by our books, of the physical properties, exclusive of any valuation of leaseholds or any cost of leaseholds on any operated acreage. Under our method of accounting we do not charge into investment any expense in connection with taking a lease until it is actually producing gas and we add nothing then of that item of physical property of unoperated acreage after it is drilled and producing gas, other than the actual cost of securing the lease.

Q. You stated on direct examination that your original capital stock was $2,500,000.00, and also that your capital stock is now nineteen million and some thousands of dollars, and your investment $24,580,000.00; was the increase to the two and one-half million dollars, actual money paid in, or does that increase represent money

and surplus, stock dividends, or other items, other than actual cash?

A. The twenty million dollars capitalization represents cash paid in—cash or property actually paid in. It is just in my mind now that when the Northwestern property was bought some years
1556 ago, we exchanged stock for stock; that became a part of the capital stock. There are no stock dividends in it; I will say that much.

Q. The acquirement then of the lines of the Northwestern Gas Company was a stock transaction and not a cash transaction?

A. Not a cash transaction; we exchanged Ohio Fuel Supply Company stock for the entire stock of the Northwestern Ohio Natural Gas Company as I recollect it.

Q. Do you mind the amount of stock given by your company for the stock of the Northwestern Company?

A. I can not give you the number of shares off hand.

Q. I mean in dollars?

A. Oh, in dollars and cents that cost $5,550,050.00 in stock for the stock of the Northwestern Natural Gas Company. It is carried on our books at that figure today.

Q. And what was the stock in money, stating it in dollars, the transfer of your company in that exchange—I mean the stock of the Northwestern gas?

A. You mean upon what basis?

Q. You may state it either way?

A. I don't recall, now, Senator, just what proportions they were; I know that was the aggregate amount of stock and that is
1557 the way it is carried on the books, but just what the proportional basis was I don't now recall.

Q. Does your company have properties included in your investment other than your oil and your gas properties?

A. I am not sure that I understand your question, Senator.

Q. Well, does your company have properties other than your oil and gas properties that are represented in your capital investment?

A. Not in the items I have given you, no, sir. I gave you the figure of $24,588,676.99, which represented simply the cost value of the actual physical property, main lines, transmission lines, wells and distributing system. Now, we have interest in other property through stock ownership which are not included in that figure.

Q. What is the value of such properties, and what are they?

A. The Northwestern Ohio Natural Gas Company, the figure which I have given you, carried on our books $5,550,000.50; our interest in the United Fuel Gas Company, carried on our books at $4,410,000.00, and the Point Pleasant Natural Gas Company at $50,000.00; the Depositors Realty Company, which represents simply a small amount of stock which we own in this Columbus Bank Building here, that went into the hands of a receiver some years ago, and we had to take stock for our share of it, amounting to $4,734.00, and two or three other minor, little items, amounting to fifteen
1558 hundred dollars. The total amount of our investment, including the physical properties and the stocks in other com-

panies of which I have spoken, amounts to $34,574,960.99. That does not include material and stock.

Q. On your direct examination yesterday, you said The Ohio Fuel Supply Company had prior obligations to its own consumers which it supplies direct; that the obligations to supply Columbus, Springfield and Hamilton were secondary. Will you please explain what you mean in your statement when you said that your company has prior obligations to its own consumers which it supplies direct?

A. That was based upon what I believed our duty as a public service corporation to be, that duty being to supply those consumers in those communities, towns and cities where we have distributing systems and are engaged in producing, transporting and delivering gas from the field to the consumer through our own lines, assuming our public service obligation to be where we have voluntarily held ourselves out as a public service corporation primarily to our own consumers, and as separate, and distinguished, from those companies which are buying gas from us for the purpose of re-sale to their own consumers, where they are charged with the public service duty direct, and not us. Our duty in our own communities is meas-
1559 ured first by the obligations of our franchises in that particular community; second, by our contract, which is also controlled by the rules and regulations of the Public Service Commission—our contracts with individual consumers. We measure our obligation to those communities where we are supplying gas wholesale for re-sale by the terms of a private contract between the parties.

Taking for illustration the contract with the city of Columbus, or not with the city of Columbus, properly speaking, but between the Ohio Fuel Supply Company as a supplying company on one side and The Columbus Gas and Fuel Company and The Federal Gas and Fuel Company, owning the distributing systems in the city of Columbus, and being charged with the obligation of distributing gas in the city. The contract between ourselves and these two companies, dated in 1914, entered into with the knowledge, if not the approval of the Public Service Commission, specifically provides that The Ohio Fuel Supply Company shall have the right to supply its own consumers and that those towns are entitled to only as much gas as may be left in the event of shortage after supplying our own consumers. In other words it is an obligation limited by contract.

Q. Is not the city of Columbus dependent upon your com-
1560 pany furnishing to the distributing companies in Columbus, gas for distribution then by the local companies to the consumers?

A. Whatever gas the consumers in the city of Columbus obtain for their use from either of the distributing companies operating inside the city limits is obtained from The Ohio Fuel Supply Company.

Q. And unless you supply the gas to those distributing companies there will be no gas supplied to the consumers in the city of Columbus?

A. That is entirely true.

Q. That is likewise true of Springfield?
A. Yes, sir.
Q. Dayton?
A. We have no connection with Dayton.
Q. You have no connection?
A. Likewise true of Hamilton, Middletown.
Q. You mean that Hamilton and Middletown get no gas unless you furnish the local distributing companies there with gas?
A. Yes, sir.
Q. And under your construction of your contracts and your theory of your duty to your own consumers, you have the right to shut off the gas from the cities of Columbus, Springfield, Hamilton and other distributing companies, if it is necessary for you to have the gas to furnish your own consumers?
1561
A. The contracts call for that—contain a provision giving us that right.
Q. In other words you have the right to withdraw the service from Columbus, Springfield, Hamilton and other points that are on locally distributing companies when you need the gas for your own consumers?
A. For our own domestic consumers.
Q. In other words to express it in words, you give your own consumers the priority of service?
A. That is true.

Redirect examination.

Mr. Eagleson:

Q. In reference to your last answer, Mr. Denning, I believe you said that you had the right to limit the supply of gas that you would deliver to local distributing companies for distribution to consumers to such an extent as would first give your own company's domestic consumers a supply before supplying such distributing company gas for even its domestic consumers, and that that was generally the practice of your company in circumstances of that kind. Is it not a fact, if a fact, that whatever practice of that character you had or do in that connection, you do as a result of the specific provision or authorizing in your separate contracts with these companies?
1562
A. That is true, each contract contains a specific provision providing for that condition.
Q. You spoke of a capital-money-investment as of May, 1920, of $24,588,000.00 and some odd dollars; would you say that the value of the property as it now exists would be substantially greater or less than that?

Mr. Hoffheimer: That is objected to as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. Substantially greater.

Q. You spoke of a surplus of something like seventeen million dollars from operations as a book item; what became of that seventeen million dollars, or how was it used?

Mr. Hoffheimer: The same objection, and also objected to as not proper redirect examination.

The Commissioner: Note the objection and let the witness
1563 answer.

A. Surplus can represent only two items, either investment of cash in the bank or securities in some form or reinvestment in the property. In this case it is combined in both items, largely reinvestment in the property.

Q. You spoke on cross-examination of the possibility of some time in the future being confronted with the restriction either of the number of consumers of the company or the amount of gas given to each consumer; state whether or not that situation is not at the present time in the State of Ohio largely if not entirely under the control with reference to eliminating municipalities or consumers from the lines of the company, within the jurisdiction of the Public Utilities Commission of Ohio?

Mr. Hoffheimer: That is objected to as calling for a conclusion or opinion of law.

The Commissioner: Note the objection and let the witness answer.

A. The last legislature in the state of Ohio enacted a law which attempted to confer upon the Public Service Commission of Ohio exclusive jurisdiction to determine and pass upon the right
1564 of any utility to discontinue service when once established, requiring an application to be made to the Commission and its authority to be obtained before service could discontinue, so that as the situation now stands on the face of things at least, the matter not having been contested, exclusive jurisdiction lies with the Public Service Commission, to grant permission to withdraw service from any community.

Q. You attempted to say on cross-examination in answer to an inquiry, that there would be to your company during next winter a probable shortage of what you might estimate to be twenty-five per cent in the supply of gas which you might have, as compared with the demand of your consumers. What do you mean by that? That is, do you mean that as covering a period of a day or a month or through the winter season, or what?

A. What I attempted to do in expressing that opinion was to give an opinion only as to what difference there would be between the amount of gas demanded by the total number of domestic consumers on a cold day during cold-weather periods, and the amount of gas which we would have available to supply that demand, and I estimated it at approximately twenty-five per cent.

Q. And this estimate was based on all the consumers of the
1565 company or with the consumers other than domestic, eliminated?

A. With the consumers other than domestic eliminated, assuming the extreme demand of domestic consumers during cold weather periods lasting a day or two or two or three days at a time and our ability—the amount of gas which we would have to supply it.

Q. I ask you if when you answered that question you had in mind that you were to procure the gas during the coming year that you are now and have heretofore been obtaining—natural gas?

A. I had in mind all available sources, including our supply and possibly supply from West Virginia.

Q. Mr. Blue's inquiry to you along the line of peak loads, with reference to dates; during the winter season of last winter for illustration, the cold-weather period would constitute a peak-load, so-called peak-load demand for what periods of time?

A. It varies entirely with weather conditions. We have a seasonal peak load and a daily peak load.

Q. Well, that is what I am getting at——

A. I see.

Q. The question and the answer thereto didn't to my mind comprehend fully the question of peak loads and gas companies in the winter season in Ohio.

1566 A. Using the term peak load in this sense, meaning the greatest amount of gas which the domestic consumer requires or thinks he requires to meet his needs at the time, during very extremely cold weather; in other words the greatest amount of gas that will be required of you at any particular given time. Now the seasonal peak load will always reach us during the cold-weather periods. We might have a mean average temperature of say 40 degrees; go along that way for practically twenty days out of the month. There will come a sudden drop in temperature and the mercury will go down below zero. At once every one begins to turn on his gas, getting cold, and the demand becomes a peak very much greater and the quantity of gas required is at once increased; that is a seasonal demand, a seasonal peak load which always reaches us during the winter; it may last only a day or two at a time; it may last for two or three weeks, depending entirely on weather conditions which we cannot forecast. For instance, during the winter of 1917 and '18, in February, 1918, we had a continuous period of about four weeks of nearly zero weather, at times below zero. That was an abnormally hard drag upon every gas company in the business. Other winters we have gone through with a much higher mean average temperature, and the demand has not been so great; it affects the consumption.

1567 There is a daily peak load even in the summer time, running usually during the breakfast hour in the morning as a rule, but at noon there comes another, due to the preparation of the noon meal, not being so great. The evening meal is what is called the "supper peak," is greatest—well, I won't say that either, the breakfast peak is usually the greatest of all, particularly during cold weather, because people are prone to turn on everything they have got so as to get the house heated up quickly, so we have the three

daily peaks varying according to use, and the seasonal peak, which is almost entirely controlled by weather conditions.

Q. Now you spoke of there being times on your system when the consumers of your company and consumers of local distributing companies which you supply, being practically out of gas last winter; did you intend your suggestion that you would be short twenty-five per cent of the amount to meet the requirements, to include a condition like that, or would that not constitute a one hundred per cent shortage of gas?

A. It would certainly be one hundred per cent as applied to those districts that didn't have any gas. What I had in mind was taking our entire requirements over our entire system and speaking of the possible twent-five per cent.

1568 Q. I believe you have testified both in direct examination and on cross-examination that your company is doing all it can to maintain, by reason of development and purchase, and every available means of maintaining, the gas supply to its consumers?

A. We believe we are doing everything that we can; we are doing everything that business experience and knowledge suggest. Among other things we even voluntarily increased our purchase price for gas in the fields, fifty per cent in the last ninety days to encourage production by others.

Q. In discussing the main line of your company that carries gas to the south-west, to Cincinnati, on cross-examination you spoke of it being constructed about the time that the so-called Licking-Knox county gas field of Ohio was being developed by your company, and that this line has been used in the transmission of gas from that field, together with gas from West Virginia to Cincinnati and the communities on the line to Cincinnati; I want to ask you if it is not a fact that at the same time and in connection with the construction of this pipe line, you were not in possession of and obtaining areas of prospective gas territory in West Virginia from which you also intended or at least hoped to obtain the natural gas for trans-

1569 portation through that line being so constructed to your consumers?

Mr. Blue: The State of West Virginia objects to the question because improper, irrelevant and immaterial and not proper redirect examination.

The Commissioner: Note the objection and let the witness proceed

A. That is true. We at that time had acquired considerable acreage in West Virginia and had already drilled and was producing or able to produce a considerable quantity of gas, and the Cincinnati line was built as a part of the plan, relying on obtaining gas from West Virginia as I stated this morning.

Q. Mr. Denning, is it not a fact, if you know, that not only your company but all natural gas companies supplying natural gas to consumers in Ohio, are constantly endeavoring and living in hopes of discovering additional deposits or supply of natural gas or finding natural gas in sands deeper than the sands from which they now

tain it, for the purpose of continuing for the longest possible
ne at least a natural gas supply to their consumers?

Mr. Hoffheimer: That is objected to as leading, as an improper method of examination, as a not proper redirect examination,
70 and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness
swer.

A. Our company and all companies within my knowledge are
nstantly exercising effort to discover not only new sources of supply
t additional gas within known fields. In a number of instances
lls have been drilled to the deeper sands; that is, to sands under-
ing the known horizon. I know that some of the older and more
perienced men entertain the belief that eventually there will be
me additional gas found in deeper sands. So far within my knowl-
ge there has been nothing discovered as yet that would give that
y more effect than that of a "hope."

This much is true, that should a new sand, a deeper sand be
scovered, the cost of production will be much greater, and the
nount of available gas per well will be less than the wells we are
tting now.

Mr. Hoffheimer: I move to strike out the testimony as to the
tness and the company's hopes as manifestly improper.

The Commissioner: Note the motion.

71 Recross-examination.

Mr. Blue:

Q. On your redirect examination, you referred to legislation by the
gislature of the State of Ohio at the 1919 session, which left the
atter of withdrawal in the hands of the Public Utilities Commission
the State of Ohio; when you referred to such legislation did you
ve in mind what is known as the Miller Act?

A. Yes, sir.

Q. And particularly to sections 504-2 and 504—section 3 of that
t?

A. I could not identify the sections, Mr. Blue, but I refer to the
t in its entirety.

Q. But anyway the act that you had in mind is known as the
iller act, and an act passed April the fifteenth, 1919, approved
ay sixteenth, 1919?

A. I couldn't identify the dates; I have not examined it as a
wyer. I refer to the Miller Bill, that is the Miller act, under
hich the Commission is assuming jurisdiction; the only legislation
at I know of on the subject.

Q. Passed at the session of 1919 of the Ohio Legislature?

A. Yes, sir.

Q. On your redirect examination you referred to some acreage and some property in the State of West Virginia; where was

1572 this acreage and what was the amount of it, and in whose name was it acquired?

A. Originally acquired in the name of Treat & Crawford, The Ohio Fuel Supply Company not at that time being authorized to do business in the State of West Virginia. As to the extent of the acreage, I can not now give you the figures, without going back and examining old records. The general locations are in Roan county, and in that vicinity. It is now—what is still retained—is owned and under the control of the United Fuel Gas Company.

Q. To whom did Treat & Crawford transfer its acreage?

A. The money was advanced originally by The Ohio Fuel Supply Company——

Q. I say to whom did Treat & Crawford transfer the acreage?

A. Was transferred to the United Fuel Gas Company.

Q. The United Fuel Gas Company is a corporation under the laws of the State of West Virginia?

A. I believe so.

Q. And operates in that state?

A. Yes, sir.

Q. That is the same company whereof Mr. Harry Wallace, a witness who has testified in this case, is at this time general manager?

1573 A. Yes, sir.

Q. As we understand your redirect examination, the shortage of twenty-five per cent you referred to on cross-examination and about which you were inquired on redirect examination, relates only so far as you give that percentage to your domestic consumers?

A. Yes.

Q. And in making your calculations you were making it upon the basis of your domestic consumers eliminating the industrial consumers?

A. Yes.

Q. Is that right?

A. Yes.

Q. What would be your shortage if you were to include all of your consumers, all the different classes of your consumers; what would you say then your shortage would be?

A. I don't know.

Q. Well, stating it in percentages and for the same periods you had in mind when you gave the percentage statement of twenty-five per cent, what would you say?

A. I couldn't attempt to answer that, Senator, because I would first have to procure from the records the volume of gas sold for industrial, from time to time, and work out a calculation from it, which I haven't before me now, not having the figures.

1574 Q. Well, it will be considerably larger than your twenty-five per cent?

A. Undoubtedly, that is assuming it in the sense that you could sell that much more gas, if you had it, be undoubtedly much larger.

Q. On the days when you had these shortages of twenty-five per

cent you were furnishing no gas for industrial purposes, or practically no gas for industrial purposes?

A. I don't recall, Senator, that I attempted to give a percentage as to the amount of shortage last winter. My forecast, for what it was worth, was directed only to the future, for this coming winter.

Q. Well, for whatever time that you had in mind, you were making that shortage upon the basis of your industrial gas turned off, or practically so, and still having that percentage of shortage for your domestic consumers?

A. Yes, sir, that is true.

Q. I neglected to ask you on your cross-examination whether or not the gas you bring through the line connecting with the United Fuel Gas Company and running to Sugar Grove—whether the gas that passes through that line at Sugar Grove becomes commingled with the gas you produce in the State of Ohio?

1575 A. May I ask you to read that question again.

(Previous question repeated.)

A. It becomes commingled with the gas which is produced in Sugar Grove and Jackson and Vinton district, at that point, yes, sir.

Q. Your company is furnishing at this time gas to industrial consumers in the State of Ohio?

A. Yes, sir.

An adjournment was here taken until Thursday, July 22, 1920, at 10:00 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

1576 THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Thursday, July 22, 1920.

And now the hour of 10:00 o'clock A. M. having arrived, heari resumed pursuant to adjournment.

The Commissioner: Counsel for the Commonwealth of Penns vania and the State of Ohio give notice that upon the adjournme of the hearing as of today's date the hearing will stand adjourn until 10:00 o'clock on the morning of September 13, 1920, at whi time the hearing will be resumed in the office of The Peoples Natur Gas Company, Pittsburgh, Pennsylvania, where the former hearin were held. Counsel for West Virginia waive all other or furth notice of this hearing.

1577 J. W. MCMAHON, a witness produced on behalf of co plainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Eagleson:

Q. Please state your full name and residence, Mr. McMahon.
A. James W. McMahon, Toledo, Ohio.
Q. What natural gas company, if any, are you identified wit Mr. McMahon?
A. The Northwestern Ohio Natural Gas Company.
Q. And how long have you been associated with the natural g business?
A. With the Northwestern, 18 years.
Q. Now go back through said 18 years, and as far back of that your experience has gone, and give briefly your positions and t

nature of your employment in the natural gas industry up to the present time.

A. Seven years with The Buckeye Pipe Line Company.

Q. Beginning when?

A. Beginning in 1895.

Q. And the nature of your work there?

A. I was fuel agent for providing fuel for about 100 compressing or pumping stations that they had for pumping oil, and it became necessary for me to drill gas wells or have them drilled, construct pipe lines, purchase gas from independent producers, and
1578 have it conveyed to the stations for the purpose of using it as fuel.

Q. Where was this?

A. In Ohio and Indiana.

Q. And after that where did you go and what did you do?

A. After that I went to Toledo.

Q. In what year?

A. In the year 1902.

Q. And since 1902 what have been the various positions which you have held and the nature of your work?

A. Since 1902 I have been manager of the Northwestern Ohio Natural Gas Company.

Q. And located where?

A. At Toledo.

Q. Now putting it short, has your experience in the oil and gas business since 1895 carried you into close touch and a part of the various departments of the work, and brought you into touch and familiarity with the production, transportation and distribution of natural gas?

A. Yes, sir; it has.

Q. I call your attention to Ohio Exhibit No. 2 and ask you if on that exhibit there is evidence of the pipe lines and pump stations, if any, of the Northwestern Ohio Natural Gas Company?

A. Yes, sir.

Mr. Eagleson: In lieu of offering an additional exhibit the
1579 witness will be examined from Ohio Exhibit No. 2, which represents also the lines of his company.

Q. After examining Ohio Exhibit No. 2, Mr. McMahon, can you state the fact, if it is a fact, that there is evidence there of the main transportation lines and pump stations, if any, of the Northwestern Ohio Natural Gas Company.

A. Yes, sir.

Mr. Eagleson: We desire this Exhibit to be considered in evidence as applying to this witness and the company of this witness the same as it did to The Ohio Fuel Supply Company.

Mr. Blue: There is no objection to that.

Q. Now, Mr. McMahon, I wish you would take Exhibit No. 2 and state, perhaps beginning at the south end of the system, and de-

scribe the physical property of your company as evidenced by said exhibit.

A. At the southern end of the line where it is marked Horns Mills,—it is just below that,—there is a compressing station where we get our gas, compress it and move it through two ten-inch lines; we pass it through two ten-inch lines, passing through the counties of Fairfield, Licking, Delaware, Marion, Wyandotte and Hancock counties to a point about 121 or 122 miles north of our compressing station known as Wheeler's station.

1580 Q. In what county is Wheeler's Station situated?

A. Fairfield.

Q. In Ohio?

A. Yes, sir.

Q. And the point to which those two lines extend is in what county?

A. It is in Hancock County.

Q. And about what direction and distance from Toledo?

A. It is about 38 miles southwest, or nearly south from Toledo, The Tonkin Compressing Station is, and the line then runs southeast.

Q. Now can you just go on and in your own way describe completely those lines as shown on the map.

A. From the compressing station known and marked as Tonkin Station on Exhibit No. 2 we have a 12-inch line and a 10-inch line running to the city limits of Toledo, one on each side of the City, the 12-inch upon the west and the ten-inch upon the east side of the City of Toledo. At that point the gas is reduced and put through our city lines for consumption by the costumers of The Northwestern Ohio Natural Gas Company. In between Toledo and Tonkin Station we have the village of North Baltimore, the City of Bowling Green, the village of Perrysburg and the village of Maumee, which are also supplied from these main trunk lines.

1581 Q. In addition to the City of Toledo, Lucas County, Ohio?

A. Yes, sir.

Q. Then you supply natural gas to those five municipalities just named by you?

A. We do.

Q. Does the Northwestern Company supply gas to any other municipalities?

A. No, sir.

Q. Or consumers?

A. No, sir.

Q. What is the present source of your natural gas supply?

A. We get our present natural gas supply entirely through the lines at Wheeler Station in Fairfield County.

Q. And from whom, Mr. McMahon?

A. From The Hope Natural Gas Company, nearly entirely.

Q. Well, what additional gas do you procure and how regularly and to what extent?

A. We procure some gas from The Ohio Fuel Supply Company in emergency cases where The Hope Natural Gas Company cannot or

loes not give us sufficient gas and there is danger of our fires going
out in Toledo and the towns we supply.

Q. How long have you been so procuring your natural gas supply?

A. About sixteen or seventeen years.

Q. Now prior to that time did you distribute natural gas to
1582 consumers up in Northwestern Ohio to these municipalities
which you have named?

A. Yes, sir.

Q. Give us a little history of that service as to the time and charac-
er, the companies, if more than one, and so forth.

A. The company has been doing business in Northwestern Ohio
ince about 1887. At that time——

Q. Tell its starting history.

A. At that time they produced the gas from northwestern Ohio.
They acquired thousands of acres of land in fee and by lease through-
out the counties of Wood, Hancock, Seneca and the northwestern
counties of Ohio. They drilled thousands of wells and piped the
ities and supplied natural gas to the consumers. About 1900, 12
ears after they began exploiting for gas, the gas supply of north-
estern Ohio was becoming exhausted. The gas was found in the
Trenton rock field only in northwestern Ohio and the oil was also
ound in that same formation, and in drilling for oil, which was
he most valuable commodity at that time, they drilled so many
housands of wells that the gas was permitted to escape and did
scape into the air. It created a back pressure upon the oil wells
nd they let it out. Efforts were made at that time by the passage
of laws by the legislature of this State to prohibit the wastage
1583 of gas, but those efforts did not seem to prolong the life of the
gas field a great deal, and it began to become exhausted very
apidly. At that time the City of Toledo was engaged in the natural
as business as a municipality. They bonded themselves I think
or $1,500,000.00, which bonds are still outstanding and not paid,
nd went into the natural gas business. I believe the city of Fre-
mont did the same, as well as Findlay,—the northwestern cities.
But almost before the City of Toledo got to producing gas the field
rom which they expected to draw was about exhausted, and they
ent out of business; sold their lines practically for junk, I believe,
nd discontinued. The Northwestern Ohio Natural Gas Company
hen had two lines, one a ten-inch line and one a twelve-inch line
unning from the City of Toledo south to the then known gas fields
f Ohio.

Q. In the counties which you have already named?

A. Yes, sir. They were confronted with a possibility of losing
heir entire investment, or getting gas elsewhere. They then entered
nto a contract with The Hope Natural Gas Company, whereby they
ere to lay a line or lines south from Tonkin Station, which was 38
iles from Toledo, to a point known as Sugar Grove, in Fairfield
County, Ohio, where they were to connect with or receive gas from
The Hope Natural Gas Company, which company, in turn, was to
procure that gas from West Virginia.

1584 Q. Sugar Grove is the village in Fairfield County at which is located Wheeler's Station?

A. Yes, sir.

Q. All right; go ahead.

A. Meanwhile The Northwestern made all efforts to provide or find new fields. They were still getting, of couse, some gas from their leases south of Toledo.

Q. When did you lay your second line from Tonkin Station south to Wheeler Station?

A. In 1908.

Q. And are those two lines so laid from Tonkin Station to Wheeler Station still in existence and service?

A. Yes, sir.

Q. And are used for what?

A. Used for the purpose of transporting gas from Wheeler Station north of the city of Toledo and the other municipalities which we supply with natural gas.

Q. What is the fact at the present time as to the companies being able to procure any gas from the fields you have referred to in northwestern Ohio?

A. We have but six or seven wells in the Ohio fields.

Q. What has become of the others?

A. They have been abandoned and plugged. The six or seven wells referred to are not connected to our main line—are not supplying any gas to our main line owing to the fact that the pressure is not sufficient so that we could get the gas into our main lines.

1585 We simply sell that gas to the farmers or give it to them for the use of their right of way possibly. We leased in 1895 7,000 acres of land in Lorain and Huron counties and drilled two wells which proved worthless. In 1898 there were leased about 3,000 acres of land in Hocking and Fairfield Counties which proved worthless upon drilling. In 1902 and 1903 there was leased 20,000 acres of land in Vinton County and three wells were drilled which proved worthless. In 1905 22,000 acres of land were leased in Ashland, Richland, Medina, Holmes, Wayne, and Knox counties, Ohio, upon which three wells were drilled which proved worthless. We now have about 4,000 acres of land 15 miles north of Toledo in the state of Michigan which is wild-cat territory, but which we expect to test.

Q. To what extent, if any, has your company been, in the past, endeavoring at all times, where possible, to procure additional gas supply?

A. Well, we are making every effort, every time a well is being drilled any place where we think there is a possibility of gas, we immediately take up leases and place ourselves in a position to drill and go ahead with production if any gas is found.

Q. Then is it a fact, or not, that it is a part of your business, in addition to your own personal investigations over the country, to observe conditions within any possible distance of the lines of

1586 your company to ascertain the presence of and procure natural gas?

A. Yes, sir.

Q. How many consumers of natural gas have you, at the present time, Mr. McMahon, on your system, giving the number in each municipality if you can.

A. In the village of North Baltimore we have at present 663 customers; in Bowling Green 1,639; in the village of Maumee 489; in the village of Perrysburg 595, and in the City of Toledo 52,132.

Q. What is the population that that carries as being dependent upon your company for natural gas?

A. Something more than 250,000 population.

Q. Now, Mr. McMahon, can you give us the amounts of natural gas which your company has been able to deliver to those consumers each year back to 1910, giving the classifications; that is to say, the amount delivered for domestic consumption and the amount delivered and consumed in industrial enterprises?

A. Yes, sir; in 1910, 3,103,695,000.

Mr. Blue: That is what; domestic?

Witness: No; that is the total.

Q. Can you give the domestic and then the industrial and then follow that with the total each year through?

A. In 1910 the total domestic was 2,999,900,000 cubic feet; industrial 103,786,000 cubic feet; total 3,103,695,000 cubic feet.

1587 1911, total domestic 3,747,542,000 cubic feet; total industrial 175,995,000 cubic feet; total 3,923,537,000 cubic feet.

1912, total domestic 3,867,865,000 cubic feet; total industrial 268,066,000 cubic feet; total 4,135,931,000 cubic feet.

1913, total domestic 4,046,478,000 cubic feet; total industrial 367,307,000 cubic feet; total 4,413,785,000 cubic feet.

1914, total domestic 4,092,963,000 cubic feet; total industrial 661,803,000 cubic feet; total 4.754,766,000 cubic feet.

1915, total domestic 4,593,595,000 cubic feet; total industrial 527,057,000 cubic feet; total 5,120,652,000 cubic feet.

1916, total domestic 5,239,111,000 cubic feet; total industrial 485,682,000 cubic feet; total 5,724,793,000 cubic feet.

1917, total domestic 5,775,785,000 cubic feet; total industrial 630,460,000 cubic feet; total, 6,406,245,000 cubic feet.

1918, total domestic 5,205,406,000 cubic feet; total industrial 515,026,000 cubic feet; total 5,720,433,000 cubic feet.

1919, total domestic 5,689,621,000 cubic feet; total industrial 313,948,000 cubic feet; total 6,003,569,000 cubic feet.

1588 Q. Mr. McMahon, have you got or can you give us, at least approximately, the percentage of the total delivery that went to domestic and to industrial consumers during say the last three or four years?

Mr. Blue: Suppose you begin with 1914.

The Witness: The last year——

Q. Well, run back from 1919 back as far as you can, or at least back to say 1914.

A. Well, I haven't got it in percentages. You can get that from the figures though very easily.

Q. I thought you had it.

A. The only thing I notice in the percentage is that the last yea it drops down to about four or five per cent.

Q. And in 1918, what would it be?

A. In 1918 I should think it would be about ten per cent.

Q. And 1917?

A. 1917 it would be about ten or eleven per cent.

Q. And 1916?

A. About a little less than ten per cent.

Q. And 1915?

A. About ten per cent; a little over,—a little over ten per cen back there. I figure it was about 12 per cent in 1914, about 11 pe cent in 1915, about 9 per cent in 1916, about 11 per cent in 1917 ten per cent in 1918, and about six per cent in 1919.

Q. Why is there an apparent falling off in percentage for indus trial purposes in 1919?

1589 A. Well the war was over and we lost the Spencer Engi neering Company and two or three industries that were man ufacturing ammunition that we supplied. They went out of busi ness. The Libby Sheet Glass Company that used some gas move from Toledo to West Virginia. The Owens Bottle Machine Com pany, which used some gas, what we could give them maybe in th summer,—some little gas in the summer, they moved to West Vir ginia.

Q. Did you furnish any gas during the war period by order of th government for industrial purposes?

A. Yes, sir.

Q. State briefly the nature and extent of that.

A. The Toledo Bridge Company and The Spencer Engineering Company got an order from the government for us to furnish them gas I believe; I will not say The Toledo Bridge Company did; I don't think they got an order but The Spencer Engineering Com pany started and got an order.

Q. During what part of the year do you furnish gas for indus trial purposes on your system?

A. During the summer only,—during the summer months only.

Q. Have you any fixed period of time in the fall when the indus tries are cut off, or do you let weather conditions govern that?

A. Well, industrial consumers cannot be supplied on our lines, ex cepting during the summer. It is a physical impossibility becaus of the fact that our pressure goes so low when it gets at all cold

1590 that they could not run. But we have a general rule that all industrial consumers go off November 1st anyhow. But they would go off physically; they could not get any gas from our pres sure.

Q. Is that in order that you might conserve your supply for ex clusively domestic consumption?

A. Absolutely.

Q. Then as I understand you the gas which your company dis tributes is purchased in the entire amount by you as you have stated?

A. Yes, sir.

Q. And procured through the Wheeler Pump Station at Sugar Grove from The Hope Natural Gas Company?

A. It is measured there and compressed and pushed north.

Q. To what extent Mr. McMahon,—give such detail as you may be able to give with reference to your furnishing gas to the municipalities, for municipal purposes; public buildings, churches, school houses and so forth?

A. We furnish gas for cooking and hot water, and we did furnish gas for heating to the State Insane Asylum at Toledo until about six years ago when we were obliged to discontinue it. But we now furnish gas for hot water and cooking for the State Insane Asylum in Toledo which has a total of inmates and attendants of between 1,500 and 2,000 people. The Northwestern Company supplies gas to the post office in Bowling Green, to the sub-stations in To-
1591 ledo, all of the hospitals, orphan asylums, houses for the aged and the charitable institutions of Toledo, and the small towns are supplied with natural gas by our company for cooking and hot water; nearly all the school houses in the municipalities and in the City of Toledo are supplied with gas for cooking, and some of the smaller ones for heating. All of the parochial residences, and that applies to the churches where they have cooking utensils, with the exception of six or seven outlying churches that are beyond our lines, are supplied with natural gas. The libraries, to a greater or less degree, are supplied with natural gas; the waterworks for operating their filtration plant in the City of Toledo, and their high pressure stations for fire protection are supplied with gas, and all but one or two of the fire department houses. The entire economic condition, so far as fuel,—cooking is concerned of the city of 243,000 population,—and that applies equally to Bowling Green, North Baltimore, Perrysburg and Maumee, depends upon our supplying natural gas to those consumers.

Q. Have you in mind the population of Bowling Green, Wood County, Ohio?

A. About 8,000 I think; I know it is a city.

Q. Now to what extent, if you know Mr. McMahon, have the consumers to which you have referred constructed their houses
1592 and facilities for the consumption of natural gas, and are dependent upon natural gas and have constructed their facilities for that purpose?

A. Owing to the fact that the artificial gas plant in Toledo has a capacity for supplying only seven or eight thousand people, the city of Toledo has grown up and depended upon natural gas. It was cheaper, healthier, and more economical, and the natural gas company extended its lines as the city grew and the people built their houses and purchased gas burning appliances with that as a fundamental principle of fuel for cooking, and in many instances for heating. The houses were not constructed, in a great majority of cases, except very large houses, they were not constructed with high chimneys to give them a good draft to burn coal. They were constructed to burn gas where they used it in a small heating way at least, and entirely for cooking and hot water for baths.

That, of course, was equally true of the municipalities outsid
they had only natural gas there.

Q. And is it a fact that your companies' lines extending sout
ward from Tonkin Compressing Station to the Wheeler Compre
ing station, a distance of a 160 miles, and being two in numb
were designed, constructed and have been operated e
1593 clusively for the purpose of conveying natural gas to t
consumers of the company whom you have described?

A. Yes, sir.

Q. Do you know what it cost to lay those two main transport
tion lines you have just referred to?

A. I could not tell you.

Q. Mr. McMahon, if, pursuant to the provisions of the legisl
tive act, the validity of which is in question in this proceeding, t
authority of West Virginia would cause to be diverted to domesti
industrial and other uses in West Virginia, and for the public a
any part of the public in West Virginia, to meet all the deman
that may be made in reason upon The Hope Company in We
Virginia, for whatever purposes it may be desired, and therel
make it impossible for The Hope Company to deliver to your co
pany at Wheeler Station, as you have described, the amount
gas it has been and is delivering to you pursuant to the contra
referred to, in whole or in considerable part, what would be t
effect upon the ability of your company to continue to serve
consumers.

Mr. Hoffheimer: Kindly read that question.

(Question read.)

Mr. Hoffheimer: The question is objected to as calling for
opinion or conclusion of the witness for which no proper found
tion has been laid, a d the answer to which, as called fo
1594 will be speculative, and because the question assumes co
ditions not proved; that it involves an improper constru
tion of the Act of the legislature in question, and the evidence
incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness pr
ceed.

A. In answer to that question I wish to say that during the pa
several years,—four or five years at least—owing to the growth
the City of Toledo and the municipalities and the number of co
sumers that we have at present on our line, we have invariab
been short of gas during the winter months and at some perio
of nearly every day in the winter months. That has become
marked that during the past two years we have made no exte
sions, notwithstanding the growth of the community we serv
for the purpose of taking on new consumers. The list of consum
ers we have has increased because of the fact that residences ha
been built along the lines that are already laid, but we have ma
no extensions for the purpose of taking on new consumers, owi
to the fact that we could not get a sufficient supply of gas to ser

the greater quantity during the winter months. If The Northwestern was to be deprived, through the legislative acts of another state, or if The Hope Company were only able to deliver us
1595 a smaller quantity or a less quantity of gas than they are at present delivering us, it would cause us great hardship in the communities we serve. If that was very extensive it would cause, during the winter months, almost a total cessation of the supply of gas to our consumers, and would cause irreparable damage to the people that we serve, and would be detrimental to their health and dangerous to their property.

Q. Is it necessary, Mr. McMahon, in the service of gas,—is it necessary to a dependable or worth-while service of natural gas to a consumer that the flow from the source of supply to the company be uninterrupted and continuous?

A. Oh, yes.

Q. Rather than to be arbitrarily shut off or diverted, making the supply intermittent and undependable as to continuity?

A. It is necessary for the continuous flow of the gas.

Q. Now you have spoken as to the result of the Act in question on your consumers; what would be the effect of the Act referred to on your company?

A. The company would be financially ruined.

Mr. Hoffheimer: I move to strike out that answer as an opinion or conclusion of the witness. If the evidence is competent, let us have the facts and not an opinion.

1596 The Commissioner: Note the motion and proceed.

Q. What value would your property have, if any, under those circumstances?

A. Junk value only.

Q. Would it be worth-while, from an economic or practical standpoint to lift, for the purpose of obtaining salvage value therefrom, your main transportation lines from the Wheeler Compressing Station through to Toledo?

Mr. Hoffheimer: Note the same objection.

The Commissioner: Let the objection be noted on the record and the witness may answer the question.

A. I could only give an opinion upon that. It depends very largely upon the cost of labor, the amount of damage you would do to the farms in lifting your pipe and taking it up and the amount you could get for the pipe after it was raised. I would say that I believe it would be questionable whether it would be worth lifting or not.

Q. What have you to say as to the nature of the country and its topography through which those lines extend?

A. They extend through a beautiful farming country where the damage is lifting the lines and throwing up the soil and getting it back in would be very great. It would not pay to take the city lines up at all.

Q. What is the fact as to the streets in Toledo, Bowling Green and perhaps the other cities and towns being paved?

1597 A. Yes, sir.

Q. Over the lines of your company?

A. Yes, sir, they are paved in nearly all instances, of course.

Q. What is the capital stock of your company?

A. $2,750,000,—and some odd dollars.

Q. Can you give us the amount of money that has been invested as capital account in the construction, extending and building up of your property to its present state?

A. Between six and a half and seven million dollars.

Q. And in use, as it now is, would you say that its present value would be greater or less than that amount.

A. Greater.

Q. You spoke of having a station of compressors at or near North Baltimore; describe that,—called I think the Tonkin station.

A. What do you mean by describing it?

Q. Well, what is it?

A. It is a compressing station for taking the gas when the pressure drops—after it leaves Wheeler Station the pressure, owing to friction becomes lessened as it comes a certain distance and it is taken and recompressed again.

Q. It has an intake to the south that discharges the gas through its valves to the north?

A. Yes, sir.

1598 Q. Thereby increasing the pressure and facilitating the flow?

A. Yes, sir; that is right.

Cross-examination.

Mr. Hoffheimer.

Q. I understand you to say that the dependence of your company is almost wholly on the supply of West Virginia gas by The Hope Natural Gas Company?

A. Yes, sir.

Q. Why, if you are experiencing the shortage you have described, do you not go to the State of Indiana for natural gas supply?

A. I do not know why we don't.

Q. Is there any reason why you should not?

A. Well, Indiana, I believe, has been already exploited for gas and the known gas fields of Indiana, I think, have become exhausted.

Q. And the experience in Indiana has been the same as that of Ohio?

A. I think so, yes, sir.

Q. Or the northwestern part of Ohio as you indicate?

A. Yes, sir.

Q. When did you say you drilled those wells in Indiana which you mentioned?

A. I did not say I drilled any wells in Indiana.

1599 Q. Were you not interested in the drilling of some wells in Indiana?

A. No, sir.

Q. Perhaps I misunderstood you. Did you have any experience in Indiana at all?

A. Not to any great extent, no.

Q. In what respect?

A. I say not to any great extent.

Q. Well, to what extent?

A. Excepting as I passed through the state and was interested in some fuel stations there and supplied them with coal and I saw the field—the oil field and the gas field during its prosperity, and watched the decline of it.

Q. In what year did you begin to take gas at Sugar Grove from The Hope Natural Gas Company?

A. 1903 I think or 1904; along about that period.

Q. Was that done under contract with The Hope Natural Gas Company?

A. I believe so.

Q. A written contract?

A. I think so.

Q. There has been offered in evidence during the hearings of this case at Pittsburgh, that agreement between The Hope Natural Gas Company and The Northwestern Ohio Natural Gas Company, dated October 16, 1915, Pennsylvania Exhibit No. 16; then there

1600 must have been an earlier written agreement?

A. Yes, sir.

Q. I assume that earlier agreement was substantially the same as the 1915 agreement was it not?

A. Well, I could not answer that; I don't know; but I know that we had a contract prior to the 1915 contract.

Q. Did you ever see that earlier contract?

A. Well, I could not just answer that, as to whether I have ever seen it or not.

Q. Anyway, the October, 1915, contract, already introduced in evidence, is the one under which you are now taking gas?

A. Yes, sir.

Q. How was it that in 1903 or earlier, when your northwestern Ohio field became exhausted, you did not go to other parts of Ohio to obtain a gas supply.

A. There was not any gas supply in sight elsewhere that we could see.

Q. In other words, the only feasible project was to go into West Virginia?

A. Well, I believe they did go into Canada even looking for gas.

Q. That was not very successful?

A. No. They took up a lot of leases I know up in Canada. They were as a matter of fact, looking in every direction for gas be-

1601 cause their existence as a company depended upon their getting it.

Q. Well, in 1903, when your company made the arrangement with The Hope Natural Gas Company, did you have in mind that the supply of West Virginia Gas would last forever?

A. Well, I don't know what I did have in mind at that time The question was to get gas.

Q. Well, from your knowledge and experience with the gas business, could you or any man in the natural gas business have had the idea that the West Virginia Gas supply was inexhaustible?

A. Well, it was a new field. We did not know. The natural gas fields of the past had proven themselves not inexhaustible. Whether West Virginia would be different or not we did not know. It was a new territory to us.

Q. Well you knew Ohio had become exhausted or was in the course of exhaustion?

A. Yes, sir.

Q. You knew that Pennsylvania was in the course of exhaustion?

A. Yes, sir.

Q. And that the depletion had already manifested itself?

A. Yes, sir.

Q. You knew, in a general way, that Indiana was becoming exhausted or had become exhausted?

A. That is right, yes, sir.

1602 Q. You knew nothing to indicate that the character or source of gas supply or its method of production in West Virginia was any different than in those three states did you?

A. No, sir; not a bit.

Q. The only difference was that West Virginia was a newer gas field and that, therefore, the time of ultimate depletion and exhaustion was further removed; wasn't that the situation?

A. Well, that would be a conclusion that any gas man would draw from his knowledge of the past.

Q. That was the conclusion which would have been drawn in 1903 as well as in 1920?

A. Yes, sir.

Q. Now, my understanding of your answer to Mr. Eagleson's question as to the operation or effect of this West Virginia statute with which we are dealing is this, that if any appreciably larger quantity of gas now produced or transported by The Hope Natural Gas Company in addition to what is now being taken in West Virginia, is retained for West Virginia consumption, it will be detrimental to The Northwestern Ohio Natural Gas Company and its consumers; is that your statement?

A. Read the question please.

(Question read.)

1603 A. My statement is that if, owing to the enactment of laws by the state of West Virginia, whereby The Hope Natural Gas Company cannot deliver us the amount of gas, or a lesser amount of gas than they are now delivering us, that it will be detrimental.

Q. Suppose we leave out of consideration the existence of any West Virginia statute, you undertake to convey the impression, regardless

of any statute, that if The Hope Natural Gas Company delivers to The Northwestern Company a less quantity of gas than it is now giving to The Northwestern Company, The Northwestern Company and its consumers will be seriously affected?

A. Yes, sir.

Q. In other words, you mean to say that for every thousand feet of gas of additional consumption in West Virginia there will be a corresponding amount taken away for Ohio consumption?

A. I do not mean to say that. I do not know what you will do down there, and I do not know what conditions may exist down there. I am simply stating the facts as I know them.

Q. Well, isn't that the logical consequence of what you say, that for every thousand feet of gas of additional consumption in West Virginia there will be that much less to be delivered to The Northwestern and other Ohio Companies?

1604 A. I don't know. I don't want to draw any conclusions.

Q. What do you say about it?

A. I say if any less gas than is at present delivered to us by The Hope Natural Gas Company is delivered to us, that it will be very detrimental.

Q. Well, if The Hope Natural Gas Company has to deliver 1,000 feet more of natural gas in West Virginia than it is now delivering, it will have 1,000 feet less to deliver to The Northwestern and other Ohio companies, won't it?

A. I don't know.

Q. Suppose you make it 100,000 feet instead of 1,000 feet.

A. I would not be justified in drawing any conclusions.

Q. Suppose you make it a million feet instead of one thousand feet.

A. I draw no conclusions on The Hope Company. I simply state the facts as they affect our own company.

Q. What you mean to say then is that if The Hope Natural Gas Company does not deliver to The Northwestern Ohio Natural Gas Company as much gas as it is now delivering, the shortage to The Northwestern Ohio Natural Gas Company and its consumers will continue or be increased?

A. Yes, sir.

Q. And that, regardless of the cause of non-delivery?

A. Absolutely.

Q. Then you did not mean to give the Commissioner or the Court the impression that the effect of this statute was to cause or

1605 would be to cause The Hope Natural Gas Company to deliver you less gas, did you?

A. Excepting as it impressed my mind in reading the Act.

Q. Oh, then your answer was based upon what you regard as a construction of this statute?

A. If it was put into effect, the natural consequence would be that the companies getting gas from West Virginia would get much less and I thought that would naturally affect our company.

Q. Well, did you figure out in your own mind how much gas was

going to be retained in West Virginia under the operation of tha Act so as to cause prejudice or a shortage to The Northwestern?

A. I did not.

Q. You would not give it in thousands or millions or billions?

A. No, sir.

Q. You don't know anything about it?

A. No, sir.

Q. Well, how much would your company lose under that con struction of that statute as you have read it; how much would be you shortage, or how much of a deficit would there be in The Hope Nat ural Gas Company's deliveries under your construction of tha statute?

A. I could not tell you that.

Q. Have you any idea?

1606 A. I haven't any idea.

Q. Have you ever received any information from an source that the supply of West Virginia gas was decreasing?

A. Well, I have heard it mentioned by gas men that it was de creasing.

Q. That is an accepted fact, isn't it?

A. I think it,—by the gas men.

Q. And it is an accepted fact that that decrease of West Virgini production is apt to continue?

A. That would be the natural conclusion, that when it starts t decrease it continues unless they find new fields.

Q. Do you know of any new fields in West Virginia?

A. No, sir, and unless they would find new fields I would expec the fields to decline.

Q. That is the shortage of West Virginia production would becom greater and greater?

A. Yes, sir.

Q. Aside from the existence or operation of this statute have yo had, or do you now have in your mind, any idea that the increasin shortage in West Virginia will interfere in any respect with th ability of The Hope Company to deliver gas to The Northwestern Company?

A. Well, I understand that The Hope Company have sufficient ter ritory to give us a fair supply of gas in accordance with thei

1607 contract if the gas can be delivered in accordance with thei contract, but if diverted by law or in any other way, tha it would interfere with their ability to furnish us.

Q. That is, your assumption is and has been that if The Hop Natural Gas Company's own volume of gas has remained and wil remain constant?

A. Well, subject to the decline, I suppose, of the gas field.

Q. Well, you know or assume that the gas fields have been de clining and are declining?

A. I assume so.

Q. And suppose you take into consideration the fact that they ar declining and have declined, then I want to ask you the question whether you have considered or do consider that that decline doe

or will interfere with the ability of The Hope Natural Gas Company to deliver gas to the Northwestern?

A. Well, I would be unable to answer that question. That would be an assumption.

Q. Well, if they have less gas they cannot deliver you as much, can they?

A. I should imagine if they deliver to us as much gas they would have to take it away from somebody else, maybe.

Q. Now suppose we wipe this West Virginia statute off of the books and assume it to be a fact that there will be a further decline of the West Virginia gas fields as a natural manifestation, where
1608 is The Northwestern Ohio Natural Gas Company going to get its supply of gas to make up the deficit?

A. We would expect The Hope Natural Gas Company to diligently pursue a policy that it assumes when making a contract with us to exploit for gas and find it if possible.

Q. The contract you are talking about is this contract of October 16, 1915?

A. Yes, sir.

Q. Let us assume a little bit further that The Hope Natural Gas Company has made an exploration and effort such as you indicate and still its supply of natural gas decreases, you would regard it as a necessary consequence that The Hope Natural Gas Company could not give you as much gas as formerly, would you not?

A. Well, that would be a question that really would be beyond my comprehension. You cannot tell what may happen.

Q. What do you think may happen?

A. I don't think.

Q. All right; suppose we leave out thought then and go to this proposition; assume that the amount of natural gas which The Hope Company does or is able to deliver to you materially decreases, and that this statute has been wiped off of the books, what is The Northwestern Ohio Natural Gas Company going to do in that con-
1609 tingency?

A. I am unable to answer.

Q. What can it do?

A. I am unable to answer what it will do or what it can do.

Q. How did it come about that within the last two years your company has declined to extend its lines?

A. Because of the fact that we had consumers enough during the winter months to take all of the gas that we could furnish them or that The Hope Company would furnish us.

Q. Were you able to give your present consumers an adequate supply?

A. No, sir.

Q. You had a shortage?

A. Yes, sir.

Q. Do you think that shortage is going to remain stationary or will it increase?

A. It will depend upon the weather to some extent; the severity

of the winter and the length of time that a cold period would last before it would break.

Q. Well you do expect to have winters in the future such as you had in the last two or three or four years, don't you?

A. Well, we hope not.

Q. Suppose your shortage does increase, whether The Hope Natural Gas Company violates its contract or whether it does not, what will be your next step as a gas operating proposition?

1610 A. Well, I think that we would have to meet that condition when it arises.

Q. When?

A. We would meet that condition as it arose. I would not want to say what my next step would be. It would be a very serious proposition,—a very serious proposition.

Q. Well, what ways of meeting it now occur to you?

A. No way of meeting it occurs to me now.

Q. One way of meeting it would be to do exactly what you have done in principle within the last two years, and that would be to cut down the area of your gas distribution, would it not?

A. If we were allowed to do that by law it would look to me as though finally that would be the thing to do.

Q. What law are you talking about?

A. The laws of the State of Ohio and the orders of the Utilities Commission of the State of Ohio.

Q. Are you talking about this Miller law that we mentioned here yesterday?

A. I am talking about the general Acts of the State of Ohio.

Q. Of the State of Ohio?

A. Yes, sir.

Q. Well, assuming that you are wrong about the construction of the Acts of Ohio and you cut off some of your consumers, what kind of fuel are they going to use; what are they going to do?

A. I am unable to say what they are going to do.

1611 Q. What did they do or what did their predecessors do before there was any natural gas in Toledo?

A. I take it for granted that their predecessors burned wood first and then coal.

Q. What are those people doing to whom you have been unable to extend your service within the last two years?

A. In some instances I think they are burning coal. Where possible in the City of Toledo, where there is the old artificial plant, I think they are connected with the artificial plant if they can be. It does not cover a very large area of the city, but where they can, they use artificial gas.

Q. I suppose a very considerable proportion of them burn electric lights, do they not, for illumination?

A. I think most of them do, probably.

Q. The fact is that a very large number of your own gas consumers within the radius of your service burn electric lights?

A. Oh, yes, sir.

Q. In considering the fact that you have cut your service down, s I understand it, to fuel for cooking and hot water heating,——
A. And light.
Q. To a large extent, how do those people heat their houses?
A. The smaller houses are using natural gas for heat in
612 stoves. Those that have furnaces burn coal in the winter dur-
ing the severe months and in many instances they have only as furnaces where they can burn nothing but gas and those people ave to depend and take their chance on what heat they can get.
Q. Well, I suppose the consumption of coal for heating has in-olved some change in appliances, has it not?
A. It has what?
(Question read.)
A. Yes, I should imagine so.
Q. What proportion of your consumers burn coal for heating?
A. For heating?
Q. Yes.
A. During a portion of the year—the winter months—I would sume that 40 per cent of our consumers use coal for heating.
Q. What did they burn before they went to coal?
A. Well, I think in the early days they probably used natural s.
Q. What do you mean by "the early days"; how far back?
A. When they had gas in Ohio up close to Toledo.
Q. Have there been any changes from gas to coal for heating pur-ses within the last five years?
A. Yes, sir.
Q. To what extent?
A. Well in percentage I could not say.
Q. A very considerable proportion?
13 A. A very considerable proportion experiencing the fact
that they could not have gas for heat during the cold winter nths have changed to coal. That applies largely to the furnaces y.
Q. If you are short on gas how does it happen that you are sup-ing gas for industrial purposes?
A. We are not during the winter when we are short on gas.
Q. Why do you do it during the rest of the year?
A. We don't do it to a very large extent any time during the r.
Q. Well, you do it to the extent which your figures of consump-n indicate?
A. Yes, sir.
Q. The question is why you supply that gas for industrial pur-es if you are short on domestic gas.
A. Well, that is supplied in the summer when we have a suffi-nt supply of gas and only in a very limited way. We now are taking on any industrial consumers at all.
Q. That hardly answers the question. The question is why, if you short on domestic gas, you are furnishing industrial gas to any-y.

A. Well, because when we are short on domestic gas we do not furnish industrial gas to anybody.

Q. Well, why don't you save the gas and hold it?

1614 A. Where would you save it?

Q. Well, the question is, why?

A. Well, I would want to know where.

Q. What you mean to say is that that is an impracticable proposition?

A. Yes, sir.

Q. Both from an operating standpoint and from a financial standpoint?

A. Yes, sir.

Q. The fact is that you have to have a certain amount of industrial consumption and sell a certain amount of industrial gas in order to help out your operating revenues and enable you to keep down the price of your domestic gas; is that right?

A. That is not true with us, no, sir. We are not obliged to have any industrial consumers in order to exist.

Q. Your situation is somewhat different then from the other gas companies?

A. I think so.

Q. How much shortage in the amount of gas supplied to you by The Hope Natural Gas Company—or putting it in another way, how much further diminution in the amount of gas supplied to you by The Hope Natural Gas Company would it take to render your service impracticable or place you in a position, where as I understood you to say, it would practically put you out of business?

1615 A. During the severe cold months of the year if we were to receive 2,000,000 feet of gas a day less than we are now receiving it would be a dangerous proposition for us to operate with the present number of consumers that we have.

Q. You are talking now about the coldest days of winter?

A. The winter months; every day is a cold day with us in the winter months.

Q. In other words, a further decline of 2,000,000 feet per day in delivery by The Hope Natural Gas Company to The Northwestern would so far interrupt your domestic service as to render it practically valueless to your domestic consumers?

A. I would not say valueless, no.

Q. Then what do you mean?

A. I would say it would make it, with the present number of domestic consumers we have, dangerous.

Q. Well, if it were dangerous would you be able to operate under those conditions?

A. Well, yes, we would up to a certain point; we would so long as we had sufficient gas to keep the fires lighted.

Q. Well, you have given us your 2,000,000 figure; how much diminution in the amount of gas delivered to your company by The Hope Company would it take to place your company in a situation which you described on direct examination as "financial ruin," and which, as you say, would reduce your property to junk value?

1616 A. Well, that would be problematical.

Q. Have you any idea?

A. No, I have not.

Q. Well, I am trying to find out just exactly what it is you are complaining about here, and how much shortage you are anticipating in order to get you down to that condition of financial ruin and junk value of your property; I want to know in millions or billions of feet how much that is going to be, is you can estimate it.

A. Well, we sell all the gas we can get, of course, from The Hope Natural Gas Company. At times during the winter months, our gas supply is inadequate for our domestic consumers. How much further that would have to go before thee fires would go out entirely would be a question.

Q. Would two billion feet do it per day?

A. Oh, we don't use two billion feet on the coldest day; we don't use but about 25,000,000 feet.

Q. You are talking about two billion feet a year are you?

A. Yes, sir; that is a year.

Q. Well, you say a substantial decrease would put you out of business; I want to know what figures you have in mind when you talk about a substantial decrease putting you out of business.

A. I would say a decrease of 25 per cent during the winter months.

1617 Q. During the coldest days in winter within your experience of the last two or three years, how much gas per day has The Hope Natural Gas Company delivered you?

A. About from 20,000,000 to 24,000,000 feet.

Q. When you talk about putting you out of business as a result of a decline of 25 per cent of Hope deliveries in winter, you have it in mind that you would have to spread the other 75 per cent over the area of your consumption?

A. Yes, sir.

Q. You mean the effect of a diminution of 25 per cent on the coldest days of winter would be to give no service of value to any of your consumers?

A. Well, I would not say that.

Q. What would you say about it?

A. I would say that when the cook stoves—probably 35,000 or 40,000 cook stoves were taken off at night that then they would get gas for heating and keeping their houses warm possibly during the night and keeping them warm during the next day. That would be contingent upon the fact, however, that we had sufficient gas to keep the fires lighted; that the gas would not go out entirely.

Here a recess was taken until 2:00 o'clock P. M.

1618 Thursday Afternoon, July 22, 1920.

And now, the hour of 2:00 o'clock P. M. having arrived, hearing resumed pursuant to recess.

J. W. McMAHON resumes the stand.

Cross-examination.

Mr. Hoffheimer:

Q. Are there any cities or towns in Ohio, to your knowledge, not supplied with natural gas?

A. Any cities not supplied?

Q. Yes, or towns.

A. Well, I think so.

Q. You had something to say about the supply of gas by your company to hospitals, schools, asylums and institutions of that kind; I assume that that gas is supplied under schedules filed with your Public Utilities Commission under similar circumstances to your supply of domestic gas?

A. Yes, sir.

Q. That is there is no more of a special contract with those institutions than there is with your domestic consumers?

A. With one exception.

Q. What is that?

A. The City of Toledo for their waterworks.

Q. How long has that contract been in existence?

A. About five or six years.

1619 Q. For what purposes is the gas consumed at the water works?

A. It is used in gas engines for the purpose of pumping the water from the filtration plant to the towers and for distribution.

Q. How long has that contract yet to run by its terms?

A. I think about a year and a half.

Q. That would carry you to about the end of 1921?

A. Yes, sir.

Q. Did I correctly understand you to say that your transportation lines were designed exclusively for natural gas?

A. Yes, sir.

Q. What about your distribution lines in Toledo and the other towns you mentioned?

A. Designed entirely for natural gas.

Q. What do you mean by saying that the lines were designed entirely for natural gas, in respect to your distribution lines particularly?

A. They were not laid to grade; they were smaller lines than are ordinarily used in artificial plants, and not laid below the frost line,—that is not necessarily laid below the frost line. Of course, some of them were laid below the frost line, but not necessarily so because natural gas does not freeze.

Q. To what extent they were or were not laid below the frost lines you would not undertake to say?

1620 A. No effort was made to lay them below the frost line.

Q. Aside from that feature and the size of the lines themselves, there would be no difference between the natural gas line and an artificial line would there?

A. Well, aside from that,—but that about covers all the objections that there might be.

Q. That is what I was trying to get at.

A. They would not be any good for artificial gas, of course.

Q. That is you used the same kind of pipe and couplings and all of that sort of thing?

A. Oh, yes, but not the same size, and they would have to be laid to grade for artificial gas and below the frost line.

Mr. Eagleson: And the drainage system?

Witness: Yes, the drainage system; the grade would carry that.

Q. I understood you to say that the capital stock of The Northwestern Ohio Natural Gas Company was $2,750,000.00 is that correct?

A. Yes, sir,—and some few hundred dollars, I think $250.00.

Q. That was an original cash investment?

A. Yes, sir, and more than that; I am not sure, but I think the original investment was more than that.

Q. What do you mean by saying that?

A. Because I noticed that they decreased the capital stock when the gas failed in northwestern Ohio, they decreased the capital

1621 stock somewhat, I think maybe $1,000,000.00.

Q. That is they wrote off some of their investment in order to meet the depreciation?

A. Yes, sir; I think so; that is true.

Q. Has any amount been written off since?

A. No, sir.

Q. I understand you to say that the investment in building up the property was six and a half million to seven million dollars?

A. Yes, sir.

Q. Where did that investment come from; of what did it consist?

A. Well, I should say it came from the earnings.

Q. That is surplus put back into the property?

A. Yes, sir.

Q. Is that six and a half million or seven million dollars all physical property or does it include some surplus or reserves of any kind?

A. It is all physical property; six million dollars of it at least is physical property.

Q. Well, how much surplus in addition do you carry?

A. Well, I could not just tell you that; not a very large surplus, if any.

Q. Can you approximate it?

A. Well, I would say less than a million dollars.

Q. That is earned surplus?

1622 A. Yes, sir.

Q. How about your depreciation reserves; to what extent do you carry them?

A. That I could not tell you; Mr. Denning would be able to tell you that better than I could.

Q. There is some such reserve?

A. Yes, sir; a very small reserve, however.

Mr. Hoffheimer: That is all Mr. McMahon.

Redirect examination.

Mr. Eagleson:

Q. The fact is, Mr. McMahon, there are many more than half of the municipalities, including villages in Ohio that have no natural gas at all?

A. I could not answer that.

Q. Well, you don't know the percentage of cities or municipalities in Ohio that have natural gas?

A. I do not.

Mr. Eagleson: That is all.

Mr. Blue: There are a number of cities and municipalities in Ohio that do not have natural gas?

Witness: Yes, sir.

Mr. Eagleson: About 80 per cent of them?

Witness: The northwestern part, Napoleon, Defiance, and all of those towns over there have no natural gas, in the northwestern part of Ohio.

1623 Mr. Eagleson: Well, there is not any natural gas in Ohio I believe except where there are the lines of these companies and some other local companies that carry gas to them?

The Commissioner: Mr. McMahon, you are now excused, and the hearing is adjourned to reconvene as per the order of the morning.

And thereupon the further taking of testimony herein before the Commissioner was adjourned to reconvene at 10:00 o'clock A. M. on the morning of September 13, 1920, in the office of The Peoples Natural Gas Company, Pittsburgh, Pennsylvania.

Vol. II.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1907.

15 & 16

Nos. 29 & 30, Original.

THE COMMONWEALTH OF PENNSYLVANIA, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

FILED

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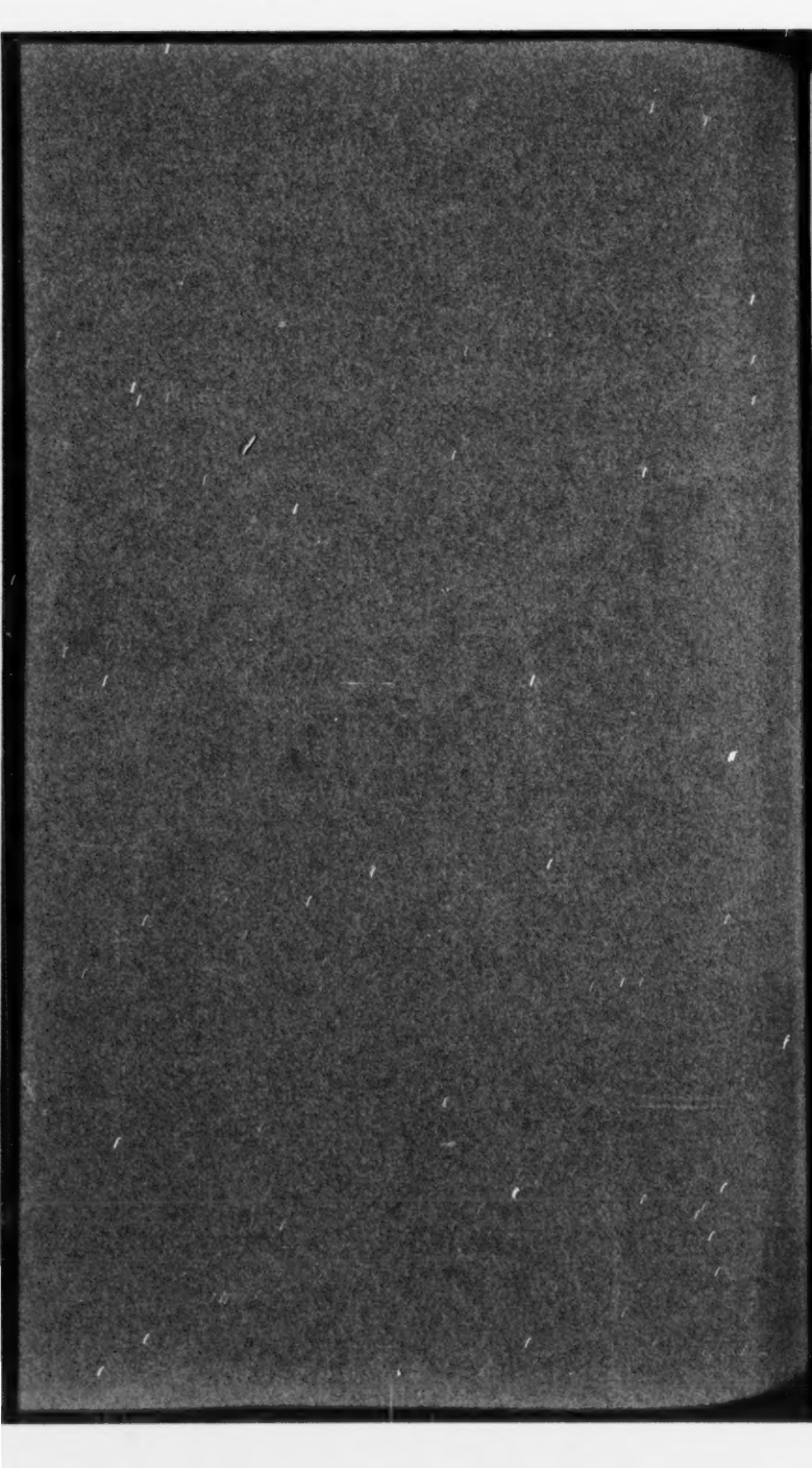

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UPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

Nos. 20-21 Original.

THE COMMONWEALTH OF PENNSYLVANIA,
COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

COMPLAINANTS' TESTIMONY.—Continued.

esses.	Direct.	Cross.	Redirect.	Recross.
. J.	....	739	....	....
, L. B.	650	683	709	713
n, J. W.	716	726	738	....
r, G. F.	741	....	....	....
b, Eugene T.	747	788	805	805
n, J. K.	808	831	856	858
amuel S.	860	915	973	....

DEFENDANTS' TESTIMONY.

I. E.	976	977	1073	1080
I. E.	980	1038	....	....
I. E.	1162	1175	....	....
I. E.	1176	1188	....	....
Chas. E.	1083	1122	1133	....
Chas. E.	1192	1193	....	....

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Lakin, J. S.	1138	1155	1162	....
Cornwell, John J.	1193	....	....	....
Wallace, H. A.	....	1198	....	....
Robinson, B. F.	1203	1210	1212	1214
Robinson, B. F.	....	....	1323	....
Allman, W. C.	1215	....	....	....
Coffman, I. Wade	1216	1217	....	....
Cunningham, R. T.	1217	1232	1247	1250
Snaith, Chas. M.	1252	1258	1270	1273
Short, Chas. A.	1274	1283	1295	1296
Lewis, E. D.	1297	....	....	....
Wilson, George W.	1299	1301	1303	....
Horner, Vance L.	1304	1314	1321	....
Bowser, Parke	1325	1333	1339	....
Devericks, F. C.	1341	1351	1361	....

COMPLAINANTS' TESTIMONY IN REBUTTAL.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Robinson, Edwin	1372	1409	1414	1416
Wyer, Samuel S.	1416	1427	1441	1443
Cummins, Robert W.	1444	1447	1449	1452
Corrin, John B.	1449	1452	....	....

DEFENDANTS' TESTIMONY IN SURREBUTTAL.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Nease, H. E.	1460	1474	1477	1478
Krebs, Chas. E.	1479	1483	1489	1490

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Tuesday, September 14, 1920.

24 And now, Tuesday, September 14, 1920, at 10 o'clock A. M., hearing resumed.

NOTE.—At request of counsel, agreed to by all parties, hearing sumed on this date at the office of the Philadelphia Company, stead of September 13, 1920, at the office of the Peoples Natural s Company, as arranged at the time of previous adjournment.

Present: The Commissioner, Levi Cooke, Esq.; on behalf of the mmonwealth of Pennsylvania, A. Leo Weil, Esq.; on behalf of State of Ohio, Freeman T. Eagleson, Esq.; on behalf of the West Virginia, George M. Hoffheimer, Esq., Fred O. Blue, Esq., d W. S. John, Esq.

Mr. Eagleson: If the Commissioner and counsel for the State West Virginia please, at the examination of witnesses in Columbus Mr. Blue, on behalf of the State of West Virginia, asked
25 Mr. Jones, who was then testifying for the Columbus Gas and Fuel Company, the Federal Gas and Fuel Company, the yton Gas Company, and the Springfield Gas Company, to pro- e some data with reference to the amount of gas furnished by companies to consumers, and to divide the amount of gas so nished in percentage as between industrial consumers and do- stic consumers; also, the amount of gas sold by his companies to, l giving the number of, industrial consumers. As per agreement,

Mr. Jones has sent with me the information requested, which I at this time, having submitted the same to counsel for West Virginia, and having their approval, spread upon the record, as follows:

1626 . The Columbus Gas & Fuel Co., Columbus, Ohio.

The Federal Gas & Fuel Co., Columbus, Ohio.

The Dayton Gas Co., Dayton, Ohio.

The Springfield Gas Co., Springfield, Ohio.

Gas Consumption Year Ended Mar. 31, 1920.

	No. accts.		M cu. ft.
Domestic	111,692		13,310,970
Industrial:			
Manufacturers Iron & Steel Products	151	833,143	
Laundries	16	6,308	
Brick Plants	2	582	
Potteries	1	54,905	
Ice Plants	8	55,300	
Chemical Plants	6	6,099	
Bakeries	78	230,399	
Green Houses	33	17,739	
Piano Plate Mfgs.	7	40,495	
Gas Engine Mfgs.	10	39,668	
Other Industrial Companies	629	505,758	
	941		1,790,396
Grand Total	112,633		15,101,366
Proportion used by industrial consumers			11.85%

1627 The Commissioner: Are there any other items of information pending?

Mr. Hoffheimer: Mr. Commissioner, I will say this: We have pending the *command* or motion in relation to the production of certain contracts in connection with the evidence of Mr. Harry Wallace, those being gas sale contracts of the United Fuel Gas Company, I have been in communication, to a certain extent, with Mr. Altizer, of the United Fuel Gas Company, and I am expecting to hear from him during the present week, in such manner as will enable us to determine whether those contracts are to be brought in, or whether our demand or motion will have to be pressed. I merely call your attention to it in order that it may not be overlooked, that the matter is still pending.

The Commissioner: As I understand the state of the record the demand was made for the contracts and refused by the witness,

nder advice of his counsel or counsel for the company of which he was an officer; and that it was then arranged that an
1628 effort should be made by counsel for the State of West Virginia and by Mr. Altizer, as counsel for the company, to each an agreement as to what part, if any, of the contracts should e produced under the agreement thus to be made, and that is till pending.

Mr. Hoffheimer: I think there was a formal motion made either or an order to produce or a subpœna duces tecum—I have forgotten which—and after that motion was made, there was, outside f the hearing, a conference between counsel for West Virginia and Ir. Altizer, which we hope will obviate the necessity of any formal ction on the motion by the Commissioner. The matter will be rought to the attention of the Commissioner later in the week.

The Commissioner: Very well.

629 G. F. BATCHELOR, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Give your name, the company with which you are connected, nd the office you hold in that company?

A. G. F. Batchelor; Natural Gas Company of West Virginia; esident.

Q. How long have you been connected with that company?

A. Thirty-three years.

Q. When were you elected president?

A. 1915.

Q. What was your position with the company prior to that time?

A. Secretary and treasurer.

Q. How long were you secretary and treasurer?

A. Twelve years.

Q. When was the company organized or incorporated?

A. February 18, 1885.

Q. Under what State?

A. The State of West Virginia.

Q. In what business is it engaged and where?

30 A. It is engaged in the production and sale of natural gas and oil. The production—that is, the gas production—all in the States of Pennsylvania and Ohio. It is transported West Virginia—Wheeling is the principal point of consumption; s distributed and sold there.

Q. Have you a map of your lines?

A. Yes, I have.

Map produced and marked as "Pennsylvania Exhibit No. 25."

Q. I show you paper produced by you, marked for identification nnsylvania Exhibit No. 25, and ask you to tell us what that is.

A. In order that you may understand the position fully, I might present this map and explain that the company owns and operates two distinct systems: One is in the counties of Mahoning, Columbiana, Carroll, Stark and Tuscarawas, in the State of Ohio. The gas is produced locally and distributed locally in those counties. That is known as our Northern Division. The other, the Southern Division, is located in Greene and Washington Counties,
1631 Pennsylvania; Marshall and Ohio counties, West Virginia, and Belmont County, Ohio. The Northern Division hasn't any physical connection with the Southern Division at all. As I said before, the gas is all produced and distributed locally there. The system, then, in Columbiana and other counties in Ohio——

A. Except Belmont.

Q. The system which is located in Columbiana and other counties in Ohio, which you call the Northern District, is in no way, shape or form connected, either in production or distribution, with the system which you have described in Belmont County, Ohio; Ohio County, West Virginia, and Greene and Washington Counties, Pennsylvania?

A. No, sir.

Q. Now, then, does Pennsylvania Exhibit No. 25, which you have produced, correctly show, in red, in the respective sections and districts, the location of your lines and properties?

A. Yes, sir.

Q. I call your attention to the Southern Division, as shown on this map. You supply in West Virginia the City of Wheeling, Elm Grove, and what, if any, other territory in West Virginia?

A. We supply Greater Wheeling, which takes in out as
1632 far as Elm Grove, West Virginia—that is, all the small boroughs along the National Road there, out to Elm Grove. We supply also Benwood, in Marshall County, West Virginia.

Q. You also supply then Benwood, in Marshall County, West Virginia?

A. Yes, sir.

Q. Now, what other places in West Virginia, if any?

A. Well, those are the only municipalities. We supply scattered consumers along the pipe lines in southern Ohio County and northern Marshall County, West Virginia.

Q. Where do you produce the gas from which this West Virginia consumption is supplied?

A. It is produced in Belmont County, Ohio, and in Greene and Washington Counties, Pennsylvania.

Q. Have you any production in West Virginia?

A. None at all.

Q. Have you ever had any?

A. No, sir.

Q. From the beginning of the history of your company?

A. No, sir.

Q. What population do you supply in West Virginia, approximately?

A. The population of those places we supply is approximately

60,000. Wheeling has, I think, about fifty-four thousand
1633 seven hundred odd inhabitants, and Benwood about 4,300, and probably a thousand outside of those places.

Q. Now, what towns do you supply in Ohio?

A. There are no incorporated towns there at all—just a rural district along the pipe lines.

Q. In Ohio?

A. In Ohio.

Q. And what consumption have you there—what population?

A. Well, we have but 375 consumers in Belmont County, Ohio.

Q. How many consumers have you in West Virginia?

A. About 14,100 domestic consumers and 37 industrial consumers.

Q. Now, what population do you supply in Pennsylvania?

A. I don't know what the population is, but our consumers there number about 324.

Q. Do you supply any incorporated towns in Pennsylvania?

A. No, except West Alexander.

Q. Now, then, to recapitulate: Give us the number of consumers in West Virginia.

A. 14,100 domestic consumers, 37 industrial consumers.

Q. How many in Ohio?

A. 375 in Belmont County, Ohio.

Q. And what are those—all domestic?

1634 A. All domestic.

Q. How many in Pennsylvania?

A. 324.

Q. And what are those?

A. Those are domestic.

Q. All domestic?

A. Yes.

Q. You are speaking now of the Southern Division of your company, of course?

A. Yes.

Q. Are there any other companies supplying gas in Wheeling, besides the Natural Gas Company of West Virginia, your company?

A. Our company serves all the domestic consumers, excepting a few along the National Road, who are supplied by the City and Suburban Gas Company.

Q. What is the City and Suburban Gas Company? Is it a local company?

A. It is a local company there, yes, sir. The Manufacturers Light & Heat supplies some of the industries, but none of the domestic consumers.

Q. Can you give us a percentage of the gas supplied by your company in West Virginia that is consumed by domestic consumption?

1635 A. During 1919, 61 per cent was domestic.

Q. And what per cent was industrial?

A. 39 per cent industrial.

Q. Where are your gas wells located?

A. In Washington and Greene Counties, Pennsylvania, where we have approximately 100 wells, and in Belmont County, Ohio, where we have about 65.

Q. I believe you stated you have no gas wells or production whatever in West Virginia?

A. None at all.

Q. Has this condition obtained the whole thirty-three or thirty-four years that you have been connected with the Natural Gas Company of West Virginia?

A. Yes, sir.

Q. And you have been connected with it throughout its entire history?

A. For thirty-three years.

Q. In other words, you never had any gas production then in West Virginia by your company?

A. At one time, a number of years ago, we thought we had some gas production there. We drilled a few—possibly five or six—shell wells near Twilight, out on the National Road there. When
1636 we came to use it, why, cold weather came on, and we found we didn't have any.

Q. Then you never obtained any gas that you drilled for?

A. No.

Q. In West Virginia?

A. No.

Q. As of December 31, 1919, give us the leases—gas leases—held by your company, operated and unoperated, in each of the counties of Pennsylvania, Ohio and West Virginia?

A. As of December 31, 1919, the company held in Greene County, Pennsylvania, 9,042 acres of operated leases, 5,700 unoperated, total of 14,742 acres; in Washington County, Pennsylvania, 4,172 operated, 19,373 unoperated, total of 23,545; in Belmont County, Ohio, 7,296 operated, 20,279 unoperated, total of 27,575; Monroe County, Ohio, 105 operated, 32 unoperated, total 137 acres; in Marshall County, West Virginia, none operated, unoperated 12,146; in Ohio County, West Virginia, none operated, unoperated 130; making a total acreage in all the places of 20,615 operated, 57,660 unoperated, total of 78,275 acres.

Q. In addition to the production which you have described, you purchased gas, did you not?

A. Yes, we have purchased some, not a great deal.

Q. During the ten years from 1910 to 1919, inclusive, how
1637 much gas did you produce and dispose of in this field?

A. I beg your pardon; will you repeat that question?

Q. I asked you, during the last ten years, how much gas did you produce and dispose of in this Southern Division of your field?

A. During that period there was 26,309,660 used by ourselves.

Q. And how much, during that same period, did you purchase?

A. We purchased 2,291,952,000.

Q. In other words, you produced about 92 per cent of all the gas you supplied and purchased a little over 8 per cent?

A. Yes, sir.

Q. Now, where was this gas which you purchased—this 8 per cent of gas which you purchased, where was that produced, principally?
A. Of the 2,291,952,000 cubic feet of gas purchased, 1,013,473,000 was produced in Pennsylvania.
Q. And how much in Ohio?
A. In Ohio, 179,083,000 was produced in Belmont County, Ohio. The remainder, 1,099,396,000 cubic feet, purchased from the City and Suburban Gas Company, was produced in both Pennsylvania and West Virginia.
Q. That is, purchased by you from the City and Suburban Gas Company?
A. From the City and Suburban Gas Company.
638 Q. And they produced it, you say, in both Pennsylvania and West Virginia?
A. Produced it in both States.
Q. You don't know in what proportions?
A. I do not.
Q. Now, the total amount—what were the figures?
A. The total amount purchased?
Q. No, the amount from the City and Suburban?
A. 1,099,396,000 cubic feet. Since September, 1919, however, that company has not been able to furnish any gas at all. We have had none from them since that time.
Q. That is, for about a year?
A. Yes. So that all the gas that was delivered in Wheeling to West Virginia consumers was purely Ohio and Pennsylvania gas.
Q. Have you a statement there showing the sales, domestic and industrial, and the total, also the gas purchased and gas produced, for the years 1910 to 1919, inclusive?
A. I have.
Q. Will you just read that, please?
639 A. (Reading:)

The Natural Gas Company of West Virginia.

Sales.

	Domestic.	Industrial.	Total.
10	1,986,426,000	708,987,000	2,695,413,000
11	2,000,410,000	845,836,000	2,846,246,000
12	2,117,852,000	840,040,000	2,957,892,000
13	1,917,963,000	754,822,000	2,672,785,000
14	1,995,505,000	623,078,000	2,618,583,000
15	1,853,455,000	719,687,000	2,573,142,000
16	1,813,093,000	1,068,767,000	2,881,860,000
17	2,030,442,000	1,188,926,000.	3,219,368,000
18	2,053,768,000	1,159,210,000	3,212,978,000
19	1,823,633,000	1,099,712,000	2,923,345,000
Totals ..	19,592,547,000	9,009,065,000	28,601,612,000

		Gas purchased.*	Gas produced.
1910	.....	.....	2,695,413,000
1911	.....	260,375,000	2,585,871,000
1912	.....	201,970,000	2,755,922,000
1913	.....	476,684,000	2,196,101,000
1914	.....	384,546,000	2,234,037,000
1640 1915	.....	225,431,000	2,347,711,000
1916	.....	301,793,000	2,580,067,000
1917	.....	245,691,000	2,973,677,000
1918	.....	127,616,000	3,085,362,000
1919	.....	67,846,000	2,855,499,000
Totals,	.....	2,291,952,000	26,309,660,000

*Produced in Pennsylvania	1,013,473,000
" " " & W. Va.	1,099,396,000
" " Belmont County, Ohio	179,083,000
	2,291,952,000

(Large map produced and marked as Pennsylvania Exhibit No. 26.)

Q. Mr. Batchelor, I call your attention to paper marked for identification Pennsylvania Exhibit No. 26, and ask you what that is?

A. This is a map on a greater scale than the one marked Pennsylvania Exhibit No. 25—that is, of the Southern Division.

Q. Southern Division only?

A. Southern Division only.

1641–3 Q. Of your company?

A. Yes, sir.

Q. And this shows the location of the wells, compressing stations lines and towns and properties, and so forth, all the way through? According to the legend, it shows the compressing station, regulating station, producing gas wells, oil wells with gas casinghead, and distributing plant?

A. Yes, sir.

Q. Does this correctly represent the properties, lines, stations, and so forth, of your company?

A. Yes, sir.

Mr. Weil: I offer in evidence Pennsylvania Exhibit No. 25 and Pennsylvania Exhibit No. 26, in connection with the testimony of the witness.

A recess was here taken until 2.00 o'clock p. m.

1644 Tuesday Afternoon, September 14, 1920.

And now, the hour of 2 o'clock p. m. having arrived, parties met pursuant to adjournment.

Present, parties as before.

Counsel for West Virginia stated that there would be no cross-examination of G. F. Batchelor.

Mr. Hoffheimer: We move to strike out the testimony of Mr. Batchelor as incompetent, irrelevant and immaterial.

The Commissioner: Note the motion.

EUGENE P. WHITCOMB, a witness produced on behalf of Complainants, being duly sworn, testified as follows:

Direct examination.

Mr. Eagleson:

Q. What is your full name and place of residence?

A. Eugene P. Whitcomb, Pittsburgh, Pennsylvania.

Q. Mr. Whitcomb, you have had somewhat to do with the
1645 natural gas industry in Ohio, Pennsylvania and West Virginia, in the years past?

A. I have, yes, sir.

Q. Please state in brief summary your connection with the natural gas industry from the beginning, naming the companies with which you have been identified, if more than one, and the nature of service rendered and now being rendered by you.

A. On October 30, 1876, I entered the employ of W. & B. Duke, a firm located at Bradford, Pennsylvania, and engaged in the manufacture and sale of lumber and oil tanks, and they were also producers of crude petroleum. My principal occupation at the beginning of that period was unloading and selling lumber in cars, later purchasing supplies and material for oil wells, taking leases, and later I had charge of one or two of the oil properties, in which I owned an interest. I remained with that interest until after the death of the junior partner, and in 1893 became associated with Mr. T. N. Barnsdall. I was made secretary and treasurer and assistant to the general manager of the Manufacturers Gas Company, Warren and Chautauqua Gas Company, the Northern Oil Company, and the Southern Oil Company, the gas companies operating principally in Warren, McKean and Elk Counties, Pennsylvania, with transmission lines from the field, a distance of about thirty miles each,
1646 to Warren and Bradford, Pennsylvania, and supplying other smaller towns in that locality. I remained at Bradford until 1902, at the time of the organization of the Union Natural Gas Corporation, when I came to Pittsburgh and was made secretary and treasurer of that company. In 1907, I was made general manager, and later vice president of the company, and remained in that position until 1917, when, on the death of Mr. Barnsdall, I was elected to succeed him as president, which position I occupy at this time.

Q. Back of that, where did these companies that you have referred to operate?

A. The Northern Oil Company was an oil producing company and operated principally in Elk County, Pennsylvania. The Southern Oil Company was operated in Southern Ohio and in Wood,

747

Harrison, Lewis, Wetzel and other counties in West Virginia. The Union Natural Gas Corporation was organized under the laws of the State of Delaware on May 24, 1902. The first meeting of the stockholders for the election of directors to perfect the organization, and so forth, was held on May 26th; on June 2nd of that year they commenced active operations, having acquired practically all of the stock of the Athens Gas, Light & Electric Company, at Athens, Ohio, the Buckeye Gas Company, having a distributing plant and transmission lines and wells located at Circleville, Ohio,
1647 the Newark Natural Gas & Fuel Company, located at Newark, Ohio, having field and transmission lines, and a small number of wells located principally in Lincoln County, also the Manufacturers Gas Company and the Warren and Chautauqua Gas Company, both Pennsylvania corporations. On September 23rd of that year it acquired 50 per cent, less one share of the par value of $100, of the capital stock of the Reserve Gas Company, a West Virginia corporation, and of the Connecting Gas Company, an Ohio corporation, together with T. N. Barnsdall's right and interest to a certain contract executed on June 20, 1902, between himself, the Hope Natural Gas Company, and the Reserve Gas Company. On November 1, 1902, it acquired practically all of the capital stock of the Fremont Gas, Electric Light & Power Company, located and having a distributing plant at Fremont, Ohio. On the same date, the same proportional part of the stock of the Bellevue Gas Company, owning a distributing plant at Bellevue, Ohio, was acquired.

Q. Could you give the counties?

A. Fremont is in Sandusky County, and Bellevue is in Sandusky County. At the same time, it acquired an interest in the stock of the Marion Gas Company, owning a distributing plant at Marion, in Marion County, Ohio.

Q. Can you give something of the size of those companies
1648 that you are referring to, with reference to the number of consumers, as of the time each was taken over?

A. Yes.

Q. You might give them as you go along.

A. I have not been posted recently as to the number of consumers, although the field in this portion of Ohio was nearly exhausted. It was from what we term the lime formation, with a sulphur base, and the only place that had a supply of natural gas at that time of any dependable amount was Findlay.

Q. Findlay, in Hancock County, Ohio?

A. Hancock County, yes. There had been an ample supply to all of those towns a few years previous to this, but the field had become nearly exhausted. The same condition prevailed throughout and on April 3, 1903, it acquired the stock of the Citizens Gas & Electric Company, owning distributing plants at Lorain and Elyria, Ohio, located in Lorain County. Both of these distributing plants were old artificial plants. I have no knowledge of their having been used for the distribution of natural gas, though they may have been so used years before. On July 27, 1903, it acquired the stock of the Citizens Gas, Light & Coke Company, located at Findlay, Hancock

County, Ohio. They had a natural gas distributing system which had been in use for a number of years, and transmission lines
1649 leading to the wells, and all the field was, I think, within that county. As I have stated, the holdings were substantially all of the stock of those companies. It subsequently acquired, and owns at the present time, all of the stock of those companies, excepting the shares necessary to qualify each of the boards of directors, with the exception, however, of the stock of the Connecting Gas Company and the Reserve Gas Company, which interests at this time are the same as I have stated,—all the stock less one share of the par value of $100.

Q. Did you refer to the Logan Natural Gas & Fuel Company?

A. I think I did.

Q. No, I think you omitted that.

A. The Logan Natural Gas Company stock was acquired at the first period referred to, June 2, 1902. The Logan Company at that time was comparatively small. Its capitalization was but $40,000, though its investment was largely in excess of its capital. It owned approximately 20,000 acres of leaseholds in Fairfield County, Ohio, and it was supplying gas at that time to the town of Logan, at which place its offices were located, and a line was laid north to supply gas to the City of Newark. Their wells had declined to such an extent that there was not a sufficient volume to meet the require-
1650 ments. There were a number of other smaller towns in Fairfield County that were being supplied by the Logan Company at that time,—Sugar Grove, and two or three others; I don't just recall the name of them, but they were small. That covers the entire holdings of the Union Natural Gas Corporation at the present time.

Q. What is the total number of the companies you have referred to?

A. Thirteen. There is one more, however, that I have omitted, the Preston Oil Company, which was incorporated under the laws of the State of Ohio, June 17, 1914. It was engaged in the manufacture of gasoline and the production of crude petroleum. They have no interest whatever in any of the gas production. In fact, there is an agreement between the Logan Company and the Preston Company, to the effect that if the Preston Company drills a gas well, the Logan Company has the right to purchase it at cost, and if the Logan Company drills an oil well, the Preston Company has the right to acquire it.

Q. The Preston Oil Company is located and operating where?

A. Its principal office is at Columbus, Ohio, and operations are principally in Hocking County, Ohio. The Union Natural Gas Corporation had, as of June 30, 1920, 1734 stockholders, of
1651 which 1,643 own less than 200 shares of stock. The largest individual holding by one person or firm is 4,154 shares; the next in order is 2,772 shares, then 2,557, 2,111, 1,914, 1,780, 1,130, 1,100, 968, 875, 872 and two with 800 each. All the rest are below 800.

Q. What is the par value of that stock?

A. $100. The capitalization of the Union Natural Gas Corporation on May 24, 1902, was $6,000,000; on September 23, 1902, it was increased to $8,000,000; on June 1, 1903, it was increased to $9,000,000, and on March 20, 1913, to $10,000,000, which is the authorized capitalization now. Do you wish to know the personnel of the board?

Q. You may give it if you have it available.

A. I think I omitted to say that the shares are a hundred dollars par, and the total number of shares are one hundred thousand. The officers of the company, as elected at the last annual meeting, are E. P. Whitcomb, president; S. Y. Ramage, vice president; David E. Mitchell, secretary; C. B. Dorning, assistant secretary; H. Stehley, treasurer, and C. B. Dorning, assistant treasurer. The directors are E. P. Whitcomb, H. McSweeney, S. Y. Ramage, A. A. Armstrong, P. W. Luther, Joseph Seep, M. W. Splane, J. Arthur Fisher, and T. W. Phillips, Jr.

Q. Have you any bonds or outstanding evidences of your
1652 obligations that you might refer to in connection with the stock?

A. The bonds authorized were six millions of dollars. The amount in the treasury at this time is $1,422,000; cancelled, $178,000; redeemed, $2,822,000, and outstanding as of this date, $1,578,000. I have the same data pertaining to the underlying companies.

Q. Who is the president of all these underlying companies which you have enumerated as being owned by the Union Natural Gas Corporation?

A. I am. The personnel of the boards of all of the underlying companies is very much the same. I omitted, in giving the names of the directors of the Union Natural Gas Corporation, to suggest that the executives of the Union consists of S. Y. Ramage, W. W. Splane and E. P. Whitcomb.

Q. Have you a map or print showing the location of the various underlying companies which you have enumerated here, owned by the Union Natural Gas Corporation?

A. I have.

Q. Together with the connecting line system, if such there be?

A. The map which is before me here is up to date, showing the
1653 lines, the distributing plants, the acreage operated and operated in each county, and also showing the distributing systems of other companies to which we are wholesaling gas. I have a printed map here which will answer the purpose.

Mr. Eagleson: For the purposes of identification, let this map to which witness has referred be marked Ohio Exhibit No. 10.

Q. In your own language, tell us as briefly as possible what Ohio Exhibit 10 is.

A. I would call it Field and Main Line Map of the subsidiary companies of the Union Natural Gas Corporation in Ohio and Indiana.

Q. On Exhibit 10 I think it would be well for you to point out with a little more particularity the location of these companies,

naming at least the principal or larger municipalities served by them, and giving the counties in which they are located?

A. The Athens Gas Light & Electric Company, located at Athens, Athens County, Ohio, showing the main line connecting with the two 16-inch lines of the Connecting Gas Company, from the Ohio River to Sugar Grove in Fairfield County. I am speaking of connecting with the Connecting Gas Company in Ohio, which
1654 takes all West Virginia gas; the Buckeye Gas Company, located at Circleville, in Pickaway County, Ohio, with lines extending northeast, and connecting with the 18-inch line from Sugar Grove in Fairfield County, to Dayton, in Montgomery County, and supplying gas to Circleville in Pickaway County; the Newark Natural Gas & Fuel Company, with a distributing plant in Licking County, Ohio, connecting with lines of the Logan Natural Gas & Fuel Company, going north from Sugar Grove in Fairfield County, and with another line going east from the 16-inch trunk line, near Granville, Ohio, to Newark, Ohio, and supplying Newark, Ohio; the Marion Gas Company, with a distributing plant located at Marion, Marion County, Ohio, and an 8-inch line running east and connecting with a 16-inch line of the Logan Natural Gas & Fuel Company, near Mt. Gilead, in Morrow County, Ohio; the Fremont Gas, Electric Light & Power Company, with distributing plant at Fremont, in Sandusky County, with lines extending from a point near Monroeville, in Huron County, running northwestwardly to Fremont, and supplying gas to that place, in Sandusky County, Ohio.

Q. Any other places supplied by it?

A. The Bellevue Gas Company, owning the distributing plant at Bellevue, Ohio, and supplied by a main transmission line
1655 running to Fremont, and distributing gas at Bellevue. This indicates that Bellevue is partly in Huron and partly in Sandusky Counties. The Citizens Gas, Light & Coke Company, with distributing plants located at Lorain and Elyria, in Marion County, Ohio, and being supplied from the 12-inch main line of the Logan Natural Gas & Fuel Company, extending northeastwardly from a point near Monroeville, Huron County, Ohio, to a point near South Amherst, from which point there are two branch lines, one of 10 inches to Lorain, and one of 8 inches to Elyria. There is also another source of supply to each of these towns through a 12-inch line, running northwardly from a point near Litchfield, in Medina County, Ohio, connecting with field lines running southwestwardly, and connecting with the 10 and 8 inch lines supplying Elyria and Lorain. There is also another source of supply to these two places, coming from what we term the Dover field, in the northeasterly part of Lorain County, which connects with the main line at Avon compressing station of the Logan Natural Gas & Fuel Company, in Lorain County. The Citizens Gas, Light & Coke Company, having a distributing plant at Findlay, in Hancock County, Ohio, supplied by the Logan Natural Gas & Fuel Company, through a 10-inch line extending westwardly from a
1656 point near Seneca, in Seneca County, Ohio, to Findlay, in Hancock County, Ohio. The transmission lines of the Logan

Natural Gas & Fuel Company, starting at Sugar Grove, at which point connection is made with the Reserve Gas Company, at a compressing station of the Logan Natural Gas & Fuel Company at Sugar Grove. The line running westwardly consists of approximately 84½ miles of 18-inch pipe, extending to a point about two miles north of the City of Dayton, to which it is connected with a 12-inch line to the northeast of the City of Dayton, and a 10-inch line to the northwest of Dayton. From that point to Muncie, Indiana, there is an extension of 78 miles of 16-inch pipe, with its terminal point at Muncie, Delaware County, Indiana. With a branch of 12-inch pipe, extending northwestwardly from Muncie to Fairmont, in Grant County, Indiana; a branch line extending southwestwardly from Muncie, a distance of about twenty miles, of 10-inch pipe, connecting with the distributing plant at Anderson, Madison County, Indiana; a line of about fourteen miles, of 8-inch pipe, extending southwestwardly from a point near the northerly line of Randolph County, Indiana, to New Castle, in Henry County, Indiana; a 10-inch line from the 16-inch main line, at a
1657 point near the southwestwardly line of Darke County, Ohio, extending southwestwardly a distance of about eleven miles to Richmond, Indiana.

Q. May I ask right there if these various municipalities in Indiana, to which you have referred, and to which the lines of the Logan Natural Gas & Fuel Company extend are supplied by gas transported to them by the Logan lines?

A. All this gas is supplied by the Logan Natural Gas & Fuel Company from gas taken from West Virginia through the Sugar Grove compressing station.

Q. Do you know how many municipalities in Indiana are supplied through the lines of the Logan Company?

A. There are nine in Indiana—Fairmont, Gas City, Hartford City, Lynn, Muncie, New Castle, Normal City, Richmond and Riverside. The entire service in these towns is with natural gas. It is also supplying the gas to the Central Indiana Gas Company and delivering it into their lines at Muncie for transmission and use in a mixed gas which they sell to their consumers in these other towns.

Mr. Weil:

Q. Name the towns.

A. Marion, in Grant County; Elwood, in Alexandria; and Anderson, in Madison County. I don't know what proportional part of the gas they are using.

1658 Mr. Eagleson:

Q. That is, as between natural and artificial gas?

A. Yes.

Q. What is the source of the natural gas which is transported through the Logan Natural Gas & Fuel Company lines to the Indiana consumers?

A. West Virginia.
Q. Exclusively?
A. Exclusively, yes. There are a number of towns south of the
6-inch transmission line between Dayton, in Montgomery, Ohio,
nd the Indiana state line, which are supplied by the Logan Natural
as & Fuel Company, through distributing systems owned by the
antha Light & Heat Company and one down to the north of
reenville, in Darke County.
Q. Can you name all the towns to which you have referred,
rved by the Jantha Light, Heat & Power Company, by gas fur-
shed to it by the Logan Natural Gas & Fuel Company?
A. Granville, New Madison and Castine, in Darke County, El-
rado, West Manchester, Harrison, Euphemia, Lewisburg, West
lexandria, Eaton and New Paris, in Preble County, Indiana, and
rookville, in Montgomery County. All of the natural gas service
to the City of Dayton is supplied by the Logan Natural Gas
559 & Fuel Company through its two lines—16 and 18-inch
lines—as I have said.
Q. What is the source of gas supply to the Jantha Company and
so to the Dayton Company?
A. All from West Virginia.
Q. What other lines or divisions of the Logan Natural Gas & Fuel
mpany are there in Ohio?
A. From Sugar Grove, in Fairfield County, extending north to
ngs compressing station, in Knox County, a 16-inch line paral-
led by an 8 and 10-inch line, from a point near Union, in Lick-
g County, Ohio, to a point near McKean, in Licking County.
he balance of the paralleling line to Bangs station is 16-inch.
n 8-inch line extends southwestwardly from Sugar Grove in Fair-
ld County, to Chillicothe, in Ross County. An 8-inch line ex-
nds northeastwardly from Sugar Grove compressing station in
irfield County, to a point near Richlands, in Fairfield County,
th an extension of a 4-inch line in a northeastwardly direction,
pplying gas to Millersport in Fairfield County, to Lakeside,
ebron, Thorneville and Jacksontown, and connecting with the
stributing system at Newark, Licking County. A line of 6-inch
d 8-inch pipe, extending in a westerly direction from Bangs,
nox County, Ohio, connecting with the distributing plants at
Mt. Liberty and Centerburg, in Knox County, and with a
560 distributing plant located at Delaware, in Delaware County,
Ohio.
Q. What company distributes gas in Delaware, Delaware County,
hio?
A. The Delaware Gas Company. That is not an underlying com-
ny of the Union Natural Gas Corporation. The gas is wholesaled
this point.
Q. When you refer to the lines of the Logan Natural Gas & Fuel
mpany extending to a certain municipality, do you mean to imply
at that municipality is supplied by the Logan Natural Gas & Fuel
mpany?
A. Yes, that is all the supply they have. Off of that line just re-

ferred to, extending southwestwardly from Bangs, there is a 4-inch line, starting at a point near Kingston, in Delaware County, and running in a southwesterly direction, supplying gas to Sunbury and Galena, in Delaware County, and to Westerville, in Franklin County. There are two 10-inch lines extending northwestwardly from Sugar Grove station for a short distance, and connected up with a 12-inch line running in a northwestwardly direction, to a point north of Homer, in Monroe County, where it is paralleled for a distance of
3½ miles, with a 10-inch line, and at the terminal point of the
1661 two parallel lines, connected to a 16-inch line, extending northwestwardly to a point near Mt. Gilead, continuing in a northerly direction to a point near Vernon, in Crawford County, and from that point northwardly to a point near Monroeville, in Huron County. An extension of 12-inch pipe goes westwardly for a distance of about two miles, and an extension of 10-inch pipe northwardly from that point and about twelve miles of 10-inch pipe connecting with the distributing system of the distributing company to Sandusky, in Erie County, Ohio, extending northwestwardly from a point at the terminal of the 10-inch connection, an 8-inch line supplying Bellevue in Erie County, and Clyde, in Sandusky County. From Clyde northwestwardly two 6-inch parallel lines supply Fremont, in Sandusky County, Ohio, and a 10-inch line running in a northwestwardly direction, starting at a point near Galion, in the southeasterly part of Crawford County, supplies Bucyrus, in Crawford County, and Sycamore, with a branch line of 6-inch pipe running southwestwardly from Sycamore, supplying Upper Sandusky, in Wyandot County, with another branch of 4-inch line off from the 10-inch, at a point near Seneca, Seneca County, extending southwestwardly, and supplying Carey, in Wyandot County. A
1662 line of 10-inch pipe running northeastwardly from a point near Seneca, in Seneca County, supplying a distributing plant at Tiffin, Seneca County. A branch line continuing northwestwardly from Seneca, of 8-inch pipe, supplying Fostoria, Seneca County; another branch line running westwardly, of 10-inch pipe, from Seneca, supplying Findlay, in Hancock County, Ohio, and some 3- and 4-inch lines in the southerly part of Richland County, supplying gas to Bellevue and Butler. These lines get their supply locally. There are two parallel lines of 12-inch and one line of 8-inch, starting at Pavonia compressing station in Ashland County, extending southwestwardly and connected to a distributing plant at Mansfield, in Richland County, with an extension of 16-inch pipe from a point north of Mansfield, to Bucyrus, where it connects with a 10-inch transmission line at that point. A line extends from the field in the central part of Wayne County, consisting of 8 and 16-inch pipe, connecting with the Pavonia compressing station in Ashland County, together with a line of 8- and 12-inch from the northwesterly part of Holmes County, extending northwestwardly and connecting with the 12-inch field line, running parallel with the southerly line of Ashland County, and connecting with the Pavonia
1663 compressing station; another line of 8- and 10-inch pipe, from a point near Butler, in the southeasterly part of Richland

County, going northwardly and connecting with the 16-inch line, in the southwestwardly part of Ashland County directly east of the Pavonia compressing station. These lines that I have last referred to are field gathering lines and large field trunk lines. This map also shows the amount of acreage held by the Logan Natural Gas & Fuel Company, as of June 30, showing the amount operated and unoperated in each of the counties.

Q. You might state that as specifically and briefly as possible in each county.

A. I have here a list of the Logan Natural Gas & Fuel Company leaseholds, as of December 31, 1919, in the State of Ohio.

Q. Will you please read that?

(Witness does so. See next page.)

664 The Logan Natural Gas & Fuel Company.

Leaseholds Dec. 31, 1919, *Ohio.*

Ashland Lorain field:	Operated leaseholds. Acres.	Unoperated leaseholds & lands in fee. Acres.	Total leaseholds. Acres.
Ashland County ..	15,815.	34,164.32	49,979.32
Cuyahoga " ..	939.50	1,993.27	2,932.77
Crawford " ..	.....	.20	.20
Holmes " ..	1,265.5	53,250.81	54,516.31
Lorain " ..	1,324.5	23,063.34	24,387.84
Marion " ..	.....	3,334.10	3,334.10
Medina " ..	7,559.34	55,617.41	63,176.75
Morrow " ..	.....	2,684.	2,684.
Richland " ..	5,704.	23,425.32	29,129.32
Wayne " ..	6,254.5	106,803.92	113,058.42
Seneca " ..	.....	.10	.10
Total	38,862.34	304,336.79	343,199.13

665

Homer field:			
Coshocton County .	200.00	73,513.11	73,713.11
Knox " .	9,867.53	2,189.61	12,057.14
Licking " .	9,307.13	2,532.	11,839.13
Muskingum " .	.....	2,790.	2,790.
Total	19,374.66	61,024.72	100,399.38

Sugar Grove:	Operated leaseholds. Acres.	Unoperated leaseholds & lands in fee. Acres.	Total leaseholds. Acres.
Athens County ...	.....	18,744.	18,744.
Fairfield " ...	1,855.	132.67	1,987.67
Gallia " ...	.....	24,284.60	24,284.60
Hocking " ...	7,401.	25,576.43	32,977.43
Meigs " ...	.....	39,714.	39,714.
Jackson " ...	.....	16,234.50	16,234.50
Perry " ...	239.	1,470.50	1,709.50
Vinton " ...	4,995.21	25,954.65	30,949.86
Total	14,490.21	152,111.35	166,601.56
Grand Total	72,727.21	537,472.86	610,200.07

1666 The Logan Natural Gas & Fuel Company leaseholds and land in fee in Ohio for the years 1910 to 1919, are:

The Logan Natural Gas & Fuel Company.

Leaseholds and Land in Fee.

	Operated acres.	Unoperated acres.	Total acres.
Dec. 31, 1910	A	A	422,962.28
" " 1911	A	A	466,973.66
" " 1912	46,210.28	441,579.40	487,789.68
" " 1913	52,123.28	434,597.80	486,721.08
" " 1914	55,738.72	290,575.06	346,313.78
" " 1915	64,288.12	311,731.96	376,020.08
" " 1916	70,167.05	331,761.52	401,928.57
" " 1917	72,614.55	497,294.64	569,909.69
" " 1918	73,936.46	570,520.15	644,456.61
" " 1919	72,727.21	537,472.86	610,200.07

A—Not Available.

1667 Q. Have you acreage in Indiana, either operated, unoperated or held?

A. No, we have not. The only realty that we have in Indiana is regulator sites and small holdings of that kind. We have no leaseholds.

Q. State for the record an explanation of the circles as they appear on Ohio Exhibit 10, in Lorain, Medina, Wayne and other counties?

A. The circles on the map, indicated in yellow, together with the notations with reference to operated, unoperated and total acreage, refer to the amount of acreage held by the Logan Natural Gas Com-

pany in each of those counties, without reference, however, to the location in the county.

Q. And as specifically given by you a moment ago?

A. As indicated in the statement which I have just read, as of December 31, 1919.

Q. Can you give us the number of counties in Ohio into and through which your system, as you have been describing it, extends?

A. There are thirty-six counties within the state.

Q. Can you name them?

A. Yes, as follows: Sandusky, Erie, Lorain, Cuyahoga,
1668 Seneca, Huron, Medina, Hancock, Wyandot, Crawford, Ashland, Wayne, Richland, Marion, Morrow, Knox, Holmes, Licking, Delaware, Coshocton, Franklin, Muskingum, Pickaway, Fairfield, Perry, Hocking, Vinton, Athens, Jackson, Meigs, Ross, Madison, Greene, Montgomery, Preble and Darke.

Q. Can you give us the number and name of the counties in Indiana, into which gas is distributed through your pipe line system?

A. I can; they are as follows: Randolph, Wayne, Henry, Delaware, Madison and Grant.

Q. Now, to clarify your testimony further with reference to the municipalities to which your transportation lines extend, I will ask you in what manner they are designated on Ohio Exhibit 10?

A. They are marked on the map in red; all those that are marked in red indicate that the Logan Natural Gas & Fuel Company, or some other underlying company of the Union Natural Gas Corporation own the distributing system. There are other municipalities to which the Logan Natural Gas & Fuel Company is supplying gas, which are marked in blue, both in Ohio and Indiana; there are others in Indiana which are marked in yellow, which indicate that a
portion of the gas used is supplied by the Logan Natural Gas
1669 & Fuel Company and is used in the manufacture of an artificial or mixed product.

Mr. Weil:

Q. Who owns the distributing systems in these marked in blue or yellow?

A. The distributing systems are owned by other parties than the Union Natural Gas Corporation. Those in yellow are owned by the Central Indiana Gas Company; those in blue are owned by various companies, to which the Logan Natural Gas & Fuel Company wholesales the gas. The stars on the map indicate the location of the compressing stations.

Mr. Eagleson:

Q. Give the location of the various compressing stations?

A. The first of most importance is the Sugar Grove Station, located at Sugar Grove, in Fairfield County, Ohio and has an approximate rate of horse power of 9,500. It takes care of all of the gas that comes through the Reserve and the Connecting Gas Company's lines from West Virginia. Another similar compressing station is located in the southeasterly part of Hocking County, at a point near

Union Furnace, which is used for the gas purchased and pro-
1670 duced in that portion of the field and delivered in the transmission system south of Sugar Grove. Another compressing station is located at Bangs, in Knox County. Another compressing station is located at Pavonia, in the southeasterly part of Ashland County, and a similar one at a point southeastwardly about five miles distant from Lorain, in Lorain County.

Q. Can you give us the municipalities in Ohio, the number of consumers, population therein served, with natural gas, in Ohio?

A. Yes.

Q. And have you also the same information with reference to Indiana?

A. I have.

Q. Will you please produce it?

A. (Witness reads as his answer the following:)

1671 The Logan Natural Gas & Fuel Company.

Number of Consumers and Population Served with Natural Gas.

Ohio and Indiana.

December 31, 1919.

Cities & Towns Served Direct.

Name.	Population.	Number consumers, commercial, industrial & miscellaneous. Domestic.		Total.
Adelphia	725	112	3	115
Amanda	650	189	6	195
Amherst	2,700	668	24	692
Ashland	12,000	2,921	91	3,012
Ashville	1,100	285	8	293
Athens	6,418	1,936	59	1,995
Bellevue	5,900	1,750	39	1,798
Bellville	1,400	324	14	338
Berlin Heights	525	167	7	174
Birmingham	350	90	5	95
Bucyrus	12,000	2,959	60	3,019
Butler	1,000	242	7	249
Cardington	1,800	413	15	428
1672				
Carey	2,500	680	13	693
Centerburg	1,500	312	14	326
Chillicothe	15,831	4,082	41	4,123
Chauncey	800	183	3	186
Circleville	7,048	1,721	49	1,770
Clyde	4,200	1,027	29	1,056

Name.	Population.	Number consumers, Domestic.	commercial, industrial & miscellaneous.	Total.
Crestline	4,200	1,114	10	1,124
Dover	300	69	4	73
Edison	550	139	2	141
Elyria	20,000	5,107	126	5,233
Findlay	17,015	4,667	16	4,683
Florence	93	23	4	27
Fostoria	10,000	2,679	66	2,745
Fremont	15,000	3,643	94	3,737
French Creek	500	128	1	129
Galena	400	155	3	158
Galion	8,200	2,028	28	2,056
Hallsville	525	82	2	84
Hebron	900	224	..	224
1673				
Homer	350	306	2	308
Jacksontown	200	50	..	50
Kingston	1,000	279	8	287
Lakeside	250	52	..	52
Laurelville	725	157	7	164
Lexington	800	184	4	188
Litchfield	225	79	..	79
Logan	.....	960	11	971
Lorain	37,295	7,530	94	7,624
Main Line	600	126	1	127
Mansfield	28,824	5,746	146	5,892
Marion	28,591	7,004	51	7,055
Milan	696	235	11	246
Millersport	500	126	..	126
Monroeville	1,196	343	20	363
Mt. Gilead	2,800	647	17	664
Mt. Liberty	150	31	2	33
Newark	26,718	7,767	83	7,850
New Riegal	290	73	4	77
Norwalk	7,500	2,237	62	2,299
1674				
Pavonia	100	26	..	26
Plymouth	1,500	428	15	443
Polk	350	80	4	84
Rockbridge	350	177	17	194
Shelby	5,800	1,541	36	1,577
So. Amherst	1,000	154	4	153
Spencer	500	157	..	157
Stoutsville	400	115	6	121
Sugar Grove	450	128	7	135

Name.	Population.	Domestic.	Number consumers, commercial, industrial & miscellaneous.	Total.
Sunbury	1,000	201	6	207
Sycamore	1,300	316	7	323
Thornville	900	223	1	224
Tiffin	15,000	4,005	64	4,069
Tiro	450	109	8	117
Union Furnace	300	68	..	68
Upper Sandusky	3,700	1,212	33	1,245
Utica	1,800	353	4	357
Wellington	2,500	696	9	705
Westerville	3,000	743	24	767
Williard	4,000	1,040	17	1,057
Total Supplied Direct	339,340	85,832	1,628	87,460

1675 Cities & Towns Served Through Other Companies.

Ohio.

Avery	200	....	..	40
Brookville	1,600	....	..	392
Castine	160	....	..	45
Dayton	175,000	....	..	35,747
Delaware	8,847	....	..	2,014
Eaton	3,500	....	..	823
Eldorado	360	....	..	120
Euphemia	275	....	..	50
Fairfield	325	....	..	116
Greenville	7,100	....	..	1,847
Jeromeville	350	....	..	166
Lancaster	18,000	....	..	261
New Madison	660	....	..	182
New Paris	960	....	..	249
Osborne	1,050	....	..	209
Sandusky	25,000	....	..	4,550
West Alexander	1,140	....	..	271
West Manchester	500	....	..	133
Yellow Springs	1,250	....	..	259
Total Other Co's— Ohio	246,817	....	..	52,020

1676 Indiana.

Name.	Population.	Domestic.	Number consumers, commercial, industrial & miscellaneous.	Total.
Fairmont	1,800	....	..	263
Hartford City	6,000	....	..	489
Lynn	1,100	....	..	282
Muncie	36,000	....	..	6,126
New Castle	14,689	....	..	2,630
Richmond	30,000	....	..	6,442
Total—Indiana	89,589	....	..	16,232
Grand Total	675,946	....	..	155,712

Q. Mr. Whitcomb, can you give us any information with reference to the amount of gas that your company supplies to public buildings in municipalities or counties, to schools, churches, hospitals, or other like institutions in Ohio?

A. I can.

Q. Will you please do so?

A. I will.

(Witness reads as his answer the following:)

1677 The Logan Natural Gas & Fuel Company.

Gas Delivered for Public Use—1919.

	City purposes.	Public schools & colleges.	Hospitals.	State, federal and co. bldgs.	County homes.
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
Amanda	679	102	....	....	....
Amherst	401	1,578	1,370	....	....
Ashland	2,056	2,901	2,248	....	504
Ash-Lorain Field	....	790	1,945	....	....
Ashville	55	27	....	....	....
Athens	1,099	10,401	5,816	1,239	1,196
Bellevue	....	708	....	....	....
Bellville	341	391	....	....	....
Berlin Heights	185	1,221	....	44	....
Bucyrus	2,613	1,571	1,158	....	2,288
Butler	79	108	....	....	....
Cardington	156	16	....	....	....
Carey	....	558	....	....	....
Centerburg	259	811	....	....	....
Chillicothe	745	3,118	971	....	....
Circleville	280	224	786	5,137	....
1678					
Clyde	....	114	....	....	....

	City purposes.	Public schools & colleges.	Hospitals.	State, federal and co. bldgs.	County homes.
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
Crestline	....	....	....	....	....
Dover	45	....	....	....	....
Elyria	4,712	315	2,372	2,514	904
Findlay	....	....	....	....	....
Fostoria	525	1,967	....	....	....
Fremont	318	4,880	923	999	....
French Creek	....	....	....	....	....
Galion	....	1,847	773	....	....
Homer	....	....	....	....	....
Kingston	2,143	209	....	....	....
Lexington	....	5	....	....	....
Litchfield	....	....	....	....	....
Logan	....	....	....	510	....
Lorain	4,645	2,297	2,044	217	....
Mansfield	2,623	1,097	6,660	490	6,186
Marion	11,233	2,003	....	11,016	....
Milan	209	119	....	118	156
Monroeville	103	269	....	62	....
Mt. Gilead	....	311	....	603	....
Newark	4,964	1,316	1,003	2,291	....
New Riegel	396	107	....	....	....
1679					
Norwalk	1,318	921	783	1,588	2,831
Polk	500	203	....	....	....
Rockbridge	....	....	....	....	1,119
Shelby	1,145	674	....	....	....
Spencer	....	....	....	....	....
Stoutsville	....	76	....	....	....
Sugar Grove	569	42	....	....	....
Sycamore	2,068	....	....	....	....
Thornville	737	....	....	....	....
Tiffin	526	9,846	....	661	....
Tiro	488	23	....	....	....
Upper Sandusky	3,982	116	....	2,433	....
Wellington	6,367	....	....	....	....
Westerville	....	1,155	....	....	....
Williard	....	105	....	....	....
	58,564	54,542	28,852	29,922	15,184

1680 The Local Natural Gas & Fuel Company.

Principal State, County, and Municipal Consumers of Gas During Year 1919.

Ashland Colleges, Ashland, Ohio.....	1,390	M	Cubic	Feet
Samaritan Hospital, Ashland, Ohio.....	2,448	"	"	"
Amherst Hospital, Amherst, Ohio.....	1,370	"	"	"
State Hospital, Athens, Ohio.....	5,816	"	"	"
Ohio University, Athens, Ohio.....	10,088	"	"	"
County Infirmary, Bucyrus, Ohio.....	2,288	"	"	"
Court House, Jail, Bucyrus, Ohio.....	2,613	"	"	"
County Bldgs., Circleville, Ohio.....	5,137	"	"	"
City Hall, Elyria, Ohio.....	4,692	"	"	"
Memorial Building, Elyria, Ohio.....	2,372	"	"	"
County Court House, Elyria, Ohio.....	1,026	"	"	"
County Jail, Elyria, Ohio.....	1,485	"	"	"
Police Station and Hose Houses, Lorain, Ohio	4,539	"	"	"
St. Joseph Hospital, Lorain, Ohio.....	2,044	"	"	"
Ohio State Reformatory, Mansfield, Ohio..	6,186	"	"	"
Memorial Building, Mansfield, Ohio.....	1,504	"	"	"
Mansfield Genl. Hospital, Mansfield, Ohio.	6,660	"	"	"

1681

City Fire Engines & Library, Mansfield, Ohio	1,119	M	Cubic	Feet
Garbage Plant, Marion, Ohio.....	4,945	"	"	"
City Buildings, Marion, Ohio.....	1,848	"	"	"
County Buildings, Marion, Ohio.....	10,974	"	"	"
Infirmary, Norwalk, Ohio.....	2,140	"	"	"
Court House, Norwalk, Ohio.....	1,512	"	"	"
City Buildings, Norwalk, Ohio.....	1,275	"	"	"
City Buildings, Newark, Ohio.....	4,964	"	"	"
Sanitarium, Newark, Ohio.....	1,003	"	"	"
Court House & Jail, Newark, Ohio.....	2,291	"	"	"
Schools & Colleges, Tiffin, Ohio.....	9,847	"	"	"
Lt. Lighting, Upper Sandusky, Ohio.....	3,983	"	"	"
Wyandot County Bldgs., Upper Sandusky, Ohio	2,433	"	"	"
Board of Public Affairs, Sycamore, Ohio..	2,068	"	"	"
Board of Public Affairs, Wellington, Ohio.	6,367	"	"	"
Total	118,427	"	"	"

1682 Q. The information you have just given us, Mr. Whitcomb, I note also includes the number of thousand cubic feet of gas furnished to each of the consumers mentioned by you answer to my question?
A. It does.

Q. Mr. Whitcomb, I believe you stated awhile ago that at the time of the acquirement of many of the companies which you enumerated by the Union Natural Gas Corporation, there was a falling off in the gas supply in the fields in Ohio which had theretofore been supplying those companies, or words to that effect?

A. Yes.

Q. Now, will you go into that in a little more detail, and then describe how you have been able to maintain a gas supply to those consumers since their acquirement, if you have been so able?

A. At the time, or about the time, of the organization of the Union Natural Gas Corporation, there was a sharp decline in the fields in the northerly and northwesterly portions of Ohio, which obtained their gas principally from the limestone formation, known as the lime rock, with a sulphur base. The Sugar Grove field, in Fairfield County, was comparatively small. They had only
1683 been drilling there a few years—three or four or probably five—and were obtaining a supply from what is known as the Clinton sand or Clinton formation. Early in the spring and summer of 1902, the Logan Natural Gas & Fuel Company commenced active operations both in the field and in the extension of its lines. They developed a large volume of gas in the Clinton sands in Fairfield County, and in what is known as the Sugar Grove field. Later operations extended further north into Licking County, though a portion of that field had become partly exhausted, and later in the development in what is known as the Ashland and Lorain field, and following that, a development in the northerly part of the state in Lorain County, and extending east to near the City of Cleveland, and directly south through a portion of the state. During the period of this development, practically all of the limestone formation field in Seneca, Hancock, Wood and other counties in northern and northwestern Ohio had become practically exhausted. The Logan Natural Gas & Fuel Company extended its lines north from Sugar Grove to a point at Bangs station in Knox County. It installed a large compressing station at that point, and made further extensions of its lines north to Monroeville, with branch lines extending northeastwardly to Elyria
1684 and Lorain and northwestwardly from Monroeville to Fremont, Bellevue and Clyde, together with a line running directly north from Monroeville, to supply Sandusky in Erie County. Other branch lines were laid in 1903 westwardly from the main transmission lines, to supply service at Tiffin, Fostoria, Findlay, Carey, Upper Sandusky, Bucyrus and Marion. Lines were laid eastwardly from the main trunk line to supply Galion, Mansfield, Ashland and a number of smaller lines at a short distance supplying many of the smaller towns in that portion of the state. Newark had previous to the time of the organization of the Union Natural Gas Corporation acquired its principal supply from the local field in Licking County. As I have stated, in the latter part of 1902 there was not a sufficient volume of gas available in that field from that company to meet their requirements, and a line was laid by the Logan Natural Gas & Fuel Company from Sugar Grove com-

ressing station northeastwardly about twenty-five miles, to supply
lewark. There were other extensions made and changes of con-
ruction from which a new line was laid to Chillicothe. As the
ugar Grove field began to decline, in about 1907 to 1910, addi-
onal compressing stations were installed by the Logan Natural
Gas & Fuel Company in the northerly and central parts of
885 the state, the principal one at the present time being located
at Pavonia in the southwestern corner of Ashland County.
s development progressed to the north and the pressures began
decline, it was necessary to instal another compressing station
that portion of the field, and a station was installed at a point
ear Avon, about five miles southeastwardly of Lorain, in Lorain
ounty. During the period of these operations, a very large volume
gas was developed in the Sugar Grove, Home, Utica, Ash-
nd, and Lorain fields. At one period, the Logan Natural Gas
d Fuel Company had upwards of 750,000,000 open flow of gas.
uring that same period, operations were being carried on in West
irginia by the Reserve Gas Company, in order to meet the require-
ents under their leases, and a large volume of gas was developed,
r which we had no market. In 1905, it became apparent that
e must secure additional markets for West Virginia gas. A con-
act was entered into with the Central Contract & Finance Com-
ny, a New Jersey corporation, by which we agreed to take up
d lift a 12 and 10-inch line formerly used for supplying gas to
e City of Dayton, and running northwardly from the City of
Dayton to Red Star, Ohio—I don't recall the county—and
886 an extension from that to Red Key, Indiana, with further
extensions into Indiana fields, which had become practically
hausted. The work of changing the construction was commenced
the early spring of 1905. The line was relaid from Dayton
ck towards our Sugar Grove compressing station. There was not,
wever, a sufficient amount of pipe that was usable to complete
e line. We replaced 34,000 feet, approximately, on the Sugar
ove end, and several miles of 12-inch pipe at points between
Sterling, Ohio, and Dayton, Ohio, and installed two miles, ap-
ximately, of 16-inch pipe, at the Dayton end of the line. This
angement carried with it a contract to supply the City of Dayton
th gas for a period of ten years. The volume was 10,000,000
bic feet a day, maximum. At the time, nearing the expiration
the contract, it was apparent that the increased volume in West
rginia, and produced by the Logan Company in Ohio, made it
cessary to seek additional markets, and a contract was entered
o first with the Central Indiana Gas Company, at that time with
tributing plants at Muncie, Anderson, Hartford City, Marion,
wood and Fairmont, and a number of other towns that I don't
all at the moment, and commencing in May, 1913, the work of
constructing a line from Sugar Grove to Indiana points was
887 commenced. An 18-inch line of approximately 84½ miles
was laid from Sugar Grove to Dayton, and about 78 miles
16-inch l e from Dayton to Muncie, about 25 miles of 12-inch
e from Muncie northwardly to Fairmont, at which point it con-

nected with transmission lines of the Central Indiana Gas Company supplying Marion, Hartford City, and one or two other places in that locality. Another line of about seventeen miles of 10-inch pipe was laid from Muncie to connect with their service at Anderson, and through that distributing plant or its connections they supplied some other towns beyond. A branch line of 8-inch pipe was laid in Indiana to New Castle, a distance of about twenty miles, and a line laid from near the westerly line of the State of Ohio, southwestwardly to the City of Richmond, of 10-inch pipe, and a number of smaller lines connected with distributing plants and the Jantha Light & Heat Company, the contracts having been made with the Central Indiana Gas Company, with the company supplying the Richmond consumers and at New Castle. But not until 1916 had they agreed upon the contract for the City of Dayton, though the contract had expired on July 1, 1915. There was no attempted agreement that we continue the service from
1688 month to month, pending the agreement, as to the principal contract which we entered into later. All of the contracts to which I have referred and all of the towns supplied on those lines contemplated the use of nothing but West Virginia gas. There was no provision—in fact, the contract stated that they were not entitled to gas produced in the state of Ohio. The Logan Natural Gas & Fuel Company completed those lines and extensions, and gas was turned into the City of Muncie on the 19th day of October, 1913. For three years or more, we gave them an excellent supply, in fact, more than they needed; but during the past two or three winters, it has been extremely short. The supply has been depleted to such an extent that the Central Indiana Gas Company, which during the first three or four years' period of the service were supplying natural gas to all of the consumers on their distributing systems, have been obliged within the last two years to distribute a mixed product, and they are using a portion of the West Virginia gas, with which we supply them, for that purpose.

Adjourned until Wednesday, September 15, 1920, at 10 o'clock, a. m.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Wednesday, September 15, 1920.

1689 And now, Wednesday, September 15, 1920, at 10 o'clock A. M. hearing resumed.

EUGENE P. WHITCOMB resumed the stand.

Direct examination (continued).

Mr. Eagleson:

Q. Mr. Whitcomb, you spoke of an inaccuracy in your statement esterday, in the absence of manuscript. Do you desire to correct hat at this time?

A. Yes; I desire to correct the statement made yesterday, with eference to the name of the place on the line which was taken up nd relaid, from Dayton to Sugar Grove. The point referred to I ad given as Red Star; it should be North Star instead of Red Star. I also omitted to state that the City of Lancaster, in Fairfield County, hio, is wholly dependent on West Virginia gas for the gas which it eceives from the Logan Natural Gas & Fuel Company.

Q. Right in that connection, Mr. Whitcomb, with reference to Lancaster and Dayton, and all the other Ohio municipalities 1690 which you spoke about yesterday, and including the Indiana consumers to whom West Virginia gas is exclusively supplied, , for any reason, you were unable to furnish them West Virginia s, would you have any other possible known source of supply of atural gas for them?

A. We have approximately two and a quarter million feet left in e old Sugar Grove field that would be available for distribution

at Sugar Grove. If there was no West Virginia gas delivered at t
point, however, there wouldn't be a cubic foot of gas going thro
this 18-inch line——

Q. Which 18-inch line?

A. The 18-inch line supplying Dayton, the Jantha Light & H
and all the service now being supplied in Indiana, also including
City of Lancaster, in Fairfield County, Ohio. Now, as I have sta
there is approximately two and a quarter million feet of gas from
old field, or local field, available to the Logan Natural Gas & F
Company, which they are using at the present time.

Q. Where?

A. Distributing to these other towns. I was just about to say
the Logan Company owns its own distributing plant in Chillic
and at Sugar Grove; and the Circleville plant, owned by
1691 Buckeye Gas Company, being another subsidiary of the Un
Natural Gas, is dependent altogether on the Logan Comp
for its sole supply. In addition to being obliged to discontinue
service altogether from these places mentioned, from the Su
Grove-Dayton-Indiana lines, the City of Athens, in Athens Cou
Ohio, is entirely dependent upon West Virginia for its supply;
line being connected to the two 16-inch lines of the Connecting
Company, running from the Ohio River to Sugar Grove stat
The two and a quarter million cubic feet, to which I have refe
as being available in the Sugar Grove field, would be inadequat
supply the service at Circleville, Chillicothe, Sugar Grove and a
other smaller towns in that locality; in fact, there wouldn't be
fifth of the amount which they require. And in view of the fact
all contracts on the line from Sugar Grove to Dayton and Indi
contemplate and provide for the delivery of West Virginia gas o
and specifically recite the fact that the Union Natural Gas Corp
tion has available a large quantity of gas in West Virginia, and
they are not entitled to Ohio gas, consequently that two and a qua
million which we have in the local field would not be available
any of that service.

Q. Do you mean by that reference to the contracts that
1692 main line west from the Sugar Grove Station, out from
ton, and on into Indiana, was originally constructed, pri
ily and exclusively, for the transportation and delivery of
Virginia gas.

Mr. Hoffheimer: That is objected to as calling for an opinio
conclusion from the witness.

The Commissioner: Note the objection and let the witness ans
(Question repeated.)

A. The original line of 12- and 10-inch pipe removed from
Key and North Star, and relaid from Dayton back to Sugar G
station in 1905, was first contemplated for use exclusively of
Virginia gas. During the construction period, and about that t
the Logan Company developed a large volume of gas of their
principally in Fairfield and Licking Counties, Ohio, and for a pe
of a number of years, the greater volume of gas that passed thro

that line was Ohio gas. That contract expired in 1915. A new contract was made with the Dayton Gas Company, which pro-
1693 vided, as I stated, for the use of West Virginia gas only, and in 1913, in the early part of the year, contracts were made with the Central Indiana and other distributing companies within that state, which provided for West Virginia gas only; and as a matter of fact, for several years past, the only gas that has been passed through that line west from Sugar Grove is gas that has come through the Reserve and Connecting Companies' lines, delivered at Sugar Grove compressing station; with the exception, however, as I have stated, of about two and a quarter million of gas that is produced in the local field. I am speaking of the two and a quarter million as the volume available at this time; it was much greater in years past; in fact, the Sugar Grove field was at the beginning the principal source of supply.

Q. Now, Mr. Whitcomb, give us, if you can, the mileage in Ohio of your transmission lines.

A. As of June 30, the transmission of pipe lines of the Logan Natural Gas & Fuel Company was as follows:

1694 The Logan Natural Gas & Fuel Company.

Ohio and Indiana.

Transmission System Pipe Lines.

4 inch	71.70	miles
5 3/16 inch	8.13	"
5⅝ "	1.38	"
6 "	109.05	"
6⅝ "	2.57	"
8 "	158.61	"
10 "	148.87	"
12 "	130.41	"
16 "	161.76	"
18 "	84.37	"
Total Transmission Pipe Lines	876.82	"

And the production system pipe lines—that is, the field lines—are as follows:

1695 *Production System Pipe Lines.*

4	inch	148.94 mil
4¾	"	.80 "
4⅞	"	.17 "
5 3/16	"	10.65 "
5⅝	"	.61 "
6	"	121.97 "
6⅝	"	18.52 "
8	"	95.54 "
10	"	38.19 "
12	"	64.22 "
16	"	27.62 "
Total Production System Pipe Lines		527.23 "

Q. Now, Mr. Whitcomb, what has your company as to the number of wells, and location, and so on?

A. I have here a statement showing the number of wells drilled and purchased, also the unproductive wells, the total drilled and purchased, the gas wells abandoned and sold, and the total gas wells as of December 31, at the end of each of the ten years, 1910 to 1919 inclusive, which is as follows:

1696 The Logan Natural Gas and Fuel Company.

Gas Well Data.

Year.	Productive gas wells drilled and purchased.	Unproductive wells drilled.	Total wells drilled and purchased.	Gas wells abandoned and sold.	Total gas wells as of Dec. 31.
1910	59	38	97	40	501
1911	64	22	97	70	495
1912	86	27	113	33	548
1913	92	28	120	42	598
1914	74	27	101	53	619
1915	119	27	146	37	701
1916	73	22	75	49	725
1917	100	45	145	79	746
1918	109	36	145	76	779
1919	54	46	100	76	757

Mr. Hoffheimer:

Q. As of what date did you give the pipe lines?

A. December 31. I wish to correct my statement,—I think I said June 30th; it is December 31st.

Q. 1919?
1697 A. 1919.

Mr. Eagleson:

Q. You mean at the end of the ten years or at the end of each year?

A. At the end of each year during the ten year period, 1910 to 1919, inclusive.

Q. What, if any, development have you, by any other subsidiary company, or by any other corporate entity or otherwise, than the Logan Natural Gas & Fuel Company?

A. No gas wells within the State of Ohio, excepting those owned by the Logan Natural Gas & Fuel Company.

Q. That is to say, you do all your developing under the name of the Logan Natural Gas & Fuel Company?

A. We do.

Q. And all of the transmission lines are owned by the Logan Natural Gas & Fuel Company, with but two exceptions?

Mr. Hoffheimer:

Q. Is that the same as to pipe lines?

A. Same as pipe lines, yes. The 10-inch line running from Findlay east to Seneca, near the southwest part of Seneca County, is owned by the Citizens Gas Light & Coke Company, the company distributing and owning the distributing plant at Findlay.
1698 In this connection, I should like to make another correction: I think that yesterday I indicated in my statement that that line was owned by the Logan Natural Gas Company. There is another correction: The line running northeastwardly of 8-inch and 6⅝-inch pipe from Circleville, connecting with 18-inch Sugar Grove-Dayton line at a point near the west line of Fairfield County, belongs to the Buckeye Gas Company. I believe I stated yesterday that that was a Logan line; it belongs to the Buckeye Gas Company, owning the distributing plant at Circleville in Pickaway County.

Mr. Eagleson:

Q. With reference to leaseholds, what is the fact as to whether or not all of the leaseholds taken or held in the interests of any or all of the companies the stock of which is owned by the Union Natural Gas Corporation, are so taken and held by the Logan Natural Gas and Fuel Company?

A. All of the leaseholds within the State of Ohio are first taken in the name of the Logan Natural Gas & Fuel Company, and the rental and royalty charges are paid by that company, but, as I stated, the Preston Oil Company, another underlying company of the
1699 Union Natural Gas Corporation, engaged exclusively in the production of oil and the manufacture of gasoline, has the right to acquire any leases on which oil may be developed by the Logan Company, and a number of leases of that character that have proven oil territory instead of gas, have been transferred to the Pres-

ton Oil Company. The Logan Company, however, does not forfeit its right to drill for gas on any lease, even though it has been transferred.

Q. Mr. Whitcomb, I wish you would go a little further into your relationship, by contract or otherwise, with the Reserve Gas Company, giving it from the earliest connection, and the reasons therefor, and such pertinent information concerning the same as you think proper.

A. The contract to which I referred yesterday, as of date June 20, 1902, having been acquired by Union Natural Gas Corporation from T. N. Barnsdall, on September 23, 1902, was effective during a period of a little over ten years. There were, however, during that period, a number of modifications and supplemental contracts entered into, until it became difficult to interpret the real meaning of the agreements, and on April 11, 1913, the original contract of June 20, 1902, was cancelled and annulled, together with a number of the supplemental contracts that had been made during that period. And a new contract was entered into between the
1700 parties at interest, on April 11, 1913, and it is the contract under which we are operating at this time.

Mr. Hoffheimer:

Q. Mr. Whitcomb, isn't the contract of April 11, 1913, to which you have referred, the same as Pennsylvania Exhibit No. 17, which has already been introduced in evidence, between the Reserve Gas Company, the Union Natural Gas Corporation, the Hope Natural Gas Company, the Connecting Gas Company and T. N. Barnsdall? (Handing copy of contract to witness.)

A. That is the one. The maximum deliveries under that contract contemplated 30,000,000,000 cubic feet per year, of which two-fifths, or 12,000,000,- was for Union Natural Gas Corporation, and Hope Natural Gas was entitled to three-fifths, or 18,000,000,000. The deliveries for the entire period, from 1904 to 1919, inclusive, by Reserve Gas Company to Union Natural Gas Corporation, are as follows:

1701 *Gas Delivered to Logan Natural Gas and Fuel Company by The Reserve Gas Company.*

Year.	Cu. ft.
1904	25,950,000
1905	289,156,000
1906	728,611,000
1907	1,736,293,000
1908	1,664,625,000
1909	2,396,911,000
1910	3,913,905,000
1911	5,149,454,000
1912	6,629,496,000
1913	9,625,476,000
1914	12,380,826,000
1915	11,305,384,000
1916	12,349,786,000
1917	12,810,749,000
1918	12,052,747,000
1919	9,623,343,000
Total	102,682,712,000

The agreement provided that it should be delivered each month on a percentage basis, to conform to the requirements of the domestic consumers during the different periods of the year, and the daily deliveries were fixed to comply with the table of percentages during the different months of the year, and are indicated as follows:

1702 *Amount of Gas The Union Natural Gas Corporation is Entitled to from The Reserve Gas Company on a Twelve-Million Basis per Annum.*

		Per month.	Per day.
January	12½%	1,500,000,000	48,387,000
February	12 "	1,440,000,000	51,428,000
March	11 "	1,320,000,000	42,581,000
April	8½ "	1,020,000,000	34,000,000
May	7½ "	900,000,000	29,032,000
June	4¾ "	570,000,000	19,000,000
July	4½ "	540,000,000	17,420,000
August	4½ "	540,000,000	17,420,000
September	4¾ "	570,000,000	19,000,000
October	7½ "	900,000,000	29,032,000
November	10½ "	1,260,000,000	42,000,000
December	12 "	1,440,000,000	46,451,000
Total	100 "	12,000,000,000	

Q. Now, what is the fact as to whether or not you received each year from the Reserve Gas Company the amount of gas which your contract called for?

A. We have received in some years the amount of gas to which we were entitled, but it was not received during the period
1702-*a* of the year when it was most needed, and in order to get our entire quota or volume of gas, it was necessary, during some of the years, that we take an excess during the summer months. During the years 1914 to 1918, inclusive, we received the full amount to which we were entitled, but as I have stated, we were obliged to take it during the summer months all of those years, with the exception of two, in order to take the full amount to which we were entitled. During the year 1919, however, we were 2,400,000,000, approximately, short of the amount to which we were entitled, by reason of inability of the Reserve Gas Company to make the deliveries. I might explain further, that the period, the year, under the Reserve contract, begins on November 1st and ends on October 31; that it is not the calendar year.

Q. Then there are years under this contract in which you, for the twelve month period you refer to, received the proportionate amount of gas called for by the contract, by reason of the fact that in the summer months you received an excess of gas, and in the winter months less than that called for by the contract?

A. Yes, sir. To illustrate, the month of February——

Q. What year?

A. Feburary, 1920. Under the schedule contained in
1702-*b* the agreement, we were entitled—that is, the Union was entitled—to 49,655,000 cubic feet per day, or a total of 1,439,995,000 for the month. The amount that we actually received during the month of February, 1920, was 828,189,000, and for the twenty-nine day period there was a net deficit of 611,806,000 cubic feet, or 42.5 per cent deficit. Now, if you will take the month of July, 1920, under the schedule of daily deliveries, as indicated by the agreement, Union was entitled to 17,420,000 per day, or a total of 540,020,000 for the month. We actually received during that month 721,371,000, or a net excess for the thirty-one day period of 181,350,000, or 33.6 per cent. excess.

Q. Now you refer to the shortage of supply or deficit of 42.5 per cent, under the contract requirement in February, 1920?

A. Yes, sir.

Q. What effect, if any, did that have on your ability to supply your consumers?

A. We were unable to furnish an adequate supply, and as a matter of fact the consumers, principally at Dayton and all distributing points in Indiana, were nearly out of gas at the time. The same condition prevailed the previous winter.

1703 Q. That would be during the cold periods of the year?

A. During the cold period, yes, sir.

Q. And state, Mr. Whitcomb, whether or not you were restricting your gas supply to any one or more class or classes of consumers, or whether you were trying to supply all demands of all people?

A. We were trying, in so far as possible, to make an equal distribution of the gas.

Q. I don't believe you understand my question. I mean, were

you, during the season of February, 1920, trying to supply both industrial and domestic gas, or were you restricting it to any class of consumers?

A. We hadn't an industrial consumer on our entire system during the period; they were all shut off, for we hadn't an ample supply to meet the needs of the domestics.

Q. During the winter of 1919-20, state whether or not you attempted to supply any industrial gas to your consumers?

A. We did not.

Q. Do you know what time you quit trying to supply them, or shut off the supply to industrial consumers?

A. As near as I can remember, we commenced discontinuing industrials about the 10th or 15th of October.

Q. That would be 1919?

1704 A. 1909, yes.

Q. And state whether or not you kept industrials off your lines entirely during the entire winter season of 1919-20?

A. There were no industrial consumers on our lines during the entire winter season of 1919-20.

Q. Do you have anything to add further to your answer in reference to my question relative to the Reserve Company?

A. Well, I might give you the cost of the Reserve stock.

Q. Go ahead.

A. The investment in stock of Reserve Gas Company and Connecting Gas Company by Union Natural Gas Corporation during the period from December 31, 1902, to December 31, 1914, both years inclusive, amounted to $3,650,000, of which amount $1,250,000 was paid in cash for stock of Reserve Gas Company and 15,000 shares of the par value of $100 per share of the stock of the Union Natural Gas Corporation. And for Connecting Gas Company's stock, $400,000 was paid in cash and 5,000 shares of stock of the par value of $100, in addition to the cash payment. Placing the stock on the par value, the total paid for stock in both Connecting and Reserve Gas Companies was $3,650,000. The Union Natural Gas Corporation paid during the period from the time of issuing the stock—or

1705 exchanging the stock, rather, for the stock of the Reserve and Connecting Gas Companies—dividends on that stock to the total amount of $3,320,000, and the interest on cash payments after that made a total of $4,179,113.74, or a total of $7,829,113.74, from which may be deducted dividends received from the Reserve and Connecting Gas Companies, to the amount of $3,119,840.50, leaving a net cost to Union for stock in Reserve and Connecting Companies of $4,709,273.24.

I wish to state, in connection with the statement just made with reference to the dividends, that the Reserve Gas Company paid no dividends until 1914——

Mr. Weil:

Q. From what year?

A. From the beginning.

Q. That is, what date?
A. Well, I don't recall the date.
Q. Well, the date of your acquisition.
A. Oh, from the date?
Q. From the date of your acquisition.
A. From the day of the organization of the Reserve Gas Company?
Q. Well, that was in 1907? I want to get the year.
1706 A. No, it was organized in 1902.
Q. From 1902, then, until 1914?
A. Until 1914, a period of twelve years.

Mr. Eagleson:

Q. The first twelve years no dividends were paid by the Reserve Gas Company?
A. By the Reserve Gas Company. The Connecting Gas Company, however, commenced paying dividends in 1907, but they were small until 1914, when the larger volume of West Virginia gas was taken through the lines for distribution at Indiana and Dayton. May I make a correction or addition with reference to the Logan contract?
Q. Yes.
A. I stated that the contracts with distributing companies at Dayton and Indiana contemplated the delivery of West Virginia gas only. I neglected to state, however, that the Logan Natural Gas & Fuel Company reserved the right in those contracts to a proportionate amount of that gas for use in their own distributing plants in Central and Northern Ohio, and they have exercised that right during the past year or more, in so far as supplying gas to the City of Newark.
Q. Have you at hand the record of dividends paid and not
1707 paid by the Reserve Company and Connecting Company?
A. I have.
Q. Will you please give it?
A. (Reading):

Dividends Received from Reserve Gas Co. and Connecting Gas Co.

Union Natural Gas Corporation.

	Reserve Gas Co. Per cent.	Reserve Gas Co. Amount.	Connecting Gas Co. Per cent.	Connecting Gas Co. Amount.	Total. Amount.
1907	.....	.....	14½%	$59,788.00	$59,788.00
1908	.....	.....	10½ "	43,302.00	43,302.00
1909	.....	.....	9½ "	38,170.00	39,178.00
1911	.....	.....	8½ "	35,054.00	35,054.00
1912	.....	.....	13 "	53,612.00	53,612.00
1914	17½%	$308,420.00	87 "	427,663.00	736,083.00
1915	13½ "	269,986.50	28 "	181,972.00	451,958.50
1916	16 "	319,984.00	26 "	168,974.00	488,958.00
1917	15 "	299,985.00	15 "	97,485.00	397,470.00
1918	15 "	299,985.00	23 "	149,477.00	449,462.00
1919	15 "	299,985.00	10 "	64,990.00	364,975.00
Total		$1,798,345.50		$1,321,495.00	$3,119,840.50

Q. Now, with reference to the gas under your contract for Dayton and the Western Ohio and Indiana lines, which you
1708 had the right to and did draw from, to supply Newark and perhaps other places, state whether or not, with that, in addition to your supply of gas obtained from the Ohio field, you had an adequate supply of gas during the winter seasons for your domestic consumers?

A. We had not.

Q. Can you give us briefly the extent to which you were unable to supply your domestic consumers, when serving them exclusively in the cold periods?

A. During the winter period, the six months beginning November 1, 1919, and ending April 30, 1920, in the Northern Division of our distributing system—I am speaking now with reference to the distributing plants of all the affiliated companies or underlying companies——

Mr. Blue:

Q. Including the Logan or exclusive of the Logan?

A. All of the companies, including the Logan and all underlying distributing companies of the Union Natural Gas Corporation—that is, I refer at this time to the pressure on the distributing systems of all underlying companies of Union Natural Gas Corporation operating within the State of Ohio, and being supplied by the Logan Natural Gas & Fuel Company, the Logan Natural Gas &
1709 Fuel Company being the producing, transmission and supplying company to all of its own consumers and other underlying companies of the Union Natural Gas Corporation within the State of Ohio.

In the Northern Division of our distributing system, covering the period from November, 1919, to April, 1920, both months inclusive——

Mr. Eagleson:

Q. Describe right there what your Northern Division is.

A. The Northern Division comprises the service of distributing plants, north of Ashland, Mansfield and Bucyrus.

Mr. Blue:

Q. And includes what?

A. And includes principally Elyria and Lorain——

Mr. Eagleson:

Q. The consumers in what counties will be sufficient.

A. And includes consumers in Lorain, Erie, Huron, Seneca, Sandusky, Hancock, Wyandot and Crawford Counties, also Ashland. The pressure of the distributing—or low pressure system in
1710 the Northern Division, during the month of November, 1919, ranged from 2 to 4 ounces—there were 600 hours during that

month that the pressure was within that range. There were 21 hours that it was from 2 ounces to a point near zero. The percentage of 4 ounce and better was 13¾ per cent, 2 to 4 ounces, 83⅓ per cent, and 2 ounce to zero was .21 per cent.

During the month of December, 1919, there were but two hours during the entire period that the pressure was above 4 ounces. There — 430 hours in that time that the pressure was 2 to 4 ounces. And there were 211 hours that the pressure was from 2 ounces to as low as zero. I wish to state that the observations from which the pressure charts are made were taken at 6 a. m., 12 o'clock noon, 6 p. m. and 12 midnight.

In the month of January, 1920, there were no hours, there was no time when the pressure was above 4 ounces. There were 198 hours that it was below 4 ounces and above 2. There were 546 hours that the pressure was from 2 ounces down to as low as zero.

In February, there was no period when the pressure was above 4 ounces. There were 261 hours that it was below 4 ounces and above 2. And there were 435 hours that it was from 2 to zero. Or 37½ per cent of 2 to 4 ounces, and 62½ per cent that it was under 2.

1711 In March there was no time when it was above 4. There were 365 hours that it was below 4 and above 2 ounces; 579 hours that it was less than 2, on down to zero. The percentage of low pressure, or 2 down to zero, was 77 4/5 per cent, and 22½ per cent from 2 to 4 ounces.

In April, there was no period that it was above 4. There were 405 hours of pressure ranging from 2 to 4 ounces, 267 hours that it ranged from zero to 2. The percentage of 4 ounces and above 2 was 60¼ per cent, and 39¾ per cent, 2 ounces and lower.

Now, that is the condition of the Northern Division, as I stated.

Mr. Blue:

Q. Where is the gas produced that furnishes this Northern Division about which you have just been speaking?

A. All within the State of Ohio.

Q. Principally where?

A. Principally from Lorain, Medina, Ashland, Wayne and Richland Counties.

Mr. Eagleson:

Q. Now proceed to your next division.

1712 A. The Central Division comprises the distributing plants located principally in the counties of Richland, Lorain, Morrow, Delaware, Licking and Franklin.

During the period of November, 1919, there were 633 hours in which the average pressure of the low pressure distributing systems was 4 ounces and above. There were 90 hours that it was below 4 and above 2. There was no period that it was below 2.

In December, 1919, there were 40 hours of 4 ounces and over,

592 hours of 2 to 4 ounce pressure, and 112 hours that it was below 2 ounces.

In January, 1920, there was no period that it was above 4 ounces. There were 491 hours that it was from 4 to 2 ounces, and 253 hours from 2 ounces to zero. The percentage of 2 to 4 was 66 per cent, and the percentage of 2 to zero was 34 per cent.

In February, 1920, there were 491 hours that the pressure was from 4 to 2 ounces, 205 hours when it was 2 ounces to zero. The percentage of 2 to 4 ounce pressure being 70½ per cent, and from 2 to zero, 29½ per cent.

In March there was no period that it was above 4. 558 hours from 4 to 2 ounces, 186 hours from 2 ounces to zero, or 75 per cent of 4 to 2 ounce pressure, and 25 per cent of 2 to
1713 zero.

In April there were 474 hours of 4 to 2 ounces, and 246 hours of 2 ounces to zero, or 65 5/6 per cent of 4 ounce pressure, and 14 1/6 per cent of 2 ounce pressure.

Q. Now, where does the gas come from that supplies that division —the middle division, as described?

A. The Middle Division is all supplied from Ohio, but principally from wells in Richland, Knox, Licking, Holmes and Wayne Counties.

Q. Now, your next division.

A. The next division is the Southern Division, comprising the counties of Fairfield, Pickaway, Hocking, Ross and Athens, with its principal supply coming from West Virginia.

During the period of November, 1919, there were 648 hours that it was 4 ounces and above, 72 hours that it was 4 to 2 ounces; or 90 and 10 per cent.

In December, 1919, there were 140 hours of 4 ounces and over, 544 hours of 4 to 2, and 12 hours of 2 to zero; or a percentage of 20.1, 78.1 and 1.8.

In January, 1920, there were 55 hours that it was 4 ounces and over, 663 hours of 2 to 4 ounces, and 26 hours of 2 to zero; with a percentage of 7 1/5, 89 3/5 and 3 1/5.

1714 In February, 1920, there were 45 hours of 4 ounces and above, 642 hours of 2 to 4 ounces, 9 hours of 2 ounces to zero; with a percentage of 7, 91 3/5 and 1 2/5.

March, 1920, 40 hours of 4 ounces and above, 704 hours of 4 to 2 ounces; there was no period when the pressure was below 2 ounces; percentage, 5 1/3 and 94 2/3.

In April, 1920, 50 hours of 4 ounces and above, 670 hours of 2 to 4 ounces, and no period below 2 ounces. Percentage: 6.9 and 93.1.

As I have stated, the pressure on the lower division during the period referred to has been more uniform and higher pressure and a better service than we were enabled to give to the towns in the Central and Northern Divisions. And nearly all this gas, with the exception of approximately two and a quarter millions coming from the local field, was supplied by West Virginia.

Q. What local field?

A. That is, the old Sugar Grove field.
Q. In what counties?
A. Fairfield and Perry Counties.

Q. Now, during the months to which you have just re-
15 ferred, with reference to your Ohio consumers, as found in the three divisions referred to, state whether or not you re limiting your distribution to the class designated as domestic nsumers, and whether or not you were delivering into your lines the available gas possible both from Ohio fields and that obtain-le from the Reserve field in West Virginia?
A. As I have before stated, we had no industrial consumers on r lines during that period. We were using every effort possible render service to the consumers in all portions of the field, and o endeavoring to make as equal a distribution as possible as to essure and volume, to the different cities and towns comprising e system.
Q. Is your system of transportation lines so connected or inter-ated that in case of a shortage of gas from any field that you y have in one of the three divisions, can you transfer gas from ther division to that one, to help out?
A. The transmission—or the main or larger transmission lines s through all the fields. We can regulate the supply by cramp-g the gates against the towns nearest the compressing stations and carrying a larger pressure to the points farthest away. We
16 have some lines through which the gas may be closed, and the gas driven in either direction, though the principal main nk lines running north, the gas flows only in one direction.
Q. Then your pipe line systems in Ohio, as a whole, are one unit, they?
A. Practically one unit; they are all connected.
Q. And the division of your system into the Northern, Central d Southern is for what primary purpose?
A. More for the Operating Department, as a matter of con-nience in classifying data and operations pertaining to the lines, ds and wells.
Q. Your company, in all respects, in Ohio, is subject to and dient to the orders, regulations and rules of the Public Utilities mmission of the State of Ohio, the same as other companies con-ning which testimony has been heretofore given in this case?
A. It is.
Q. Now, Mr. Whitcomb, to what extent has your company's lines en designed and constructed and are being maintained for the rpose of receiving and marketing West Virginia gas?

Mr. Hoffheimer: That question is objected to as calling
17 for an opinion or conclusion of the witness, as incompetent, irrelevant and immaterial; also as repetition.
The Commissioner: Note the objection and take the answer.

A. The construction of the 16-inch line north from Sugar Grove nnecting with the intake of Bangs compressing station in Knox unty, Ohio, was laid exclusively for the use and transportation

of West Virginia gas to our Central and Northern Divisions. Th construction of the 18-inch Sugar Grove–Dayton line, a distance o about 84½ miles to the City of Dayton, with an extension of abou 78 miles of 16-inch line to the City of Muncie, Indiana, togethe with its branch line connections to cities and towns in the Stat of Ohio and the State of Indiana, principally the City of Dayton in Montgomery County, Ohio; the City of Anderson, in Madison County, Indiana; New Castle, in Henry County, Indiana; Rich mond, in Wayne County, Indiana; and Greenville, in Darke County Indiana, was laid particularly for that purpose, and for no other

Mr. Eagleson:

Q. And what other lines or connections or investment o
1718 any kind has been made by your company—or companies as you refer to them—because of the obtaining and market ing of West Virginia gas?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection and take the answer.

A. The Sugar Grove compressing station was installed for th distribution or the compression of gas produced both in Ohio and in West Virginia; at the time of the laying of the 18-inch Sugar Grove-Dayton line, in 1913, the station was very materially increased as to capacity, in order to take care of the increased volume of ga from West Virginia, to drive it on to Dayton and to points in Indiana. We have no other compressing station on that line, distance of approximately 182 miles from the extreme points of th line. The service supplying Chillicothe and Circleville, at the perio of the first installation of this compressing plant, was being supplie from the local fields. Athens, in Athens County, received its supply from lines running south from Sugar Grove, supplying Logan and Athens. After the increased volume was obtained through
1719 the Connecting Company's line, a connection was made from the town of Athens to that line, and the line formerly con necting Athens, running southeastwardly from Sugar Grove wa taken up, removed. There is no other connection to Athens now with the exception of the line from the Connecting Company's lines All of this Sugar Grove Station is used at the present time—or rather, in the winter months, whenever necessary—for West Vir ginia gas, with the exception, however, of about two and a quarte million cubic feet of gas that is produced in the local fields.

Q. What would be the effect upon your distributing system, upon your ability or inability to supply your Ohio and Indiana con sumers, if you were, for any reason, denied gas from West Virginia

A. It would ruin and demoralize the service in our entire South ern Division, with the exception of the two and a quarter million of gas available in local fields. There would be absolutely no ga whatever passing through the line west of Sugar Grove Compressing Station supplying the city of Dayton, the city of Muncie, Richmond New Castle, and other cities and towns in Ohio and Indiana. W

ould have no service whatever, or no supply to deliver to the city
Lancaster, in Fairfield County. The city of Newark, in Licking
unty, would be substantially out of gas, although there is a very
small volume that might be obtained in the local field, but it
20 would be entirely insufficient to meet the needs of the con-
sumers. It would make practically no difference with our
ntral and Northern distributing plants, as the gas supplied to
em is produced wholly in the State of Ohio, and from counties
the northern and north central part of the State.

Q. Now, Mr. Whitcomb, if, for any reason, the gas from West
rginia as received by your companies were to be diverted or re-
ired for use in West Virginia for domestic and industrial uses, or
r the use of the public, or any part of the public, for any use what-
ever, what would be the effect upon your consumers in Ohio and
diana, on your ability to supply them with natural gas?

A. It would cause a shortage of gas to all of the consumers sup-
ied by our lines running west from Sugar Grove, the lines running
rth to Newark and Lancaster, and lines to Circleville, Chillicothe
d Athens, and other smaller places, to the extent of whatever
mount was reduced in deliveries at Sugar Grove. If the volume
ere to entirely cease, or the deliveries, it would mean that prac-
ally all of that service would be out of commission, with the excep-
on of so far as two and a quarter million cubic feet of gas might go
supply a great many thousand consumers.

Q. How far would it go?

A. It wouldn't go any beyond Sugar Grove Station, because we
e not entitled to it. We would supply our own plants there so far
as we could, but I don't think it would be more than one-
21 fifth of the volume required.

Q. What would be the effect upon your distribution system,
d your supply to your company, if, for any reason, the supply
om West Virginia would become intermittent and irregular, some-
mes—to illustrate—coming as it is now under your contract and
en again being substantially denied to you?

A. It would probably result in the loss of all of the service under
e contracts to which I have referred, by reason of being unable to
ve them a continuous supply. They would probably discontinue
e use of natural gas altogether.

Q. What effect would that have upon consumers which your own
mpanies are now supplying with West Virginia gas?

A. They would probably become so dissatisfied with the service
at we would very likely be obliged to discontinue the small service
at we have been able to give.

Q. And what would be the effect upon your domestic consumers
Ohio, and to what extent, if, under the authority of the Act in
ntroversy, the Public Service Commission of West Virginia would,
order or otherwise, cause the diversion of the gas which your
mpany now receives from West Virginia to consumers in West
rginia, to be consumed for domestic and industrial purposes for
e public, or any part of the public, and for all purposes for which
tural gas might be used, in West Virginia?

Mr. Hoffheimer: That is objected to, on the grou
1722 stated in objections to similar questions propounded to o
witnesses.

The Commissioner: Note the objection and take the answer.

A. I assume that, under such condition, we would receive no
at Sugar Grove, which, as I have stated, would demoralize the en
service of our Southern Division and render the investment, li
compressing stations and distributing plants of very little va
The value of large transmission lines at this period is not so g
as it was a few years ago; there is not the demand. I doubt if t
is any of the natural gas fields in the Appalachian District but w
has at least fifty per cent more transportation capacity than
volume of gas which they have to deliver at the present time ne
sitates, and nobody wants to buy big lines, to lay them where t
are not going to get gas, and I don't know where they are goin
get it.

Mr. Eagleson:

Q. What about the expense of taking up pipe lines of the k
you have just been describing?

A. I don't know that I am just prepared at this time to give
an estimate of the cost per mile of lifting those lines.

Q. Do those lines you have been describing extend through a
cultural country, where the surface is valuable, which wo
1723 therefore incur considerable damage to surface land in
removal of those pipes?

A. It would. All of these lines extending west and north fr
Sugar Grove pass through a highly developed agricultural distr
valuable farms, and it would incur considerable damage to rem
them.

Q. Then, under the circumstances which you have described
view of the nature of the territory, the farming vicinities throu
which these lines extend, the cost of labor and other pertinent ite
including transportation, would it or would it not be a question
whether or not you would be justified in attempting to take up th
lines when you no longer have gas to transport through them
they now are?

Mr. Hoffheimer: That is objected to, as calling for an opinion
conclusion of the witness, and as incompetent, irrelevant
immaterial.

The Commissioner: Note the objection.

A. I feel that we would hardly be justified under existing c
ditions to attempt to remove those lines, unless it might be that th
would be a purchaser for the large sized pipe, for which, in
opinion, the chances are very remote at this period.
1724 question of transportation, conveying that line to anot
point, at this period would be almost out of the question.
don't think it could possibly be done.

Summary of Investment for Delivery of Gas from West Virginia.

Pipe Lines to Towns of Other Companies:

Line No.	From—	To—		Physical property.	Overhead charges.	Cost of attaching business.	Total.
E	Sugar Grove	Muncie, Indiana	16 and 18"	$1,996,783.89	$439,292.44	$243,607.63	$2,679,683.96
E-7.	Line E South	Dayton	12"	22,524.66	4,955.43	2,748.01	30,228.10
E-8.	" " "	"	10"	19,404.91	4,269.08	2,367.40	26,041.39
E-9.	" "	Richmond	10"	93,885.11	20,654.73	11,453.98	125,993.82
E-10.	" "	New Castle	8"	82,752.99	18,205.65	10,095.87	111,054.51
E-11.	" "	Anderson	10"	137.354.13	30,217.92	16,757.21	184,329.26
E-12.	" "	"	8"	12,043.61	2,649.50	1,469.32	16,162.52
E-13.	" "	Fairmont	12"	192,202.37	42,284.52	23,448.69	257,935.58
E-14.	" E-13	North of Fairmont	10"	17,699.20	3,893.82	2,159.30	23,752.32
E-17.	" E	Ohio Fuel Company	8"	179.43	39.47	21.89	240.79
E-18.	" E-13	Private Line	10"	69.79	15.35	8.51	93.65
E-5.	" E	Mt. Sterling, Ohio	10 and 12"	14,962.54	3,291.76	1,825.43	20,079.73
E-19.	Sugar Grove Sta.	Line E		991.88	218.22	121.01	1,331.11
E-20.	" " "	" "		991.89	218.22	121.01	1,331.12
		Total		$2,591,846.40	$570,206.20	$316,205.26	$3,478,257.86

1727 Pipe Lines to Own Towns:

Line No.	From—	To—		Physical property.	Overhead charges.	Cost of attaching business.	Total.
E-2.	Line E	Amanda, Ohio	2"	47.64	10.48	5.81	63.93
E-4.	"	Ashville, "	3"	4,391.96	966.23	535.82	5,894.01
E-3.	"	Circleville, Ohio		51,708.16	11.375.80	6,308.40	69,392.36
C	Sugar Grove	Chillicothe	8"	238,828.31	52,542.23	29,137.05	320,507.59
C-2.	Line C	Logan	6 and 8"	52,857.14	11,628.57	6,448.57	70,934.28
C-3.	"	Rockbridge	2 and 3"	548.97	120.77	66.97	736.71
C-4.	"	Laurelville	2"	1,037.25	228.20	126.55	1,392.00
C-5.	"	Adelphia	2"	748.95	164.77	91.37	1,005.09
C-6.	"	Kingston	3"	12,233.80	2,691.44	1,492.52	16,417.76
C-7.	" C-6	Hallsville	2"	30.07	6.62	3.67	40.36
C-8.	" C-2	Logan Regulator		28.15	6.18	3.43	37.76
M	Gloucester	Beaumont	6"	62,245.72	13,694.06	7,593.98	83,533.76
M-2.	Line M	Athens	3"	3,827.82	842.12	466.99	5,136.93
M-3.	"	Chauncey	2"	74.21	16.33	9.06	99.60
A	Sugar Grove	Newark Connection	16"	339,474.41	74,684.37	41,415.88	455,574.66
A-4.	A-6	Newark, Ohio	8"	5,813.19	1,278.90	709.21	7,801.30
A-5.	"	" "	6"	5,215.00	1,147.30	636.23	6,998.53
A-6.	Line A Toward	Newark	10"	33,986.61	7,477.05	4,146.37	45,610.03
		Total		$813,097.36	$178,881.42	$99,197.88	$1,091,176.66
	Sugar Grove Compressing Station			$549,071.00	$120,795.62	$66,986.66	$736,853.28

Q. Can you give us an estimate, or the exact value, of your investments made by reason of the fact that you have received and are receiving West Virginia gas?

Mr. Hoffheimer: That is objected to, as incompetent, irrelevant and immaterial, and as having no bearing upon the issues in this case.

The Commissioner: Note the objection and take the answer.

A. The total investment in pipe lines to towns of other companies is $3,478,250.86; in the pipe lines to our own towns—or, rather, the towns in which we own the distributing plants—$1,091,176.66; in the Sugar Grove Compressing Station, $736,853.28; and in our distributing plants which are distributing West Virginia gas, $1,214,966.28; or a total of $6,521,254.08.

Mr. Eagleson:

Q. Have you made a summary of the cost of your pipe lines to towns of other companies and to your own towns—a summary of investment for delivery of gas from West Virginia, including
1725 physical property, overhead charges, cost of attaching business; distribution plants, covering the same items as mentioned with reference to the pipe lines?

A. I have.

Q. Will you please give it to us?

Mr. Hoffheimer: That is objected to, on the grounds stated in the last objection; and the defendant moves to strike out all testimony of this witness in answer to this and the preceding questions in which it is assumed that the investment was made for the purpose of transporting or supplying West Virginia gas.

The Commissioner: Note the objection and the motion, and take the answer.

A. (Reading:)

(Here follows Summary of Investment for Delivery of Gas from West Virginia, marked pages 1726 and 1727.)

1728

Distribution plants.	Physical property.	Overhead charges.	Cost of attaching business.	Total.
Amanda	$10,328.00	$2,272.16	$1,260.02	$13,860.18
Ashville	11,960.00	2,631.20	1,459.12	16,050.32
Adelphi	5,842.00	1,285.24	712.72	7,839.96
Athens	103,993.00	22,878.46	12,687.15	139,558.61
Chauncey	6,510.00	1,432.20	794.22	8,736.42
Circleville	119,896.00	26,377.12	14,627.30	160,900.42
Chillicothe	179,817.00	39,559.74	21,937.68	241,314.42
Hallsville	3,603.00	792.66	439.57	4,835.23
Kingston	13,323.00	2,931.06	1,625.40	17,879.46
Laurelville	6,540.00	1,438.80	797.88	8,776.68
Logan	46,929.00	10,324.38	5,725.34	62,978.72
Newark	380,266.00	83,658.52	46,392.45	510,316.97
Rockbridge	4,218.00	927.96	514.60	5,660.56
Stoutsville	6,651.00	1,463.22	811.42	8,925.64
Sugar Grove	5,464.00	1,202.08	666.61	7,332.69
Total	$905,340.00	$199,174.80	$110,451.48	$1,214,966.28

1729

Summary.

Lines to Other Co's.	$2,591,846.40	$570,206.20	$316,205.26	$3,478,257.86
Lines to Own Towns	813,097.36	178,881.42	99,197.88	1,091,176.66
Sugar Grove Comp. Sta.	549,071.00	120,795.62	66,986.66	736,853.28
Own Towns	905,340.00	199,174.80	110,451.48	1,214,966.28
Total	$4,859,354.76	$1,069,058.04	$592,841.28	$6,521,254.08

Mr. Eagleson:

Q. Now, Mr. Whitcomb, is this summary which you have just submitted limited to expenditures having to do with West Virginia gas exclusively?

A. As West Virginia gas is used at the present time, with the exception, however, of the distribution of approximately two and a quarter million cubic feet of gas that is produced by the Logan Company in its local fields.

Q. That is, the two and a quarter million cubic feet that you frequently referred to as being down in——

A. Fairfield County, in the Sugar Grove field.

Q. Mr. Whitcomb, you have given us the investment made by your company for the purpose of serving consumers with
1730 West Virginia gas, and the cost of West Virginia gas. Now, I want to ask you: If, for any reason, you were denied a supply of gas from West Virginia, what would be your financial loss because thereof?

Mr. Hoffheimer: That is objected to in so far as the question involves the assumption that the investment was made for the purpose of supplying West Virginia gas or in relation to West Virginia gas; as incompetent, irrelevant and immaterial, and as involving an unjustified conclusion; and in so far as it relates to financial loss, as incompetent, irrelevant and immaterial, and as having no bearing upon the issues in this case.

The Commissioner: Note the objection and let the witness answer.

A. It would be approximately the total value of the compressing plants, pipe lines and distributing systems, less whatever might be obtained in the way of junk value, or if sold as second-hand material, providing a purchaser could be obtained.

Q. You have spoken, Mr. Whitcomb, of consumers of your system being supplied in whole or in part by West Virginia gas,
1731 or what might be designated as the West Virginia end of your business; do you know how many such consumers you have?

A. The total number of consumers supplied by West Virginia gas in cities and towns supplied by Logan Natural Gas & Fuel Company——

Q. That is, both directly and indirectly.

A. Both directly and indirectly—A population of 364,949, of which there are 17,213 domestic consumers, 299 commercial, industrial and miscellaneous, or a total of 17,512 consumers on the lines of the Logan and other affiliated companies' distributing system. In the cities and towns served through other companies, there is a population of 212,620, with 45,250 consumers. This data refers to the State of Ohio. In Indiana there is a population of 89,589, with 19,232 consumers. Or a total population served by Logan Company in both Ohio and Indiana, with West Virginia gas, of 364,949, and 64,994 consumers.

Mr. Eagleson: I offer in evidence Ohio Exhibit No. 10, in connection with the testimony of the witness.

Cross-examination.

Mr. Blue:

Q. Which of the underlying subsidiary distributing companies did the Union Natural Gas Corporation first acquire?

1732 A. The Logan Natural Gas & Fuel Company, the Newark Natural Gas & Fuel Company, the Buckeye Gas Company, and the Athens Gas, Light & Electric Company.

Q. Where was the Logan Company operating at that time, and what line was its operation?

A. Their principal leaseholds and wells and operations were in Fairfield County, Ohio. They were supplying gas to the towns of Logan and Sugar Grove, and an 8-inch line was laid early in that period north to increase the supply and requirements of the city of Newark, in Licking County. There were several other smaller towns in that vicinity, which I do not recall at this time.

Q. For how many years had the Logan Natural Gas Company been operating before your company acquired it?

A. I think they had been operating about four or five years. They were a very small company, with a capital stock of about $40,000. Their service was limited, I believe, to the towns of Logan and Sugar Grove and two or three other smaller places in that vicinity.

Q. How long had the Athens Gas Company been operating before your company acquired it?

A. I don't know, I imagine probably two or three years.

Q. There was a distributing plant as well as a producing field feeding that plant, and along into the Athens Gas Company,

1733 for some time before your company acquired the Athens Gas Company?

A. They had a small line extending into the Logan field, from which they obtained a small volume of gas from what is known as the Berea Sand formation, which was later abandoned, exhausted.

Q. How long had the Newark been operating before you acquired it?

A. I am unable to tell the exact time. I would imagine two or three years, or possibly longer. Their source of supply was obtained in the vicinity of Newark, in Licking County, Ohio. As I recall, they had a line of 4 inches in diameter, that was wholly insufficient to meet the requirements of all of the people in the city of Newark, and, as I have stated, the Logan Company extended their 8-inch line north soon after the Union Natural Gas Corporation acquired the stock in 1902.

Q. But to put it in short and in a question: These underlying companies were both producing and distributing gas throughout all of the counties shown on your map—(Ohio Exhibit No. 10)—for some time prior to the acquisition of them by your company—Is that right?

A. No, it is not.

Q. Wherein is it not right?

1734 A. They didn't extend out of Fairfield and Licking Counties, and Pickaway and Ross. You said all of the counties referred to on our map. They had no lines extending north of Newark.

Q. Well, I think you didn't catch my question. The distributing companies in the Counties of Sandusky, Erie, Lorain, Ashland, Crawford, Marion, Richland, Morrow, Delaware and Licking were all engaged in the gas business, both producing and distributing, before your company acquired them, were they not?

A. They were not. Many of those distributing plants were installed through the Logan Natural Gas & Fuel Company.

Q. Well, to make it clear on the record then: How many of the companies acquired by your company, the Union Natural Gas Corporation, were engaged in the production, transportation and sale of natural gas for some time prior to their acquisition by your company?

A. The Citizens Gas, Light & Coke Company, distributing at Findlay, in Hancock County, Ohio, owned their line, and, if I remember correctly, about fifty wells in the field. They were nearly exhausted, however, at that time. The Marion Gas Company had a natural gas distributing plant which had formerly been supplied by the Northwestern Natural Gas Company, as I remember.

1735 They had a line through northwestern Ohio, with the principal distributing point at Toledo, but their field was practically exhausted. They had no wells of their own. The Citizens Gas Light & Electric Company, owning the distributing plant at Elyria and Lorain, were artificial gas distributing plants; they had no wells or no transmission lines. The Bellevue Gas Company and the Freemont Electric Light & Power Company, located in Sandusky County, Ohio, had no wells, or no field lines. The Freemont had, several years before, been a natural gas distributing plant and, as I recall, was one of the distributing plants of the Northwestern Natural Gas Company, which I have referred to as having lines extending northwest to supply Cleveland. The Newark Natural Gas & Fuel Company was a distributing plant located at Newark, Ohio, and, as I recall, had wells in Licking County in the vicinity of Newark, and I believe had been supplying service to consumers for three or four years, or maybe longer—I am uncertain as to the period. The same condition prevailed as to the Logan Natural Gas & Fuel Company, located at Logan. The Athens Gas Light & Electric Company had a few small wells near the town in what was known as the Berea Sand formation, and, as I remember, a number of 4-inch lines extending from the town connected up to those wells. They were in use I don't know how many years, but some time before its having been

1736 acquired by the Logan Company. The Buckeye Gas Company at Circleville owned its distributing plant, but I don't recall of their having any wells or leases in the field. They were being supplied at the time we purchased—at the time the Union

acquired the interest—by the Logan Natural Gas & Fuel Company. The large number of the distributing plants in the Northern and Central Divisions were installed by Logan Natural Gas & Fuel Company, beginning in June or July, 1902. One of the larger installations was at Mansfield, which at this time is located near the center portion of the Gas-producing area in that section of the State, but up to the time we installed its distributing plant had never had natural gas. And the same condition prevailed with reference to many of these other towns in that section of the State. Tiffin, or, rather, Fostoria, I believe, and Tiffin had for a time a supply that was obtained locally, from the Northwestern Gas Company—I am not certain as to that; in fact, I have no data, only from memory, that would indicate the conditions prior to the acquiring of the stock by Union Natural Gas Corporation.

Q. Just one question, Mr. Whitcomb: The plants acquired by your company were put into operation for the production of gas in Ohio and the distribution of gas produced in Ohio—isn't that right?

A. The plants in the Northern Division were, and in the
1737 Central Division south probably as far as Newark. However, it was contemplated at the time of the purchase of the stock of the four underlying companies in Ohio, about June 1st or 2d, 1902, that West Virginia gas was to be taken to Sugar Grove.

Q. But you haven't answered my question directly. My question was this: Weren't the plants acquired by your company, and the companies owning those plants, organized for the purpose of producing gas in Ohio and distributing gas produced in Ohio, in the localities where they were located?

A. Not altogether, because we contemplated——

Q. I am not asking you about after you got the properties, I am asking you about the properties before you acquired them, and the ownership of the properties before you acquired them.

A. Yes, they were.

Q. They were wholly independent——

A. Yes.

Q. —of looking forward to getting gas from West Virginia?

A. Yes, sir. I didn't understand your question.

A recess was here taken until 1:30 o'clock P. M.

1738 Wednesday Afternoon, September 15, 1920.

And now, the hour of 1:30 P. M. having arrived, parties met pursuant to adjournment.

EUGENE P. WHITCOMB resumes the stand.

Cross-examination (continued).

Mr. Blue:

Q. You have stated on your direct examination the situation of your consumers in the Northern Division of your Union Natural Gas Company, and you have also stated the source of supply for such consumers. Just in a short general way, what proportion of gas do you have and deliver to the consumers of your Northern Division—what proportion of the amount supplied in Ohio?

Mr. Weil: Do you mean including the Southern Division?
Mr. Blue: No, just the Northern.

A. I don't believe I would be able to give you that data without compiling it from our records.

Mr. Weil: Do you mean, what proportion or what amount?
1739 Mr. Blue: I mean, what proportion.

A. I wouldn't attempt to answer the question without getting the data from our records.

Mr. Blue:

Q. The consumers of the Middle and Northern Divisions of your Union Natural Gas Company are furnished with gas produced entirely in the State of Ohio?

A. They are, at the present time.

Q. What proportion of the requirements of your consumers in the Northern and Middle Divisions—I mean, what proportion of the gas requirements in those two divisions does your company furnish to your consumers?

A. I am not able to give you that information without the data from our records.

Q. Do you have enough gas, produced in the State of Ohio, to furnish to your consumers in the Middle and Northern Divisions all their requirements?

A. Not in the winter period.

Q. How much in quantity or in proportion would you say that your company is lacking in its supply of gas in those two divisions, to furnish its consumers?

A. A statement compiled as of September 15, 1919, in-
1740 dicating the requirements of our entire distributing system in Ohio, indicated that the requirements were 72,546,153

cubic feet per day; that we had available for that service 50,782,310 feet; approximately 22,000,000 short of the required amount; that is, daily requirements. That covered the requirements of 84,354 domestic consumers.

Q. Now the figures you have just given relate to your entire system, including the consumers in the State of Indiana?

A. No, not Indiana. This is just Ohio.

Q. Did that include your consumers along the line of the Logan Company, from Sugar Grove west to the Indiana-Ohio line?

A. We have no consumers of our own on the Indiana line, with the exception of the ones supplied from the connection to the 18-inch line west of Sugar Grove, supplying Circleville. It covers all of the other service.

Q. To get at it specifically, what territory or what part of your system is it that you are short 22,000,000 feet a day, in order to give the service and meet the requirements of your customers?

A. In all of the distributing plants owned by the Logan Natural Gas & Fuel Company and others of the underlying companies of the Union Natural Gas Corporation, located within the State of Ohio.

Q. Is that 22,000,000 feet shortage inclusive or exclusive
1741 of gas that you get from West Virginia? In other words, is the gas that you get from West Virginia included in the figures from which you reach the conclusion that you are 22,000,000 feet short daily?

A. Yes, it includes some West Virginia gas, in so far as they supply Newark.

Q. How much of the West Virginia gas is included in the figures from which you reach the conclusion that there is a shortage of 22,000,000 feet daily?

A. I am unable to answer the question without the data from our records.

Q. Can you approximate it?

A. I could only make a guess of three to five million a day. I don't know whether that is correct or not.

Q. Guessing at it, taking that, and for the purposes of the question then, you are using what gas you get from West Virginia—about three to five million feet daily—which you take through the line running north out of Sugar Grove?

A. Yes, and in addition to that the distribution plants at Circleville, Chillicothe and Athens.

Q. Did Chillicothe have a gas service before your company acquired the several underlying companies now owned by it?
1742 A. I believe it had a service from the local natural gas from Chillicothe; I am not sure as to the extent of the amount.

Q. Circleville had the same?

A. We are speaking of Circleville.

Q. I was asking about Chillicothe.

A. I don't recall that Chillicothe had any service of natural gas. It may have had; I am not familiar with conditions prior to the purchase of the stock by the Union Natural Gas Corporation.

Q. To make it clear, if it has not been made clear, what communities were the Logan Natural Gas & Fuel Company serving at the time you acquired it?

A. The town of Logan, Sugar Grove, I think it had a line to Nelsonville south of Sugar Grove, and Rockbridge, and one or two smaller places in that locality.

Q. And it was getting its gas from the wells in Ohio and none from West Virginia?

A. None from West Virginia at that time; principally from Fairfield County, in Ohio.

Q. In fact, when you acquired all of those underlying companies in the communities being served, all of them and each of them was being served wholly with gas produced and transported and distributed in the State of Ohio?

1743 A. Wherever service was being given them, it was all produced in the State of Ohio at the time we acquired the companies. I am speaking of the four companies that were acquired in June, 1902.

Q. Now, going back over your statement, your underlying companies or your Union Natural Gas Corporation, whichever way you may want to state it, is short approximately 22,000,000 feet of gas daily in meeting the requirements of your consumers in the State of Ohio?

A. This is an estimate prepared as of September 15, 1919, and that was the condition as of that date, as applied to domestic consumers only.

Q. What have you to say as to your industrial consumers, if you have any, as to the quantity you are short in supplying your industrial as well as your domestic consumers?

A. We are carrying no industrial consumers during the six winter months or the winter period. We supply gas to a number of industrial consumers during the summer months when we have a surplus available for that purpose.

Q. Can you state the quantity of gas, during the last year,—say for the calendar year ending December 31, 1919,—that your company furnished to industrial consumers in the State of Ohio

1744 and the State of Indiana, if you furnished any in the latter state?

A. I am unable to state the amount furnished in Indiana. We supplied the gas at wholesale at those plants.

Q. Part of that gas so supplied and distributed in Indiana is used for industrial purposes, is it not?

A. I am not sure as to that. A portion of it is, I believe.

Q. However, will you now give us the amount of gas consumed by industrial consumers in the State of Ohio—that is, all gas that you produce in Ohio?

A. I have a statement showing the distribution of gas furnished direct to consumers and classified as to domestic and commercial, industrial and other consumers, by years, covering the period 1910 to 1919, inclusive, which is as follows:

1745 *The Logan Natural Gas and Fuel Company Gas Sales.*

Furnished Direct to Consumers.

Domestic Consumption.

Year.	Number consumers.	Average M cu. ft. per consumer.	Total M cu. ft.	Per cent.
1910	63,027	111.3	7,014,026	.5833
1911	64,588	105.2	6,796,025	.6077
1912	69,168	110	7,608,030	.5009
1913	74,354	103.2	7,607,602	.4873
1914	74,268	106.8	7,931,181	.4997
1915	76,437	104.2	7,964,715	.5697
1916	80,482	107.5	8,650,950	.5418
1917	82,725	124.2	10,275,363	.6341
1918	83,306	112.2	9,344,203	.6785
1919	85,832	103.6	8,895,399	.6618

1746 Commercial, Industrial and Other Consumption.

Year.	Number consumers.	Average M cu. ft. per consumer.	Total M cu. ft.	Per cent.
1910	2,226	2,250.7	5,010,001	.4167
1911	2,029	3.248	6,590,139	.4923
1912	2,074	3,655.7	7,581,975	.4991
1913	2,388	3,351.1	8,002,544	.5127
1914	2,696	2,945.1	7,940,097	.5003
1915	2,627	2,289.8	6,015,231	.4303
1916	1,640	5,461.1	7,316,271	.4582
1917	1,873	3,165	5,928,056	.3659
1918	1,602	2,751.3	4,427,557	.3215
1919	1,628	2,791.8	4,545,050	.3382

1747 Total Consumption.

Year.	Number consumers.	Total M cu. ft.	Furnished to other companies M cu. ft. Ohio and Indiana.	Grand total furnished M cu. ft.
1910....	65,253	12,024,027	3,783,432	15,807,459
1911....	66,617	13,386,164	3,537,558	16,923,722
1912....	71,242	15,190,005	4,181,889	19,371,894
1913....	76,742	15,610,146	4,333,130	19,943,276
1914....	76,964	15,871,278	6,268,065	22,139,343
1915....	79,064	13,979,946	6,363,556	20,343,502
1916....	82,122	15,967,221	8,476,395	24,443,616
1917....	84,598	16,203,419	10,891,841	27,095,260
1918....	84,908	13,771,760	8,981,685	22,753,445
1919....	87,460	13,440,449	8,112,315	21,552,764

Q. To get into the record specifically and in one place for convenience, as I understand, the table you furnish, it shows something to this effect: Among other things, that you furnish to domestic consumers 8,895,399,000 cubic feet, to commercial, industrial and other consumption, 4,545,050,000 feet, and to other companies in
1748 Ohio and Indiana, 8,112,315,000 cubic feet, a grand total of 21,552,764,000, the figures used being for the year 1919. Is such understanding of your statement correct?

A. It is.

Q. How much of the 4,545,050,000 feet would you say was used in the year 1919, for industrial purposes, using that word "industrial" independently of the service to commercial and other consumption?

A. I am unable to answer that, although the term "Commercial and other consumption" is largely industrial. It may include many small consumers, such as bakeries, greenhouses and public buildings, which are classed and termed "commercial consumers."

Q. To what companies does your statement refer, under the heading of "Amounts furnished to other Companies in Ohio and Indiana"?

A. It refers to gas for which the Logan Natural Gas & Fuel Company, or other underlying companies of the Union Natural Gas Corporation, do not own the distributing system.

Q. Where was the 21,552,764,000 cubic feet of gas produced?

A. In Ohio and West Virginia.

1749 Q. The quantities then that you procured from the Reserve or through the Connecting Company is included in that amount?

A. It is.

Q. From the figures you have given, you have an approximate shortage of 30 per cent of the requirements of your consumers. How long has that condition existed?

A. Approximately for a period of the past three years. It may vary some from that—more or less, during the different winter periods of the past three years.

Q. What brought about that condition?

A. The decline in the fields.

Q. Decline in what fields?

A. In Ohio and West Virginia.

Q. Wherein have you been affected by a decline in the field of West Virginia, and to what extent?

A. In the winter months for the past three winters or more, we have been unable to get the total amount under our contract, by reason of their inability to supply it.

Q. Why is that inability to supply you gas from the West Virginia field?

A. They haven't sufficient volume. There was a decline in rock pressure; the transmission lines and compressing power was
1750 there to handle it, but they hadn't the volume of gas.

Q. Has that been brought about through natural causes?

A. It has been brought about by its use through our lines and

the lines of the Hope Natural Gas and other companies. That
the natural decline and depletion of the field.

Q. That shortage then to you from the West Virginia fields h
come about from the natural decline of the gas in the West Vi
ginia field?

A. It has—and in the Ohio fields.

Q. Has that decline in the fields of West Virginia been peculia
or has there been any unusual experience of those engaged in t
gas business?

A. It has not; it has been the inevitable result in all gas fiel
of which I have any knowledge.

Q. Now, with this 22,000,000 foot daily shortage of your requir
ments, how much of your 22,000,000 feet shortage is reflected
the shortage of gas from the West Virginia fields?

A. I don't think I am prepared to answer that. It would probab
be in the same proportion as the whole volume of gas bears to t
West Virginia field—that is, Ohio and West Virginia combined.

Q. What is that proportion, from your knowledge of t
1751 quantity produced and purchased?

A. Well, in the year 1919, the Reserve Gas Company we
short in their deliveries to the Union Natural Gas Corporation
about 2,400,000,000. For four or five years previous to that, th
had been delivering approximately the entire amount of gas und
their contract. This would indicate that approximately 22½ p
cent is the decline from the amount to which we are entitled.

Q. Where is the most acute shortage for your supply, for yo
consumers, I mean? Where is the most acute situation for yo
consumers, in respect of their requirements?

A. For the last three winters, the most acute condition has be
in the Northern Division, principally at the extreme ends of t
long lines in towns such as Fremont, Fostoria, Tiffin, Findla
Elyria, and Lorain, all located in the Northern Division.

Q. Do they get their supply of gas entirely from the gas fiel
of Ohio?

A. They have for the past three or four years. Previous to th
time, they were getting some West Virginia gas.

Q. But the acute situation that your company faces is in respe
to its consumers in the Northern Division supplied entire
1752 for the last two or three years by gas from the fields of Ohi

A. It is; the same condition, however, has prevailed wi
reference to the shortage in Indiana, at Dayton and other poin
along the Sugar Grove-Dayton-Indiana transmission lines delive
ing West Virginia gas.

Q. What is the situation with respect to the Middle Division
your Union Natural Gas Corporation? How does it compare wi
the situation in the Northern and Southern Divisions?

A. There has not been such a marked shortage in the Midd
Division as there has been in the north, due largely to the fact th
they are located close to the local supply in the Ohio field.

Q. How does the Middle Division of your field, as to its situatio
with its consumers, compare with the Southern Division?

A. During the winter period last past, the Southern Division di

not experience the extreme or acute conditions that prevailed in either of the two northerly divisions.

Q. Both of which divisions, the Northern and the Middle, depend upon the gas as you take it entirely from the field in Ohio?

A. Yes.

1753 Q. Your lines are so connected that you can use the West Virginia gas and deliver it to the consumers in the Middle Division and also to consumers in the Northern Division. Is that right?

A. That is right, if we have sufficient volume to deliver to them.

Q. Why didn't you use some of this gas from the fields of West Virginia to relieve that acute situation in the Middle and Northern Divisions?

A. For the reason that an even worse condition prevailed in the distributing plants of the Central Indiana Gas Company and of the Dayton Gas Company and other distributors of the West Virginia gas, taking their supply off from the Logan Natural Gas & Fuel Company's main transmission lines, and any extension was inadvisable. There was a more acute condition prevailing in many of the Indiana towns than there was in the towns of Ohio, and in fact they have found it necessary to discontinue the strictly natural gas service, and are using a portion of the natural gas for a mixed product, and I am informed that some of their towns are off the lines altogether.

Q. I understood you to say a moment ago that the situation was more acute in your Northern and Middle Divisions than in your Southern Division during the winter to which you

1754 referred.

A. It is. The Indiana and Western Ohio and Dayton locality is not in either one of those divisions. We are the wholesalers of the gas to the distributors and the classifications by the three divisions, Northern, Central and Southern, applies only to the Ohio fields of the Logan Natural Gas & Fuel Company and other underlying companies, and does not cover any of the distributors that we are supplying wholesale.

Q. Do those distributors that you are supplying by wholesale have a right by contract to the West Virginia gas?

A. They have, and they have no right to any other gas. They have no right to Ohio gas under their contracts.

Q. Who are the parties to that contract?

A. There are a number of contracts all made by the Logan Natural Gas & Fuel Company with different distributing companies or interests.

Q. Will you please state the names of the contracting parties to those contracts?

A. The Central Indiana Gas Company, located at Muncie, Indiana, the Dayton Gas Company, of Dayton, Ohio, the Richmond Light, Heat & Power Company—I think that is the correct name—owning a distributing plant at Richmond, Indiana, and the Interstate Public Service Corporation, owning a distributing plant

1755 at New Castle, Indiana, and the Jantha Light, Heat & Fuel Company, owning a number of small distributing plants in

the Western part of the State of Ohio, including Greenville, Eaton, and eight or ten other small places, and the Lynn Gas Company, owning a distributing plant at Lynn, Indiana.

Q. Those contracts were severally made by the Logan Company with the several companies named by you?

A. They were.

Q. About when?

A. Nearly all of them were made during the year 1913.

Q. And do they in express terms provide that the gas to be delivered by the Logan Natural Gas & Fuel Company is to be gas from West Virginia?

A. They do.

Q. Do those contracts forbid the Logan Natural Gas & Fuel Company and your company, the Union Natural Gas Corporation, delivering any of the West Virginia gas into the central or middle and northern divisions of your territory?

A. They do not; in fact, they recite the fact that the Logan Natural Gas & Fuel Company owns distributing plants of its own in the State of Ohio, and in the event of the diminution of
1756 supply, are entitled to a proportionate part of the gas.

Q. Do those contracts, on the other hand, forbid the Logan Natural Gas & Fuel Company, or provide that the Logan Natural Gas & Fuel Company shall not be required to deliver any gas under the contracts, when the gas is produced in the State of Ohio?

A. They do not, and as a matter of fact we have at different times turned Ohio gas into the Indiana state line at Sugar Grove station, to meet the peak load requirements under emergency conditions, although that condition has not prevailed during the past one or two years.

Q. Is there any provision in those contracts between the Logan Natural Gas & Fuel Company and the several distributing companies named by you, with respect to the distribution of gas as among themselves, or the right of priority in case of shortage?

A. There is no right of priority. I believe that there is a provision that there will be an equal distribution so far as it is in our power to bring that about. That is, of course, based upon the number of their domestic consumers.

Q. On your direct examination, you said something to the effect that no gas other than West Virginia gas should be delivered either to or by the Logan Natural Gas & Fuel Company. We are not sure which you said, or just what you meant by that state-
1757 ment. I wish you would make it clear just what you had in mind when you made the statement to that effect?

A. I recall having made a statement to the effect that in the event of the discontinuance of the supply of West Virginia gas at Sugar Grove, that the Logan Natural Gas & Fuel Company would deliver no gas through the Sugar Grove-Dayton-Indiana line; that there would be no gas available for that service.

Q. You mean by that statement that in the event the Logan Natural Gas & Fuel Company, or your Union Natural Gas Corporation receives no gas from West Virginia, that then your gas in Ohio

hall not be required to be delivered for transportation to the lines
vest of the Sugar Grove station?

A. No, it would not; we would not have a sufficient volume of
as in Ohio to meet the requirements or wants of our consumers.
n the Southern Division, many of those distributing plants would
ecessarily be entirely deprived of a natural gas service. As I have
tated, there is approximately only two and a quarter millions of gas
vailable for that entire system, if West Virginia gas would be
iscontinued.

Q. Are you able to furnish to the several companies the
758 amounts contracted for delivery to them by the Logan
Natural Gas & Fuel Company? I mean, the companies that
ou named, to whom you agreed to deliver gas west of Sugar Grove?

A. We are not and have not been for the past four or five years.
)ur contract with the City of Dayton contemplates a sufficient
olume for universal service, and we have been unable to give them
n adequate supply. In fact, there has been a great shortage in
)ayton during the past.

Q. How much is that shortage from the amount that you agreed
o supply?

A. Well, I estimate their requirements at approximately thirty to
hirty-five million cubic feet a day, to meet their full requirements.

Q. That would mean how much a year that you are short?

A. I am speaking of the peak load condition during the winter
ervice. That condition might not prevail all the time. That would
ndicate, on the basis of a requirement of 35,000,00 cubic feet a day
nder peak load conditions, a volume of 1,260,000,000 for the year,
hich is largely in excess of the amount required; 35,000,000 a day
s so in excess of the average amount that they would need for the
entire year.

759 Q. How much are you short in Dayton, would you say,
based upon your experience, for a year's deliveries, which you
ught to deliver but do not deliver?

A. We have thought that Dayton could get along fairly well with
enty-five to twenty-eight million cubic feet a day in the extremely
)ld weather. The average maximum which we have been able to
eliver to them in the past three or four winters has rarely exceeded
4,000,000.

Q. You never did have enough gas to supply Dayton under their
ntract conditions?

A. Yes, we had it. They had put about 11,000 artificial gas con-
mers on, and they were not prepared to receive the full volume of
s at the time when we had it to deliver to them.

Q. That was not within the last three or four years?

A. No.

Q. Within the last three or four years you have not had enough
s to furnish Dayton with its requirements?

A. We have not had enough to furnish gas for the requirements
any of our distributors along that line in the past three or four
ars.

Q. How did that come about?

A. We were unable to get the volume of gas in the wint
1760 months that we had in years before, and the natural grow
of cities and towns and converting of a number of artifici
gas consumers to the use of natural gas, all within a period of
year and a half, in the City of Dayton, and the same condition pr
vailing in the distributing plants of the Indiana companies, broug
about that condition.

Q. You mean these thousands of artificial gas users turned natur
gas into their houses, instead of using artificial gas?

A. Yes; and not only that, there was a campaign inaugurat
throughout that section four or five years ago, in an effort to i
crease the service and induce the consumers to instal furnaces, an
a great many gas heating furnaces were put on in Dayton and a gre
many distributing plants along that line, which brought about th
change in condition.

Q. You have always been short and you are short now, in furnis
ing your quota of gas to Richmond, New Castle and the other town
named in your contracts?

A. No; from 1913 to 1917, we had an ample supply to meet the
full requirements.

Q. What brought about the changed conditions, so that they b
came short of gas?

1761 A. Increased number of consumers and depletion of th
field.

Q. Then you have this sort of a situation on hand: The numb
of your consumers has been increased at a time when your suppl
has been decreasing. Is that right?

A. That is correct.

Q. And that has brought about this situation that you refer to?

A. It has.

Q. Now there is no remedy known to you, and to the men engage
in the gas business, to overcome this natural decline in the g
supply, is there?

A. Not unless we may develop new fields. The number of co
sumers may be lessened. The Central Indiana Company, whic
during the winter period of 1913-14 and 1914-15 and 1915-16 we
supplying all of their consumers with their full requirements, ha
since converted a number of their distributing plants to the use of
mixed gas.

Q. Now, taking up your answer, let me ask you, is your compan
trying to find new gas fields?

A. We are using every means and every effort to locate or develo
new fields within the State of Ohio. We are at the present tim
running all the tools that we own, so far as we are able to obtai
drillers and tool dressers to operate them. There is hardl
1762 a period in the year that we are not operating in undevelope
territory, in hopes of finding a new source of supply. Th
same condition prevails in West Virginia with the Reserve Gas Com
pany. A large acreage was taken up and some deep wells drille
in that country, but with no success, and the leases have since bee
abandoned and surrendered. The Logan Natural Gas and Fu

Company at the present time is carrying approximately 550,000 acres of undeveloped leaseholds within the State of Ohio, and we are constantly endeavoring to find a new source of supply. Last year, in our efforts to do so, we drilled, I think, forty-five dry holes. I may not be correct as to that number.

Q. Now, with all of your efforts and the efforts of those engaged in the gas business, isn't it your experience and your knowledge, and the experience of others, that the decline in the supply of natural gas is greater than the amounts you are finding *is greater than the amounts you are finding* in your new explorations?

A. Well, I don't know that it is greater, but it is probably equal to the increased supply.

Q. Well, take the State of Ohio. Isn't it true that the
1763 natural decline in your supply of gas is greater than the quantity that you are finding in your new explorations?

A. That is true, and will apply to certain periods of the years during the term of our operations in Ohio; but there have been times that we have met with success and developed new fields that the new volume of gas was largely in excess of the decline in the old fields.

Q. Was the total production for Ohio last year—that is, for the Calendar year ending December 31, 1919, greater or less than the production for the preceding year?

A. I am unable to answer that question only so far as it relates to our own company.

Q. As to your own company, what is your experience?

A. Very little change.

Q. So far as that change was, whatever it was, was it a decrease in the supply or an increase?

A. I think there was a slight decrease, although at the present time the volume of gas produced by new wells, or rather the new gas developed by new wells, is somewhat in excess of the operations of last year at this period of the year.

Q. Is it not true that you and others engaged in the gas business of Ohio recognize that the demand upon the supply in the state is very much greater than the supply?

A. It is.

1764 Q. Do you not further recognize that the supply of that state is of very limited duration?

A. We feel that that is true.

Q. And that the gas in Ohio is being rapidly exhausted, and will within a short time be completely so?

A. Well, I am unprepared to express an opinion. I have had experience with some of the older fields that continued producing for many years after the first decline was noticeable. I refer more particularly to some of the older fields in Pennsylvania, where we have wells on the line at the present time that have been in continuous service for upwards of twenty-five years. It was noticeable fifteen years ago that there was a decline both in volume and rock pressure. The wells, of course, are very small and it would not pay to drill for such wells at the present cost of material and labor.

Q. Take the fields in the northern part of Ohio, up in your northern division. Are they not about exhausted?

A. In some portions of the Northern Division, particularly the development west of Cleveland that was drilled three or four years ago, there is, I am told, indications that it is very nearly exhausted. The wells were drilled very close together, and a great number of them on a small area, although the wells of our company in the northern part of the state, in the Dover district—approxi-
1765 mately fifteen or twenty miles west of the West Park district of Cleveland—have been in use for five or six years, or longer. They are not drilled so close together as the development west of Cleveland, and the decline has not been so rapid. The wells owned by our interests nearest exhausted, many of them having been already pulled out, are located principally in the old Sugar Grove field, that is, in Fairfield, and the southerly part of Licking County, Ohio, and many of the wells in the southern part of Knox and northern part of Licking Counties which have been exhausted have been abandoned. The wells in the northern part of the state, owned by our company—principally in Ashland, Richland, Lorain, Wayne and Holmes Counties, are comparatively new wells and that at the present time is our principal source of supply from the Ohio wells.

Q. What part of the demand of your consumers, in your Northern Division, where you say the shortage is most acute, does your company supply to your consumers?

A. I don't think I understand the question.

Q. I will ask it this way: You have stated that the most acute situation is in the Northern District; you have further stated that approximately the figures show that you are short about 30
1766 per cent in furnishing the requirement of your consumers. Localizing it, what part of your consumers is your company supplying in the Northern Division?

A. Well, we are meeting their full requirements in the summer months or the warmer periods, but we are unable to do so in the winter periods.

Q. Now, if there is the gas to supply your consumers in the state of Ohio, why doesn't your company do sufficient drilling to have a supply, so that the requirements of your consumers will be met?

A. As I have stated, we are running all the tools available. Or rather, we are unable to get sufficient labor, such as drillers and tool dressers, to run our entire equipment, although we are running at the present time approximately twenty-five strings of tools.

Q. Well, is the gas there, if you are able to run enough strings of tools, so as to enable you to furnish your consumers with the required amount of gas?

A. I don't believe it is. We have nearly exhausted our efforts in the past of finding it, and unless it may prevail in some portion of the undeveloped territory, (and as I have stated, we are constantly drilling in undeveloped territory—wildcat wells, as they term it)

it is about exhausted. It is the exception when we don't find
67 a dry hole or a well so small that it is unprofitable to connect up with the lines.

Q. Now, finding these dry holes and these small wells indicates your mind as a practical man in the gas business, that the supply gas is nearing its exhaustion; is that right?

A. I believe it is.

Mr. Eagleson: May I suggest that in this connection the witness ght state the cost of the drilling of a well.

The Witness:

A. As of 1910, during that period, a deep well in the Clinton d cost approximately $5,500 to $6,500, shot, tubed and connected the line. At the present time, it costs all the way from $12,000 $15,000, due to the increased cost of material and labor. During early period, one well would produce as great a volume of gas three do at the present time, and at more than double the cost of lling. It is equivalent to drilling six wells to get the produc- of one, as compared with the period six to ten years ago. I think there is no denying the fact that there is ample evi-
8 dence of a decline in all of the known fields. It looks as though we were nearing the end of it. There may be some e in conservation, but I feel that the beginning of the end is in t.

Mr. Blue:

. Are you acquainted, or were you acquainted, with the gas fields ndiana, when Indiana had gas fields?

. I have no knowledge of conditions in Indiana, other than n that field became exhausted we bought some secondhand pipe.

. What I had in mind, in asking you that question was: There a time when Indiana had large producing gas fields, but which s now are and have been for some years exhausted?

. That is the fact. The same condition prevailed in north- ern Ohio, and there was an enormous volume of gas produced lenry, Wood and some of the other counties in that section of tate that are entirely exhausted now. There is no gas produced at section of the state that I know of at this time from the lime- formation.

Were any of those cities, Anderson and others stated by you during your examination, formerly supplied by gas produced in Indiana?

A. They were.

And all of which is now exhausted, or substantially so?

Substantially that is true.

Isn't that the same condition that is confronting you in the of Ohio?

It is, though it may be prolonged for a number of years by r conservation of the supply.

Q. The same condition is bound to arise in every gas field that is drilled and developed, is it not?

A. I believe so.

Q. Can you state the number or approximate number of additional consumers that your contracts made in the name of the Logan Natural Gas & Fuel Company, with the several wholesale or distributing companies added to your previous number of consumers?

A. You mean, including the City of Dayton?

Q. Yes, including the City of Dayton and the towns and cities of Indiana?

A. I would say approximately sixty to seventy-five thousand.

Q. The consumers added to your then existing consumers by the contracts with the Logan Natural Gal & Fuel Company and
1770 wholesalers and distributors are not included in the number of consumers set forth in your statement beginning 1910 and running to 1919, are they?

A. No, it only applies to consumers on the lines of the distributing plants not owned by underlying interests of the Union Natural Gas Corporation.

Q. The consumers in the State of Ohio of your company increased by reason of your reaching out and taking in territory and getting new consumers on the line for the consumption of gas?

A. It did, during the construction period, or rather during the period of the extension of our lines north in the State of Ohio, up to about 1908 or 1910, and the increase from that period to the present time is wholly due, in our own distributing divisions, to the natural growth of the cities and towns. The natural growth is approximately equivalent to taking on a new town of ten to fifteen thousand inhabitants each year.

Q. In some of those cities and towns the people have been using artificial gas, as we understand it, prior to dropping the artificial gas and putting in your natural gas?

A. They have.

Q. In view of the answers that you have given in your examination, I will ask you what your company will do, or can do,
1771 with its gas lines and its plants for distribution, when the supply of natural gas, through natural decline, has become exhausted?

A. I have not at this time fully determined what we will do in that respect, though we have thought that the time is near at hand when we should give serious consideration to the installation of plants to produce a mixed gas, to utilize the richer mixture of the natural with an artificial product before its final exhaustion, and be enabled to supply to consumers that product at probably a considerably increased price—at a price that would justify its use for cooking and lighting purposes.

Q. You mean, the manufacture of gas from coal and the mingling of such manufactured gas with natural gas, so long as the natural gas will last?

A. Yes, I do.

Q. Thereby making a combination of the artificial with the natural gas, so long as the natural gas supply will permit you to do that?
A. Yes.
Q. Then after the natural gas supply has ceased, what have you contemplated?
A. We have not thought quite that far. Still, probably
1772 it would result in resorting to a strictly artificial distribution and manufacture, unless in the meantime some method were discovered or invented that something might be substituted or a mixed or artificial gas produced at a less cost than at the present time.

Redirect examination.

Mr. Eagleson:

Q. Mr. Whitcomb, what is the policy of your company at the present time, or in the immediate past, with reference to extending its operations by the taking on of new municipalities or districts or, on the contrary, are you disposed to eliminate those you have, who have contracted for your service?
A. During several years past, we have taken on no additional service, and in fact we have used every possible means to restrict the service to the consumers, on the lines, and to avoid as far as possible making extensions in the cities and towns in which we are supplying gas, even though the franchises provided that extensions should be made. We have tried to convice the people that it was much better
1773 to give a fairly good service to a smaller number; that every new consumer that was taken on to the lines reduced the volume of gas to the others, and the result was a poor service to all.

Mr. Blue:

Q. On your cross-examination, when asked to give the shortage in the quantities of gas, you first stated the daily shortage, and then when asked to give the quantity for a year, you stated it was 1,260,000,000. Were you not in error in making that statement, and ought it not to be 10,260,000,000?
A. That is correct. Yes, it was an error, and it should have been 10,260,000,000. The 35,000,000 a day, however, was not an average daily consumption. That was, in my opinion, a peak load requirement for one single day. It might have prevailed continuously for even five or ten days, but it is not in any way indicative of the requirements for the twelve-month period. In fact, it is away in excess of that.
Q. But your supply of gas has been materially inadequate for the city of Dayton for the last four or five years, at least?
A. Well, I would say for the last three or four years.
Q. On your redirect examination you stated that you had sought to limit your service. Have you withdrawn or attempted
1774 to withdraw your service from any of the communities in the state of Ohio?
A. We did, in one instance, the town of Athens, in Athens County.

The franchise and the rate ordinance had both expired, and we petitioned the Public Service Commission that we might withdraw that service.

Q. Athens was one of the communities and municipalities served with gas by a company acquired by you in 1902?

A. It was.

Q. It is at Athens that you have one of the largest state institutions in Ohio?

A. Yes.

Q. The Ohio University is at Athens?

A. I don't recall that. There is an asylum there that I had in mind. I believe there is a university there. I believe the Ohio University is there.

Q. One of the oldest and one of the largest attended educational institutions in the state?

A. Yes, I believe so.

Q. Your company has been furnishing gas to both of those state institutions at Athens, namely, the Ohio University and the Hospital for Epileptics or insane or whatever it may be, has it not?

1775 A. It has.

Q. Your distribution of gas at Athens is a distribution of West Virginia gas received through the Connecting Company?

A. It is.

Q. You stated that you made application for permission to withdraw?

A. We did.

Q. You may state what was the result of that application?

A. We compromised and agreed not to withdraw. The service is being continued at Athens at the present time. We would have been glad to have withdrawn from a number of other cities and towns, but Athens was so located geographically and their franchise and rate ordinance having expired, and they being in the heart of the soft coal district, we felt that they would be put to less inconvenience than many of the towns in northern Ohio, where the fuel supply is not so convenient as at Athens.

Q. What sort of a compromise did you make?

A. We agreed to continue the service.

Q. For what purpose or use is gas furnished to the state institutions at Athens by your company?

A. I don't know the detail of the service for that use,

1776 though at one time I recall it was used for heating boilers and other purposes, but I am not familiar with the purpose for which it is used in the last few years.

Q. Has your company, in its desire to contract its service, withdrawn from other localities or communities, or sought to do so?

A. We have not. We have contemplated it and would be, as I have said, very glad to do so, if we were permitted.

Q. You mean, if the Public Service Commission of the state would allow you to do so?

A. Yes, sir.

Q. Is the investment in the Preston Oil Company included in

statement of investments of the Union Natural Gas Corporation?
A. It is; that is, in their consolidated balance sheet, a statement all of the underlying companies is included.
Q. To make it clear, I will ask you one more question. The eston Oil Company is one of the subsidiaries of the Union Natural s Corporation?
A. It is.
Q. Being its oil producing department?
A. And gasoline.

Adjourned to Thursday, September 16, 1920, at 10 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Thursday, September 16, 1920.

1777 And now, September 16, 1920, the hour of 10 o'clock A. M. having arrived, hearing resumed.

Present, the Commissioner and counsel as hereinbefore noted, also Philip R. Steptoe, Esq., on behalf of the State of West Virginia.

J. K. ANDERSON, a witness produced on behalf of Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Anderson, give us your occupation.

A. I am a consulting engineer, and am senior member of the firm of Anderson & Taylor, consulting engineers, at Charleston, West Virginia.

Q. Have you had any experience in valuation work of public utilities and examination of the operations of public utilities?

A. I have.

Q. What has it been?

1778 A. In the nature of valuation of public utilities and rate cases coming before the Public Service Commission, principally for natural gas utilities, with some hydro-electric, street railways, electric light and water companies.

Q. How long have you been in that business?

A. Since October 1, 1919.

Q. You mean by that, that you have been a consulting engineer since October 1, 1919?

A. Yes, sir.

Q. And prior to that time?

A. Prior to that time, from July 1, 1913, to October 1, 1919, or six years and three months, I was engaged as chief engineer of the Public Service Commission of West Virginia, first commission and second commission.

Q. You mean by that, the commission that was first appointed and the commission that was appointed subsequently?

A. Yes, sir. The first commission was legislated out of office and a new commission appointed.

Q. Now, what were your duties generally as chief engineer of the Commission?

A. First, to establish and organize the Departments of Engineering and Inspection, to formulate tentative rules and regula-
1779 tions governing gas, water and electric utilities, and to investigate various matters coming before the Commission, involving the valuation of plants, conditions of service and suggested rates.

Q. This involved natural gas utilities, did it?

A. It did. A large part of my time was spent in matters concerning natural gas utilities.

Q. Before you entered upon your duties as chief engineer of the Public Service Commission of West Virginia, what was your prior profession or business experience?

A. The two years prior to July 1, 1913, were spent as consulting engineer in southern West Virginia. From 1905 to 1911, I was general manager and chief engineer of the United Thacker Coal Company, of Williamson, West Virginia, and of three other companies owning about 130,000 acres of valuable coal, timber, oil and gas rights in West Virginia and Kentucky. During this time, was director of the Mingo County Bank and its successor, the National Bank of Commerce of Williamson, West Virginia; the President and Treasurer of the Thacker Coal Mining Company, and director of the Mingo Oil and Gas Company. In 1895, and 1896, was engaged
in the investigation of the Warfield Kentucky anti-clinal,
1780 for some coal people, or some oil and gas people, engaged in leasing for them, and was part owner of leases and a wildcat gas well of about five million open-flow capacity, now owned by the United Fuel Gas Company, and from information it is still producing. During 1895 and 1896, was president of the County Court of Mingo County, West Virginia, and Commissioner of School Lands for Mingo County, for 1897 and 1898. During 1905, was superintendent in charge of the Millcreek and Coaldale Collieries, in the Pocahontas Coal Field, in West Virginia, and from July 1, 1905, to December 1, 1904, was assistant to the chief engineer of the Pocahontas Coal and Coke Company, owning several thousand acres of coal lands, and a subsidiary of the Norfolk & Western Railway Company. From December, 1899, to July 1, 1902, was superintendent and chief engineer for the Guyandotte Land Association, owning over 200,000 acres of valuable coal, timber, oil and gas lands in Mingo, Wayne, Logan and Lincoln Counties, West Virginia.

From about 1892 to 1900, was engaged in general engineering pra
tice, both civil and mining, for numerous large land and collieri
companies, in Wayne, Logan and Mingo Counties, West Vi
1781 ginia. Prior to this time, was engaged for a short tim
with the Department of Coal Operations for the Norfolk
Western Railroad, on their Ohio Extension in West Virgini
From May, 1889, to about the middle of 1892, was engaged in rai
road construction, preliminary and location service, in Russell an
Wise Counties, Virginia, for the Norfolk & Western Railroad. W
graduated in 1889 from Swarthmore College, Pennsylvania, wit
a degree of Bachelor of Science in Engineering; was born in She
field, Warren County, Pennsylvania, September 26, 1869.

Mr. Hoffheimer: Mr. Commissioner, while I have not undertake
to interrupt the witness, I submit it is contrary to the course
the ordinary taking of evidence for a witness to give evidence whi
reading from some voluminous document; I do recognize, in nece
sary matters, a witness may use such documents to refresh hi
recollection, where necessary, after opportunity is given the opposin
parties to inspect the documents used for the purposes of refreshmen
It seems to me this particular process of reading typewritten bulk
volumes is beyond the limits.
1782 Mr. Weil: In order to qualify the witness so to testify,
will ask him some preliminary questions, with reference t
this paper from which he is reading.

Mr. Weil:

Q. Mr. Anderson, this paper from which you are reading, and t
which counsel has objected, are answers prepared by you to questio
submitted to you by counsel for complainant states, are they not?
A. They are.
Q. Aside from these preliminary questions, they involve th
compilation of a large number of statistical data and figures, do the
not?
A. They do.
Q. And in addition to the figures themselves, this examinatio
involves the preparation of elaborate exhibits, involving the compil
tion of data and figures obtained from various sources and subs
quently referred to by you in this examination, giving the source
of such information?
A. It does.
Q. Would it be possible for any witness to give this informatio
without preparing the statistical data and reading the same
1783 Would the memory of any man within your knowledge b
able to contain all such information?
A. I think not; there are many men more capable than mysel

Mr. Weil: We have no objection whatever to counsel examinin
the data from which the witness is reading, and I now offer to the
that opportunity.

The Commissioner: Let the examination proceed, subject to the statements of counsel.

Mr. Weil:

Q. What experience have you had in the production of natural gas?

A. I organized the Anderson Oil and Gas Company, producing natural gas in Logan County, West Virginia; and president and secretary of the same—treasurer.

Q. Of what engineering and technical societies are you a member?

A. American Institute of Mining and Metallurgical Engineers, American Society of Civil Engineers, American Association of Engineers, the West Virginia Engineers Association. I am
1784 president of the latter association.

Q. Are you a member of the Natural Gas Association of America?

A. I am; also of the Natural Gas Association of West Virginia.

Q. From your past experience and study of the natural gas situation in West Virginia, and knowledge of the natural gas utilities and the general gas situation in West Virginia, are you prepared to give us the statistical data with reference to the natural gas situation in Pennsylvania, which you have been requested to prepare by counsel representing the states of Pennsylvania and Ohio in this litigation?

A. I have a general knowledge of the gas industry, especially in West Virginia, principally obtained by service with the Public Service Commission of West Virginia, and I have some more particular knowledge of the conditions obtaining in some of the large gas utilities and some of the large industrial consumers of those utilities.

Q. Now, what have been the sources of information to which you have resorted, in order to prepare the data which we have requested?

1785 A. The principal sources, the regular printed reports of the U. S. Geological Survey, the Board of Public Works of the State of West Virginia, and the Public Service Commission of the State of West Virginia, and also advance copies of reports of the Board of Public Works and of the Public Service Commission of West Virginia, which have not yet been printed, and numerous special compilations made under my direction—or the direction of our firm—from the monthly reports of public utilities to the Public Service Commission of West Virginia, and to the Board of Public Works by the natural gas utilities, and from some other sources. This information that I mentioned last is perhaps a year or more later than that obtainable otherwise, and I thought it would be of advantage to have as recent data on the subject as possible.

Q. Have you made a compilation of the developed and undeveloped acreage of the natural gas companies in West Virginia from the reports made by those companies to the Public Service Commission of West Virginia?

A. I have such information specially prepared from the reports of the natural gas utilities under the jurisdiction of the Public Service Commission of West Virginia, filed with the Board of Public Works of West Virginia.

1786 Q. Do you have such compilation, and if so, let us have it.

Mr. Hoffheimer: In order to avoid the repetition of objections to the line of examination which it is anticipated will follow, the State of West Virginia, while recognizing the rule as to testifying as to contents of, or results from, voluminous documents, also recognizes the qualifications to that rule, and objects, and desires to be considered as objecting, to each question and each answer in response to the questions involving statements of contents of or conclusions from the reports mentioned by the witness, which reports so far as we know, are not produced here and are not available to the defendant for examination in connection with the evidence of the witness, or as a basis for cross examination.

This objection is particularly pressed in relation to such reports as it is said have been made to the Board of Public Works and the Public Service Commission of West Virginia, by gas companies and particular utilities, which constitute mere exparte and self-

1787 serving declarations on the part of those companies and utilities and which in their nature and the purpose for which they are filed are subject to revision and correction, or rejection by the parties to whom the reports are made.

The objection is also especially applied to this line of evidence, in so far as it is based upon reports or documents stated by the witness to have been not accessible to the public, or of which the public did not have knowledge or information; and for the reason that these documents particularly are not now available to counsel for West Virginia for use in connection with this examination or cross examination.

Mr. Weil: At this time, in answer to the objection made by counsel for the State of West Virginia, as this is intended to be, as I understand, a general objection to all of this line of examination which is to follow, so as to save the rights of the State, I will examine the witness as to the sources of his information at this time, as to all of this general data, so that it may be for the information of

1788 the Court.

Mr. Weil:

Q. Mr. Anderson, you have given us, in a general way, the sources of your information, by stating that you referred to the regular printed reports of the United States Geological Survey, of the Board of Public Works and of the Public Service Commission of West Virginia. Now, let me ask you as to the reports, the regular printed reports, of the Board of Public Works of West Virginia; are those public documents or not?

A. They are public documents.

Q. And on file in the offices of the State of West Virginia?

A. I presume so.

Q. And accessible to the officials of the State of West Virginia, are they not?

A. Yes, sir.

Q. Now, the Public Service Commission of West Virginia, is the same true as to the printed reports of the Public Service Commission of West Virginia?

A. It is.

Q. And the reports made to the Public Service Commis-
1789 sion of West Virginia by these public utilities, are those reports on file in the office of the Public Service Commission of West Virginia?

A. They are.

Q. And are they accessible to the officers and agents of the State of West Virginia?

A. Yes, sir.

Q. Are they accessible to the public?

A. They are.

Q. Can anyone make an examination of those reports who desires?

A. They can.

Mr. Hoffheimer: With that explanation, we renew our objection.

Mr. Weil:

Q. Now, these reports to which you have referred, which are those on file in those offices, how often is each public utility required to file its report?

A. The natural gas public utilities are required to file a report monthly with the Public Service Commission.

Q. And are they also required to make annual reports as
1790 well as their monthly reports?

A. They are required to make annual reports to the Board of Public Works, which reports are also used and filed, I think—or used by the Public Service Commission and made a part of their annual report—by the Statistical Department of the Public Service Commission of West Virginia.

Q. What are the facts as to the voluminosity of those reports?

A. The reports are rather voluminous in themselves, and in the aggregate they make a very large quantity of papers.

Q. Give us some idea, by space occupied by the same, as to what volume those reports would occupy, if offered in evidence—all that have been referred to in connection with this testimony.

Mr. Hoffheimer: The counsel seems not to have understood the objection made by us. We did not insist upon a formal introduction of the documents in evidence as a general rule; the objection was based upon the ground that the regular rule in relation to the introduction of contents of voluminous documents has not been and is not followed in this instance.

The Commissioner: Answer the question.

1791 A. I would roughly estimate, sufficient to fill six or eight of these ordinary hard metal filing cases.

Mr. Weil:

Q. Well, that depends upon the size of the case. Would it take a quarter or half of this room? Give us the number of feet those documents would occupy?

A. Well, I should say about three feet in depth and eight or ten feet in length, and nearly four feet in height.

Q. This data which we have requested from you, is it not a compilation of the figures from these respective documents in the possession of the defendant in this case?

A. It is, with the exception of that information obtained from the United States Geological Survey and some information obtained from the large utilities themselves.

Q. In these reports which these public utilities are required to file with the Public Service Commission of West Virginia, are they required to report the number of operated and unoperated acres of gas territory held by each of them?

A. That is the case in reports required to be made to the State Boards of Public Works——

1792 Q. By the——

A. By the different utilities in the State of West Virginia.

Q. Now, then, have you made a compilation of the total acreage of operated territory and of unoperated territory of the natural gas utilities in the State of West Virginia, as reported by them, for the year 1919?

A. I have.

(Paper produced and marked as "Pennsylvania Exhibit No. 27.—Anderson.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 27—Anderson," and ask you if that is such compilation?

A. It is.

Q. Now, state the total acreage of operated territory represented by these companies in the state of West Virginia, for the year 1919?

A. They reported a total operated acreage of 708,006.

Q. And what is the total acreage of operated territory of the same gas utilities, as represented to the State of West Vir-

1793 ginia, outside of the state, for the same period?

A. 162,426 acres.

Q. Now, what was the total acreage of unoperated territory of the same companies, as reported by them for the same year, in the state of West Virginia?

A. They reported a total unoperated acreage of 2,017,682.

Q. Now, what did they report, outside of the State of West Virginia?

A. They reported a total unoperated acreage outside of the State of West Virginia of 646,203 acres.

Q. What was the number of wells for the same companies, for the same period, as represented by them?

A. For the year 1919, they reported a total of 8,136 wells.

Q. And what was the number of wells reported by the same utilities outside of the state for the same year?

A. 1,407 wells.

Q. Have you compiled the data showing the amount of gas production, owned or purchased, in the state of West Virginia, as reported by these companies?

A. I have such information as reported to the Board of Public Works of West Virginia.

Mr. Weil: I now offer in evidence "Pennsylvania Exhibit No. 27—Anderson."

(Paper marked as "Pennsylvania Exhibit No. 28—Anderson.")

1794 Q. I show you paper marked for identification Pennsylvania Exhibit No. 28—Anderson, and ask you to state if that is a compilation of the amount of gas produced by the natural gas utilities within the State of West Virginia, as reported by them for the year 1919.

A. It is.

Q. Now, then, state the total amount of gas produced by these utilities in the state of West Virginia, as reported by them, for the year 1919.

A. They reported a total of 171,359,190,000 cubic feet.

Q. I call your attention to Pennsylvania Exhibit No. 28; the decimal points of the totals are introduced at the wrong places, are they not?

A. Through typographical error, decimal places were introduced in the above statements. There are no decimals; these numbers are whole numbers.

Mr. Hoffheimer:

Q. That applies to all other figures as well as the totals on that statement?

A. It does.

Mr. Weil:

Q. Now, state the total amount of gas purchased from pro-
1795 ducers who are not utilities by the natural gas utilities within the State of West Virginia, as reported for the year 1919?

A. They report a total of 27,913,735,000 cubic feet.

Q. And state the total amount of gas produced and purchased from producers who are not utilities by the natural gas utilities within the State of West Virginia, as reported for the year 1919?

A. They report a total of 199,272,925,000 cubic feet.

Q. What was the total amount of gas produced without the State of West Virginia by the same natural gas utilities, as reported by them for the year 1919?

A. They report a total of 10,079,291,000 cubic feet.

Q. Now, that is as compared with 171,359,190,000 cubic feet, produced in the State of West Virginia?

A. It is.

Q. State the total amount of gas purchased without the State of Pennsylvania from producers who are not utilities, as reported by them, for the year 1919?

A. They report a total of 1,999,815,000 cubic feet.

Q. And what was the total amount of gas produced and purchased from producers who are not utilties without the State of West Virginia, as reported by these companies, for the year 1919?

1796 A. They report a total of 12,089,106,000 cubic feet.

Q. Mr. Anderson, calling your attention again to Pennsylvania Exhibit No. 28, and the correction you made with reference to the decimal point,—you say there should be none—these totals as well as the columns which are totaled, are supposed to represent, are they not, thousand feet?

A. They are.

Q. So that to each one of these totals should be added three naughts, if all of the figures were put down?

A. There should.

Mr. Hoffheimer:

Q. And that is true as to the figures other than the totals, is it not?

A. It is.

Mr. Weil:

Q. Now, from the same sources of information, have you made a compilation of the number of consumers of these natural gas companies for the State of Pennsylvania for the same year?

A. I have.

Q. From what did you make this computation of the num-

1797 ber of consumers in West Virginia?

A. This was prepared from reports of the Natural gas utilities under the jurisdiction of the Public Service Commission of West Virginia, filed with the Board of Public Works of said state.

Q. In what classes are these consumers divided in these reports?

A. Into domestic and industrial classes.

Q. Now, give us the total number of domestic consumers of these gas companies within the State of West Virginia, as represented by them, for 1919?

A. They report a total of 130,780 domestic consumers.

Q. In the state?

A. Within the state of West Virginia.

Q. And what was the total number of industrial consumers in the state?

A. They report a total of 1,915 industrial consumers within the state of West Virginia.

Q. Now, is the gas which is consumed in the manufacture of carbon black included in the figures which you have given of natural gas consumption?

A. It is not.

(Paper produced and marked "Pennsylvania Exhibit No. 29—Anderson.")

1798 Q. I hand you chart, marked for identification "Pennsylvania Exhibit No. 29—Anderson," and ask you if that was prepared by you?

A. It is a chart prepared by our firm.

Q. Prepared under your direction was it?

A. Yes, sir.

Q. And does that chart correctly show the production and consumption of natural gas in the State of West Virginia, from information obtained from the reports of the United States Geological Survey, the Board of Public Works of West Virginia and the Public Service Commission of West Virginia, of the Twenty-two of the largest natural gas utilities within the state of West Virginia?

A. It does.

Q. I wish you would now explain that chart so that one looking at the chart will understand what you intended to show thereby—giving us the figures as shown upon the chart. Make it as short as possible.

A. This chart is ruled by vertical lines representing the years 1904 to 1922, by the spaces between said vertical lines. The horizontal lines represent the number of cubic feet which was either produced or consumed during the respective years, shown in 1799 billions of cubic feet on this chart, by reason of the large figures involved. The upper line shows the annual production of gas for each calendar year, and in the case of a few of the recent years, by reports ending June 30th of said year. The straight line unbroken, of medium thickness, represents information obtained from reports of the United States Geological Survey. The dash-and-dot broken line represents information obtained from reports made by the Public Utilities engaged in natural gas service in the State of West Virginia to the Board of Public Works of said state. The heavy solid line represents information obtained from the reports of the natural gas utilities to the Public Service Commission of West Virginia. The dotted line represents information obtained from the reports of twenty-two of the largest utilities within the State of West Virginia to the Public Service Commission of West Virginia, and are taken so as to show these different figures as reported, and they are fairly uniform results obtained by the information from these different sources.

The production, it will be noted, rapidly increased from the year 1908 to about the year 1917, from which period it has 1800 rather steadily declined. The consumption, as noted in 1908, gradually increased to about the same year, 1917, from which time it has slightly declined. The difference between the production line and the lower line, or consumption line, shows the

amount of gas which was produced and exported to other states or used in some manner for which no account was made.

Mr. Weil: I now offer in evidence "Exhibit No. 29—Anderson," in connection with the testimony of the witness.

Q. Mr. Anderson, is there any way of determining the presence of natural gas in a given territory or field, except by the drilling of a well?

A. There is no way in which its presence can be determined, except by drilling a hole into the sand or strata which may contain the gas.

Q. Where gas has been found, what has been the experience of the trade in finding a ready early market for such gas, in order to avoid loss?

A. Whenever gas has been found in any competitive territory, the finder has been very anxious to seek an immediate market for his gas, because the gas is frequently free to flow through the
1801 sand in which it occurs in the direction of the lowest pressure, and perhaps to adjacent leases or wells of competitors.

Q. Well, have experts, geologists or others, including practical operators, ever yet found any means of ascertaining or determining to any extent, or how far, in any given territory, one well will affect the production of or drain another?

A. I think not.

Q. Now, when gas is discovered and brought to the surface by the drilling of a well, what is the general method of making it available commercially or otherwise?

A. It enters the gathering lines leading to the compressor stations, and there goes into the main high pressure transportation system, which delivers the gas to the intermediate pressure systems or belt lines in the larger communities, from which it is delivered at reduced pressure to the distributing systems of the different gas utilities, and from there to the service lines, and the house piping leading to the fixtures used by the consumer.

Q. Now, since 1880, what has been the history of the use of natural gas as to the greater or less extent to which it has been put into commercial use?

1802 Q. It has greatly increased. Before 1880, it is probable that natural gas was used only by a few thousand consumers in scattered communities. The United States Geological Survey reports for the year 1918, 2,508,543 domestic consumers in the United States. On a basis of five persons to each consumer, there would be 12,542,715 people enjoying the use of natural gas, or over 10 per cent of the population of the United States. They consumed in that year 271,102,298,000 cubic feet of gas. In the same year, there were 16,581 industrial consumers served with 449,898,661,000 cubic feet, or a total amount of gas used by both classes of consumers of 721,000,959,000 cubic feet.

(Paper marked "Pennsylvania Exhibit No. 30—Anderson.")

Q. I show you paper marked "Pennsylvania Exhibit No. 30—Anderson," and ask you if that is a sheet reprinted from the United States Geological Survey, showing the number of producers, consumers—domestic, industrial and total—and the volume, average price, and so forth, of the year 1918?

A. It is an advance report from the United States Geological Survey, covering the information you mention, for the different states in the United States, as well as the total in the entire United States?

1803

Mr. Weil: I offer in evidence "Pennsylvania Exhibit No. 30—Anderson," in connection with the testimony of the witness.

Q. Mr. Anderson, give us the number of industrial and domestic consumers, and the amount of natural gas consumed by them, in the State of Pennsylvania, as shown by this exhibit, Pennsylvania Exhibit No. 30, which has been already introduced, for the year 1918.

A. The report of the United States Geological Survey for the year 1918 shows 481,275 domestic consumers; or, on a basis of five people to each consumer, 2,406,375 people using 59,839,731,000 cubic feet of gas. It shows 4,486 industrial consumers, using 117,300,074,000 cubic feet of gas. The total consumption in said state for both classes is given as 177,139,804,000 cubic feet.

Q. Now, have you the same information as to the number of domestic and industrial consumers and the amount of gas consumed by them, in the State of Ohio?

A. I have; it is shown on the reverse side of that sheet—

1804

on Pennsylvania Exhibit No. 30.

Q. Give it to us.

A. A report of the United States Geological Survey for the year 1918 shows 885,876 domestic consumers, or, on a basis of five people to each consumer, 4,429,380 people using 98,023,666,000 cubic feet of gas. It shows 4,010 industrial consumers, using 45,561,594,000 cubic feet of gas.

Q. What are the facts as to these domestic consumers in Pennsylvania and Ohio and their families being dependent upon natural gas for heating, cooking and lighting? What do you know about that?

A. I believe they are more or less largely dependent on natural gas for cooking, heating and lighting.

Mr. Hoffheimer: I move to strike out that answer as a statement of opinion or conclusion of the witness, and not responsive to the question, which asks for facts.

The Commissioner: Note the motion.

Mr. Weil:

Q. When natural gas is used as a fuel in dwelling houses,

1805

and also industrial plants, is it necessary to construct the houses and plants specially adapted to the use of gas as compared with other fuel?

Mr. Hoffheimer: That is objected to, on the grounds stated in the objection to the previous question.

The Commissioner: Note the objection.

A. To burn gas economically, it is necessary to have your house equipped with proper service and house piping between the floors and walls of dwellings, and to use efficient appliances. also to construct suitable flues to carry off the products of combustion.

Q. And when thus constructed, can these same appliances be used for any other fuel?

A. The natural gas appliances cannot be used for burning any other fuel. Many houses are equipped with flues which are sufficient to carry off the burned gases, but are insufficient to carry off the increased volume of smoke and burned gases from coal.

Q. What would have to be done, in order to adapt those houses to other fuel?

1806 A. It would be necessary to largely reconstruct a great number of those houses at heavy expense, to equip them to use other fuel. Often it would be necessary to increase the size of flues with which the house was originally equipped, and frequently to build a large flue of sufficient capacity to take care of the products of combustion from large coal-heating furnaces, which are extensively used in heating residences.

Q. Is the same thing true of industrial plants, to a certain extent?

A. In case of industrial plants, where it is desired to change from natural gas to the use of coal, oil, or other substitute fuel, it is generally necessary to reconstruct some of the subjects, in order to make the change in fuel, or else to build and construct artificial gas plants with which to supply artificial gas in the same appliances and burners. This is perhaps a heavier expense than to make a change to some of the other classes of fuel.

Q. In the event that a supply of natural gas to either domestic or industrial consumers becomes, for any cause, intermittent and not continuous, what would be the situation as to the use by either

1807 domestic or industrial consumers of natural gas as a fuel?

A. It would be impossible to retain a market for natural gas, under conditions that the deliveries were extremely irregular; it would cause great dissatisfaction, and the use of substitute fuels and destroy the market for natural gas.

Q. Do you know whether or not there are large numbers of domestic and industrial consumers in Pennsylvania and Ohio who are dependent upon the natural gas which is transported by the respective companies from West Virginia, for fuel?

Mr. Hoffheimer: That is objected to, as calling for an opinion or conclusion of the witness, without any statement of facts upon which the conclusion ought to be based.

The Commissioner: Note the objection and let the witness answer.

A. I have some information on that subject embraced in Pennsylvania Exhibit No. 30, page 2; the report of the United States Geo

logical Survey for the year 1918 shows 481,275 domestic con-
1808 sumers in Pennsylvania. If it is assumed that there are four other people benefiting by the use of the gas used by each consumer, there would be a population of 2,406,375 using natural gas in 1918.

Q. My question was, have you any information on the subject?

A. I have that information from the United States Geological Survey.

Q. Now, then, taking the information which you have upon the subject, which you have obtained, let me ask you the question if there are large numbers of domestic and industrial consumers, in both Pennsylvania and Ohio, dependent on West Virginia gas for consumption?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. There are.

Q. What percentage of the total consumption of natural gas by the domestic and industrial consumers of Pennsylvania is supplied from West Virginia?

A. About 40 per cent of the total consumption of natural gas by the domestic and industrial consumers in Pennsylvania
1809 is supplied by gas imported from the State of West Virginia, and therefore at least 40 per cent of such consumers are wholly or partly dependent upon West Virginia for their fuel supply.

Q. You get that information from these reports which have already been introduced in evidence?

A. I do.

Mr. Blue:

Q. You are basing your answer just given upon the information set out in Pennsylvania Exhibit No. 30?

A. I am not certain about the numbers, but it is based upon that U. S. Geological survey.

Q. That is Pennsylvania Exhibit 30?

A. Yes, sir.

Mr. Weil:

Q. Now, do you know of any other fields than West Virginia fields of natural gas which are tributary to Pennsylvania, outside of what is produced in Pennsylvania itself, from which a supply of natural gas for consumers could be obtained?

A. I do not.

A recess was here taken until 1:30 o'clock P. M.

1810 Thursday, September 16, 1920.

Afternoon Session.

And now, the hour of one-thirty o'clock P. M. having arrived, parties met pursuant to adjournment.

Present: Parties as before.

J. K. ANDERSON resumed the stand and his direct examination continued by Mr. Weil:

Q. Are all the known fields occupied at the present time and in use, so far as you know?

A. They are so far as I know.

Q. What is your information as to those fields being at the present time sufficient to supply all consumers of natural gas?

A. They are inadequate for a large part of the year.

Q. Have you made, from their reports to the Public Service Commission of West Virginia, a compilation of reserve and unoperated territory, as well as operated territory, of the local companies operating in West Virginia?

1811 A. I have prepared a special statement from reports made by these companies to the Board of Public Works of West Virginia for the year ending December 31, 1919, giving this information.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 31,—Anderson" and ask you if that is the statement to which you refer.

A. This and other statements. This is not the statement I referred to in answer to your previous question.

Q. The information to which you referred is contained upon one of the other exhibits already offered in evidence?

A. It is.

Q. I wish to show you Pennsylvania Exhibit 31 and ask you if that was prepared by you as showing the comparison between the operated and unoperated territory of seven of the large interstate natural gas companies doing business in West Virginia as compared with twenty small local companies in West Virginia doing business intrastate?

A. It was.

Q. I now ask you what percentage of the total acreage do the large interstate gas companies doing business in West Virginia have under operation and what percentage they hold in reserve and

1812 also to give us the same information, with regard to the local intra-state gas companies, giving the same percentage.

A. The seven large interstate companies, 26.57 per cent of their total acreage, in operation, and 73.43 per cent of their acreage in reserve, while the twenty small local companies doing intrastate business have 62.65 per cent of their acreage in operation, and hold 37.35 per cent of their acreage in reserve.

Q. Can you give us a list of those twenty local intrastate companies with which you have made this comparison?

A. Bailey Gas Company, Berea Heat & Light Company, Bridgeport Natural Gas & Oil Company, Buckhannon Fuel Company, Cameron Heat & Light Company, Clarksburg Light & Heat Company, Comet Oil & Gas Company, Harshbarger Oil & Gas Company, Home Petrolem & Natural Gas Company, Imperial Oil & Gas Products Company, Montgomery Gas Company, Herman Moore, Salem Natural Gas Company, Shields Oil & Gas Company, Shinnston Oil Company, G. B. Travis, Troy Oil & Gas Company, West Union Gas Company, West Virginia Heat & Light Company and Wetzel Natural Gas Company.

Mr. Weil: Counsel for the complainant offer in evidence "Pennsylvania Exhibit No. 31—Anderson."

1813 Q. Have you made an examination and prepared a computation showing the average yearly consumption of natural gas in thousands of cubic feet per domestic consumer, for the year 1918, based on the annual reports of the United States Geological Surveys for the States of Pennsylvania, West Virginia, Ohio, Kentucky and Indiana, and twenty-two other states, and the average for the whole?

A. I have.

Q. Now, give us the average annual consumption per domestic consumer for the year 1918, for the different states?

A. The average annual consumption per domestic consumer for the year 1918, for the different states, is as follows:

West Virginia	164.89	thousand	cubic	feet.
Pennsylvania	124.34	"	"	"
Ohio	110.65	"	"	"
Kentucky	87.21	"	"	"
Indiana	78.25	"	"	"
22 other states	91.80	"	"	"

The average for the United States is 108.07 thousand cubic feet.

1814 Q. Have you made a compilation from the reports made to the Board of Public Works of West Virginia, and to the Public Service Commission of West Virginia, showing the average yearly consumption per domestic consumer in West Virginia, in thousand cubic feet, for the years 1909 to 1919, inclusive?

A. I have.

Q. I show you a paper marked for identification Pennsylvania Exhibit 32—Anderson, and ask you if that is the statement to which you refer, and if this shows the domestic consumers, the volume in thousand cubic feet, and the average per domestic consumer, from 1909 to 1919, inclusive, and also on the second page thereof, gives the number of domestic consumers, number of thousand of cubic feet, and the average per domestic consumer of thirteen companies and fifty-four other utilities doing business in West Virginia?

A. It is.

Q. Does this compilation show the average consumption per domestic consumer in West Virginia has alway been higher than that of other states?

A. It does, for the year 1918. I cannot tell you as to the other states for other years.

1815 Counsel for the complainant offer in evidence Exhibit 32.

Q. Have you made any computation and estimates of the quantity of gas which the industrial plants in West Virginia would take per year, if they could get a full and continuous supply?

A. I have made two such estimates, based upon the reports of the maximum monthly sales in any one month to domestic and industrial consumers of the twelve largest gas utilities doing business in West Virginia, which reports were made to me in writing by letter. The first show the increased demand per annum in excess of the present sales which the industrial consumers——

Mr. Hoffheimer: The question was whether you have made any estimate. That can be answered yes or no. To the rest of it I object to the so-called estimate, based upon the reports of the character referred to by the witness, which reports are purely hearsay, speculative in character, and dependent upon particular construction of individuals or of the witness as to the operation or effect of the statute in question.

1816 The Commissioner: Note the objection.

The Witness:

A. (Continuing:) —would make upon the utilities by reason of the operation of the act in question, amounting to 98,628,380,000 cubic feet; second, showing the increased sales per annum of gas which would be made to industrial consumers under the operation of said act, amounting to 55,017,359,000 cubic feet.

Mr. Hoffheimer: The State of West Virginia moves to exclude the answer of the witness, for the reasons assigned in the objection to the question.

The Commissioner: Note the objection.

Mr. Weil:

Q. I show you a paper marked for identification "Pennsylvania Exhibit No. 33—Anderson," and ask you if that is the computation to which you have just referred in your previous examination?

A. It is.

1816½ Counsel for complainant offer in evidence Pennsylvania Exhibit No. 33—Anderson.

Mr. Hoffheimer: Objected to as constituting a purely speculative estimate of the witness, based upon hearsay and upon individual opinion, as to the construction and effect of the statute in question; for the further reason that the witness has stated no facts or knowl-

edge of facts upon which such an estimate has been or can be made by him; for the further reason that no proper foundation has been laid for the introduction of this exhibit or of the matters and things therein contained: for the further reason that the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the exhibit be received.

Mr. Weil:

Q. Have you any other estimates of the increased industrial use of gas per annum within the state of West Virginia, by
1817 reason of the operation of the act now in controversy?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. I have made an estimate of such increased use of gas in West Virginia, based upon the curtailment of the supply of gas to industrial consumers, by reason of the increased domestic consumers' demand during the winter months, based upon the actual monthly industrial sales of the nine largest gas utilities operating in the states of West Virginia, Pennsylvania, Ohio and Kentucky.

Mr. Weil:

Q. What amount of increased use of gas per annum does this computation show?

A. It shows 32,959,471,000 cubic feet.

Q. Does this purport to show the entire increase in the industrial demand, which will occur under the operation of the act?

A. It does not; on the contrary, it is believed to be much
1818 less than the actual demand would prove to be.

Mr. Hoffheimer: We move to strike the answer out, for the reason stated in the last preceding objection.

Mr. Weil:

Q. Have you made a statement showing the maximum yearly consumption of natural gas for each of the industrial consumers within the state of West Virginia, for the years 1915 to 1918, inclusive, as compared with the year 1918, together with a summary of that calculation?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 34—Anderson," and ask you if that is a summary of that calculation?

A. It is.

Q. What increased use of gas per annum for industrial consumers within the State of West Virginia does this statement show?

A. It shows an increase of 38,467,334,000 cubic feet.

Q. And does this show the entire increase likely to occur under the operation of the Act?

A. It does not, but it is believed to be far below the in-
1819 creased amounts which will be demanded.

Counsel for the complainant offer in evidence Pennsylvania Exhibit 34—Anderson.

Q. Do any of those estimates and statements which you have prepared and which we have put in evidence purport to include any of the increased demands that would be made for industrial gas by industrial consumers that might be induced to locate in the State of West Virginia, on account of the fact that they might be obtaining the use of natural gas?

Mr. Hoffheimer: Objected to as involving an inadmissible assumption and one having no foundation on the evidence and being entirely speculative.
The Commissioner: Note the objection.

A. It does not.

Mr. Weil:

Q. From the figures and estimates which you have made
1820 with reference to the increased consumption of industrial gas in the State of West Virginia, under the operation of the Act now in controversy, if it goes into effect, state whether or not, in your opinion, that increased consumption would consume substantially all of the gas produced in West Virginia?

Mr. Hoffheimer: Objected to as purely speculative, and as a matter concerning which the witness has not shown himself qualified to answer, as not based upon any fact heretofore testified to or shown to exist within the knowledge of the witness or in fact; and it is further objected to as having no bearing upon the question of the validity or invalidity of the statute in question or upon the power of the State of West Virginia to enact or enforce the statute; and further, as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. It will, within a few years.

1821 Mr. Weil:

Q. Within what length of time would you say?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. I would say within a year and a half from the date of the effectiveness of the act.

Mr. Weil:

Q. Is it the fact that competitive leasing by different companies doing business in the State of West Virginia of prospective gas territory has in any way been eliminated?

Mr. Hoffheimer: Objected to as not the proper subject of opinion vidence; the opinion called for is based upon no statement of fact stified to by the witness, or apparently within his knowledge.
The Commissioner: Note the objection.

822 A. It has not. On the contrary, there is an active competition between large companies and smaller producers in endeavoring to lease new territory in new fields.

Mr. Weil:

Q. Is it practical to use the pipe lines which constitute the transortation system of natural gas companies for the purpose of storage a supply of gas to any practical extent?
A. It is not.
Q. Have you made an estimate of the capacity of the natural gas ains in the State of West Virginia?
A. I have prepared such an estimate based upon reports made to e Board of Public Works of West Virginia, for the year ending ecember 31, 1919, which included all pipe of every size and use the State of West Virginia. The figures used in this estimate d not embrace any pipe used by oil companies or by manufactured s distribution plants.
Q. Will you now from this estimate or computation state how ng the amount of gas that could be thus stored in the State of West rginia in these lines would supply, at a four-ounce pressure, to ch consumer in the State of West Virginia alone, any natural s?

823 Mr. Hoffheimer: Objected to as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. If we were to assume the uniform pressure of 50 pounds above mospheric pressure and reduce the gas to be furnished to the uivalent of a four-ounce basis, there would be 71,082,000 cubic et of gas which might be distributed. This would last the conmers in the State of West Virginia less than six hours, if it were ssible to deliver all that gas. Practically it would not supply y gas under working conditions, because it is necessary to main-n the usual pressure over the entire system, in order to overcome e friction of the great lengths of line and to deliver a continuous pply of gas to the consumers.

Mr. Weil:

Q. What would be the effect upon the operation of the interstate s companies, or those transporting gas from West Virginia into e other states, of the enforcement of the provisions of the Act w in controversy, with respect to the transportation of gas from est Virginia into other states?

824 Mr. Hoffheimer: Objected to, for the reasons heretofore assigned.

The Commissioner: Note the objection.

A. The chief effect upon the large utilities would be to disorganize their operations because of changing the direction and amounts of gas from those for which their plants were designed to meet demands which were unforeseen, and which, being caused by the deficiency in supply of gas produced by small local companies, would come at times of greatest demand upon their own consumers, this great deficiency in supply to the consumers in other states during extreme cold weather would cause great distress and suffering and be attended with danger of possible death from asphyxiation.

Mr. Weil:

Q. While employed by the Public Service Commission of West Virginia, were you called upon from time to time, as their chief engineer, to make investigations of the natural gas shortages which occurred during the years that you were chief engineer to said Commission?

A. I was.

1825 Q. What information can you give us as to these shortages which have prevailed for several years past, as called to your personal attention?

Mr. Hoffheimer: Objected to, except insofar as it relates to facts personally observed or within the personal knowledge of the witness.

A. From time to time, numerous complaints of shortages of gas during extreme cold weather was called to the attention of the Public Service Commission of West Virginia. Those shortages they directed me to investigate and report. In those investigations at times, on certain parts of the distribution system of a number of the companies, I found there was practically no gas in the homes of some of the consumers. In other cases, the gas would light and burn in some of the appliances, but would not light in others. This was the case, although the manufacturers and industrial consumers had been largely curtailed in the amount of gas furnished to them. Instances occurred, especially in the town of Clarksburg, furnished by one of the local gas companies, or those doing business

1826 entirely within the State of West Virginia. Other complaints were made on the northern Panhandle of West Virginia. In connection with that, investigations were made as to the curtailment of gas furnished to industrial consumers in the States of Pennsylvania and Ohio, as compared to the treatment afforded industrial consumers in the State of West Virginia. It was found that equal treatment, by one company in particular, was afforded to the industrial consumers in the several states, although, if anything, a slightly better supply was afforded to the industrial consumers in West Virginia, by reason of their being nearer to the source of supply.

Mr. Weil:

Q. What effect would the enforcement of the provisions of the Act in controversy here have upon the consumers in Pennsylvania who obtain through their respective companies their supplies of natural gas from West Virginia?

Mr. Hoffheimer: Objected to as calling for the opinion of the witness, as speculative, and based upon the witness's undisclosed and probably erroneous construction of the Act; and further
1827 as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. It would certainly endanger the comfort, for a considerable time during the winter season, of over two million people in the State of Pennsylvania, by reason of shortages of gas which would take place. Their peak load, coming at the same time as the peak load demand of domestic consumers of the various natural gas utilities in West Virginia, making a natural shortage at the extremities of the distribution system, much greater than it would be in the State of West Virginia itself. This might possibly endanger their lives, by reason of the low pressure which would prevail in so many homes and attendant danger from possible fire and explosion.

Mr. Weil:

Q. Would you say that it would have the same effect upon domestic consumers in Ohio, who obtain their supply of natural gas from West Virginia?

A. I would think so, to about the same extent.

Q. And how many people would be affected?

A. I gave you the figures of the total number using gas.
1828 As to just how many are dependent upon a supply from West Virginia, I am unable to state, but it would be a large number, because there is a large amount of gas exported from West Virginia into the State of Ohio.

Q. What would be the effect upon those domestic consumers, both in Pennsylvania and Ohio, financially, of such diminution or cessation of the supply of natural gas from the supply as now obtained?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. If the supply was seriously diminished, it would necessitate the use of substitute fuel in the homes. That would possibly cause heavy expense for the installation of heating furnaces, stoves, chimneys and flues necessary to use the substitute fuel. It is also probable that the substitute fuel would cost them more than they are now paying for natural gas, and it would thus be an additional expense.

Mr. Weil:

Q. These shortages or diminution of supply would occur,
1829 would they not, during the domestic peak load periods of the coldest weather?

A. They would.

Q. Both in Pennsylvania and Ohio, and also because of the increased demand during those periods in West Virginia?

A. They would.

Q. The same effect substantially would attend any substantial curtailment of supply to industrial consumers, would it not?

A. It would, both in the loss of increased cost of change for a substitute fuel, as well as the possible increased cost of substituting another fuel itself.

Q. Would these same effects be visited upon those occupying public buildings, hospitals and the like?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. Yes, sir.

Mr. Weil:

Q. And would there be a like increase in cost and expense to those operating such public buildings, hospitals and the like?

1830 Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. Yes, sir, both for the cost of changing to a substitute fuel and perhaps as to the increased cost of such substitute fuel.

Mr. Weil:

Q. Would it be practical or possible, in your opinion, with the present knowledge and information of the natural gas supply in West Virginia, and the other states in which those companies operating in West Virginia and in other states are now doing business, to operate these interstate companies and supply gas to their consumers in the States of Ohio and Pennsylvania, under the conditions and provisions of the Act now in controversy here?

Mr. Hoffheimer: Objected to, on the grounds already stated to similar questions involving the construction and operation of the Act, and also as incompetent, irrelevant and immaterial.
1831 The Commissioner: Note the objection.

A. It would be possible for them to operate at times but they would be seriously crippled in their operation. A large part of their plant would practically be useless for a large part of the year, and if that continued, they would lose their market in these other states, and thereby lose all or a large part of the plant used in serving the consumers in these other states, and transporting the gas from West

irginia to these other states, both through large main lines and ssibly some compressor stations.

Q. Would it be practical to operate such companies who deliver as from West Virginia into these other states, unless such comanies can be continuously operated, and not be shut down substanally for considerable periods of time?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection and let the witness answer.

A. The practical operation would depend upon the seriousness of the interruptions in service. If it was very large it would practically force the cessation of business.

Cross-examination.

Mr. Hoffheimer:

Q. When were the computations and compilations which you have epared so copiously made by you?

A. Well, they were made during this summer and almost up to te.

Q. Beginning when?

A. Beginning along the first of July—some of them.

Q. During what period did you collect or obtain the information on which these compilations were made?

A. I think I made some start in June of this year.

Q. At whose request and by whose employment did you make ese investigations and compilations?

A. Mr. Weil's, counsel for the State of Pennsylvania.

Q. And since the first of October, 1919, by what gas companies ve you or your firm been employed?

A. I was employed by the Manufacturers Light & Heat Company, consulting engineer, and the Hope Natural Gas Company, in part, nderstand, and by the Reserve Natural Gas Company, in part.

Q. When did this employment begin?

A. I think they began the first of October, 1919.

Q. That is, immediately upon the determination of your ployment by the Public Service Commission of West Virginia?

A. Yes, sir.

Q. The greater part of your experience in the natural gas business with it was gained while in the employ of the Public Service mmission of West Virginia?

A. The larger part of it, yes.

Q. How much experience did you have with the natural gas busis before you went with the Public Service Commission?

A. I was born in Northwestern Pennsylvania, which is more or of an oil and gas country; and in Logan County, West Virginia, ut 1896, I was employed by some oil and gas men from Ohio to ke an examination and secure leases in the County of Logan, in at is known as the Warfield district. I obtained a small interest a part of the consideration for doing a lot of surveying of the so-

called 45 degree line, and located a gas well on some of the leases which I secured, or was instrumental in securing, for those parties.

Q. Aside from the service and experience you have just detailed, did you have any experience with the operation of natural gas companies?

1834 A. While I was with the Public Service Commission of West Virginia some friends and myself secured leases on what is known as Crawley Creek, West Virginia, and I was elected president and treasurer, and we put down three gas wells.

Q. What did you do with the gas?

A. Sold it to the United Fuel Gas Company.

Q. When did that operation begin and when did it end?

A. It is not ended. It began, I think, in 1914.

Q. Did your company operate that territory itself or did you sell it?

A. No, we drilled the leases and sold the gas.

Q. Where was that gas delivered to the United Fuel Gas Company?

A. Delivered into their 16-inch line leading from the Chapmansville field to the Warfield district, in Logan County, West Virginia.

Q. That 16-inch line leads where?

A. From Chapmansville to Kermit, in West Virginia.

Q. What was the name of your company?

A. The Anderson Oil & Gas Company.

Q. Does it or did it ever sell any gas to anyone except the United Fuel Gas Company?

1835 A. To no one.

Q. It does not, nor did it ever, supply any gas locally?

A. Just to the owners of the leases.

Q. That is, to the lessor?

A. Yes.

Q. You have given us some figures as to the acreage of gas companies, both operated and unoperated, in West Virginia and elsewhere. As of what date do those figures apply?

A. The exhibit we filed were as of December 31, 1919.

Q. Where is that acreage, operated and unoperated, located in West Virginia?

A. That is located in the northern part, central part and southern part of the state, in the various fields of the different large gas companies, and some of the small companies.

Q. I wish you would tell us what counties?

A. I would have to look that up. I couldn't tell you offhand.

Q. You do not have that in your book?

A. No, I do not have that in my book.

Q. Has the amount of that acreage, operated and unoperated, remained constant from year to year, up to 1919?

A. It varies.

1836 Q. Which way has it varied?

A. Well, I can't tell you that. To tell you that, I would have to look at all those various reports for the different years.

Q. Am I correct substantially in saying that that acreage was and

s located in the following counties of West Virginia: Boone, Braxon, Brook, Cabell, Calhoun, Clay, Doddridge, Gilmore, Hancock, Harrison, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Mingo, Monongalia, Nicholas, Ohio, Pocahontas, Pleasants, Putnam, Ritchie, Roane, Taylor, Tyler, Upshur, Wayne, Wetzel, West and Wood?

A. Those counties sound familiar to me as being counties producing gas.

Q. Do you know of any others?

A. I would have to look that up to see just what others are included.

Q. Have you ever heard of Jackson and Barbour Counties as gas producing counties of West Virginia?

A. I don't believe they produce much gas.

Q. Do you know whether they produce it or did produce any?

A. I don't believe they produced any to speak of. I think there was some wildcat development.

837 Q. Where was it?

A. I don't know.

Q. How about acreage, either operated or unoperated, in those counties? Was there any in 1919?

A. I can't tell you without looking it up.

Q. Where would you look it up?

A. In the reports of these various companies to the various counties for taxation purposes.

Q. As a matter of fact, could you tell us offhand, without looking at any of the reports of any of the counties, in which of the counties any of this operated or unoperated acreage was, as of December 31, 1919?

A. Why, I think there was some of it operated and unoperated in Mingo County, and some operated and unoperated in Lewis County, and in a number of other counties—some in Marshall, some in Doddridge and Wetzel and generally wherever these large companies have territory, they have operated and unoperated acreage there.

Q. I want you to tell me now, according to your knowledge and recollection, all of the counties you can remember, in which this operated and unoperated acreage was, as of the end of December, 1919?

A. I can't tell you definitely where it was located.

Q. I want the names of all of the counties you can remember.

838 A. I wouldn't pretend to give you that information.

Q. Tell us the names of all counties in which you know personally to have existed any of this operated and unoperated acreage, as of December 31, 1919?

Mr. Weil: Objected to as not cross-examination. The witness did not undertake to testify as to the operated and unoperated territory from any knowledge of the same that he had personally, but stated that he obtained information from reports made to the Public

Service Commission and Board of Public Works of the State of West Virginia by the respective companies operating therein.

The Commissioner: Note the objection and let the cross-examination proceed.

A. I can't give you that information.

Mr. Hoffheimer:

Q. You don't have it and you never did have it, did you?

A. I never had that information and I don't have it now.

Q. You have given us figures on gas production and
1839 consumption both in West Virginia and in Pennsylvania and Ohio. Do you have any more personal knowledge on that subject than you have on the subject of acreage?

A. I have just the information from the sources which I stated up to the year 1919.

Q. In which direction did the production of gas in West Virginia tend, up to the year 1919, upward or downward?

A. It tended to increase until about the year 1916 or '17, at which time it appeared to reach its maximum.

Q. Then in which direction did the production go?

A. Then it tended downward.

Q. And has tended downward ever since?

A. Yes.

Q. What has been the cause of that decline in production in West Virginia?

A. The decline in rock pressure in the various gas fields.

Q. That has been and is a natural incident to the production of natural gas?

A. It is.

Q. Out of your knowledge and experience, has the same thing occurred in Pennsylvania, Ohio and other states?

A. I think so.

1840 Q. Do you know it or not?

A. I have no definite knowledge of that, except from reports which have been put out by the United States Geological Survey.

Q. Those reports do show a decline toward the point of exhaustion in those states?

A. They do show a decline; I don't know how near exhaustion, but a serious decline.

Q. But in that direction?

A. Yes.

Q. Out of your broad experience with the Public Service Commission and with the gas business and the examination of reports, do you know, or have you found anything, that would indicate any prospect of an increase in the production of natural gas in West Virginia?

A. I have not.

Q. Everything you have examined on the subject has indicated that the decline will continue?

A. It has.

Q. During the period covered by your examination, in which direction has the consumption of gas gone in West Virginia, upward or downward?

A. The consumption went upward from about 1908 until about 1916, according to my information, and since that time has
1841 tended downward.

Q. During the period covered by your investigation in West Virginia, what has been the situation in Pennsylvania and Ohio, both in respect to production and consumption—has the tendency been up or down?

A. I can't tell you?

Q. Why?

A. I do not have that information.

Q. Have you looked for it?

A. No.

Q. You were not asked to get that?

A. No, I think not.

Q. You gave us a rather elaborate statement showing the increase in average consumption by consumers in West Virginia from year to year, did you not?

A. No, I don't think I did.

Q. What were the figures that you gave us in regard to average consumption, in regard to 1909 and 1919?

A. That Pennsylvania Exhibit 32—Anderson showed for the year 1909, 173.18 thousand cubic feet as the average amount used per domestic consumer.

Q. I don't care for the individual figures. How were those figures intended to show an average increase or decrease in the consumption?

1842 A. Those were simply intended to show the facts and they showed that there was a slight decrease in the average consumption in West Virginia from the year 1909 to the year 1919; sometimes it was greater and sometimes less.

Q. How was that average made up?

A. That average was made up by taking the total amount of gas sold for domestic consumers and dividing by the total number of domestic consumers in each year.

Q. Did you get the average consumption in Pennsylvania and Ohio during the same years?

A. No, I did not.

Q. You were not asked to do that?

A. No, sir.

Q. Do you have the figures for the average consumption in those states for any one year?

A. I have the average consumption for the year 1918.

Q. Why did you select that year?

A. That was the most recent information I had from the United States Geological Survey, which was my only source of information as to those other states.

Q. You undertook to give us, particularly on Pennsylvania Ex-

hibit 31, a set of figures giving operated and unoperated acreages in relation to what were called certain large interstate com-
1843 panies, and twenty small local intrastate companies. How was the selection of those twenty so-called small local intrastate companies made?

A. That was made by taking what I believed to be the number which would show the average condition.

Q. What do you mean by "small local intrastate companies"?

A. Those who serve customers and consumers solely in West Virginia.

Q. When you designate them as small companies, you mean merely to contrast them with certain companies which you refer to as the large companies?

A. Yes, sir.

Q. Those were the twenty companies whose names you supplied?

A. Yes, sir.

Q. You have given us a number of figures showing, or purporting to show, estimated increased demands on gas companies in West Virginia, by reason of enforcement or operation of the statute in question. How did you arrive at those figures?

A. In the first case, it was an estimate of yearly sales of natural gas in the State of West Virginia, on the basis of maximum, monthly, domestic and industrial sales. We obtained information
1844 from the twelve utilities mentioned as to just what the maximum domestic and industrial consumption had been in any one month since their organization.

Q. By that you understand that each of the public utilities in question gave you figures on the very largest industrial consumption in any one month for the number of years those companies had been operating?

A. Yes, sir.

Q. Did the figures specify which month or months those were in the individual instances?

A. I think in some instances and in some they didn't.

Q. I wish you would tell us which ones specified what the particular months were?

A. Here they are on Pennsylvania Exhibit 33—Anderson. Clarksburg Light & Heat Company, the largest domestic consumption was for the year 1918, in January; the largest industrial consumption for that same company was, for the year 1917, in the month of May.

Q. And so on down the entire list, which includes dates from 1912 up to 1912?

A. Yes, 1912 to 1920.

Q. And your calculation assumed at the outset that if this statute were enforced in each month of the year, each of the gas companies would be called upon to supply that maximum month's re-
1845 quirement?

A. That was my estimate of the possible increased demand.

Q. Putting it concretely, in the case of the Clarksburg Light & Heat Company, you figured that it would be called upon to supply

to domestic consumers twelve times 305,000,000 feet, and to industrial consumers 545,000,000 feet, as increased demand; is that right?

A. That would be the total demand.

Q. And so on down the entire list?

A. Yes, sir.

Q. And your estimate of yearly sales of natural gas in the State of West Virginia, on the basis of maximum monthly domestic and industrial sales constituted the second page of Pennsylvania Exhibit 33, and is merely a computation carrying out that theory?

A. It is.

Q. Wherein does that estimate of yearly sales of natural gas constituting page 2 of Pennsylvania Exhibit 33, Anderson, differ from the estimate of yearly sales constituting page 3? I see a somewhat different set of totals.

A. In the second case you mention, being that on page 3, the maximum industrial consumption, multiplied by 12, plus the actual domestic consumption for the year 1919, was used as the
1846 basis of computation.

Q. Well, applying your mind to pages 2 and 3 of this Pennsylvania Exhibit 33, one showing a total of 86,273,448,000 cubic feet, and page 3, showing an estimated total of 65,645,435,000 feet, I want to find what is the difference in those two estimates.

A. The difference in the first estimate is caused by taking the year's maximum monthly domestic and industrial sales occurring at any time in the life of the company, and multiplying it by 12. In the second case, we took the maximum monthly industrial sales and multiplied it by 12, and added the actual domestic sales for the year 1919, making a decidedly smaller figure.

Q. A mere small difference of 21,000,000,000 cubic feet of gas?

A. Something in the neighborhood of that.

Q. Which is your estimate, 86,000,000,000 or 65,000,000,000?

A. On one basis, it is 86,000,000,000, and on the other basis, 65,000,000,000.

Q. I am trying to get your own estimate.

A. The actual amount is impossible of accurate ascertainment. You can only draw your conclusions from certain facts and figures and your interpretation of them.

Q. You admit there are two interpretations, one showing
1847 eighty-six and the other sixty-five billions?

A. Yes; based upon different premises.

Q. As a matter of fact, did you ever obtain, or have you any figures showing, the actual present requirements of consumers in West Virginia, domestic and industrial, upon the theory of getting all the gas they desired or required?

A. None other than that to which I have testified.

Q. In other words, you have no figures based upon actual industrial conditions or past or present readjustments to other fuel, have you?

A. I have not.

Q. Every opinion which you have ventured upon the effect of the enforcement of the statute now in controversy upon consumers in

other states has been based upon these two sets of figures, showing i the one case an increase in consumption of 86,000,000,000 feet, an in the other 65,000,000,000 feet per annum. Is that correct?

A. It is largely based upon that.

Q. What other figures have you had, or do you have, upon whic to venture an opinion as to the effect upon consumption in othe states?

A. Some other figures are shown.

1848 Q. I would like to know exactly what they are.

A. It was the statement which showed an estimate of th total yearly curtailment in West Virginia of 32,959,471,000 cubi feet. I don't remember the number of the exhibit.

Q. What does that have to do with the subject?

A. This was showing the curtailment of natural gas to industri consumers necessary to supply the winter demand of domestic con sumers. As I stated before, during the winter season it was nece sary to curtail industrial consumers by these large gas companies, i order to supply the domestic consumers, and my estimation of tha curtailment was used as a basis of ascertaining the 32,959,471,00 cubic feet, as being one measure of the possible increased deman which might be placed upon the utilities in West Virginia, by rea son of their being supplied with their full demands under the oper ation of the act in question.

Q. In other words, you have figured that the curtailment or cu ting off of industrial gas, in order to give an adequate domestic sup ply in West Virginia, has amounted to 32,959,000,000 feet in som particular winter. Is that right?

1849 A. That was largely for the winter of 1918 and 1919.

Q. And so you figure that the effect of the enforcement o that statute upon that basis would cause an increased demand o 32,959,000,000 feet?

A. Yes, sir.

Q. Now, you have three sets of figures, 86,000,000,000, 65,000, 000,000 and 32,000,000,000. Now, which is it?

A. They don't mean the same thing. I think you are under misapprehension as to those figures. The increased demand, unde the first estimate that you mention, was 98,628,380,000 cubic feet In the second case, it was 55,017,359,000 cubic feet, and in the las mentioned case it was 32,959,471,000 cubic feet.

Q. All right then; the 98,000,000,000 feet of increased West Vir ginia demand has been calculated by multiplying by 12 the maxi mum consumption, both domestic and industrial, in the month o greatest consumption of individual gas companies?

A. It has.

Q. During any year of their history?

A. Yes.

Q. In that way you get 98,000,000,000 feet?

A. Of demand.

1850 Q. And in the next instance you get 55,000,000,000 feet by multiplying the maximum month's industrial consump tion during any one year of the history of the West Virginia com panies, and adding the domestic consumption for the year 1919?

A. Yes, sir.

Q. And your third method of getting thirty-two billion and some odd million, has been by taking the amount of industrial curtailment necessary to apply to domestic consumption in West Virginia?

A. As applied to West Virginia, it was based upon the experience of large companies, not only in West Virginia but in other places.

Q. Now, what other figures have you upon which you base your figures as to the effect of the enforcement of this Act?

A. No other figures. They are only a possible measure of the effect of the enforcement of this Act. It is very difficult to tell—in fact, it is impossible to tell—the exact effect of the enforcement of that act.

Q. You say that you can't tell the exact effect of the enforcement of the act. Do you mean to say that you can't give anything except an estimate or a speculation on your part as to the result of the enforcement?

1851 A. I would say an estimate based upon the figures and statements which I have filed.

Q. Those are the three sets of figures about which we have just been talking?

A. Yes.

Q. In getting that 32,000,000,000 figure showing curtailment of industrial consumption, in order to take care of domestic consumption in West Virginia, your figures were based upon peak load requirements by domestic consumers, were they not?

A. I would say that that was based upon their maximum consumption—not the peak load, but the maximum consumption in any one month. The peak load refers more especially to the load placed upon the utility by the demands of the consumers during extremely cold waves and wouldn't cover an entire month.

Q. But you did take as a basis of that 32,000,000,000 estimate the coldest weather months when the domestic demand was the greatest?

A. Speaking of the 32,000,000,000, no, that 32,000,000,000 was based upon the curtailment of the amount of gas furnished to the industrial consumers during the different months, during a period perhaps of three or four or five months—sometimes six

1852 months, so that it varied, you know, and was not based upon the peak load of the domestic consumer. I should state, if I may, that there was one other estimate in Anderson Exhibit 34, on which an estimate of 38,467,334,000 cubic feet was made, of a possible increase in demand.

Q. I wish you would explain that exhibit and tell me what it means.

A. Well, that means this: during the years 1915 to 1918, the maximum yearly consumption for industrial consumers was compared with the consumption for the year 1918, which shows that there was a percentage increase of a maximum, and in one of those years, 1915 to 1918, as compared with the consumption in the year 1918, of 43.86 per cent, for those various companies which are here

outlined. Then that total industrial consumption for the year 1918, for the State of West Virginia, was 87,704,820,000 cubic feet, and applying that same percentage of increase of 43.86 per cent would give an estimated total increase, according to the West Virginia Geological Survey, of 38,467,334,000 cubic feet. It is to be noted that these figures are based principally upon records for four years.

Q. What I am trying to find out is this: Is it not a fact that
1853 your column headed "Maximum 1915-1918" is a selection, in the case of each company named, of the industrial consumption of the highest year between 1915 and 1918?

A. It is.

Q. In other words, in the case of the Bridgeport Natural Gas & Oil Company, you went over the reports for 1915 to 1918, inclusive, and finding that in one of those four years it had an industrial consumption of 101,270,000 cubic feet, and for that year the industrial consumption was the highest of the four years, you selected that as the figure for that company?

A. Yes.

Q. And so on for each company?

A. That is right.

Q. That table does not represent the industrial consumption for any one calendar year of the companies named in the aggregate?

A. It represents the maximum in any one of those years for each of the industrial consumers of each company.

Q. But it does not give you the industrial consumption for 1915, 1916, 1917 or 1918, does it?

A. No, it is the highest one in those four years.

Q. In other words, you picked out the highest figure you could get for each company during those four years and
1854 lumped them together?

A. Yes, for each industrial consumer.

Q. In other words, by that method of calculation, you get a higher industrial consumption than the industrial consumption of all of those companies for any one year?

A. I suppose that would be correct.

Q. Isn't that a fact?

A. I would think so.

Q. Isn't it necessarily the fact?

A. I think you are right.

Q. Why didn't you say so?

A. I had not looked at the figures to be absolutely certain, is all.

Q. In the same way, you got a similar result by a process of multiplying by 12 the maximum month's consumption in the previous exhibit referred to, where you got the 98,000,000,000 figure?

A. Yes, that is on the theory that the maximum demand that has occurred in the past might readily be duplicated under the effect of the Act in question, where they would have a full supply of gas for their needs or demands.

Q. By a full supply, you mean that every consumer in West Virginia served by the gas companies that would be affected by the Act would get all of the gas that that consumer desired?

1855 A. Yes, sir.

Q. Both for domestic and industrial purposes?

A. Yes.

Q. All of your statements as to the effect of that act and predictions as to the result of its enforcements on people in other states and on people in West Virginia, has been based on that premise?

A. Yes, sir.

Q. You gave us some opinions as to the effect of the cutting off of the supply of gas to consumers in other states whom you deemed dependent upon West Virginia gas for fuel. I want to ask you whether you think that the effect of a gas shortage on either domestic or industrial consumers in either Pennsylvania or Ohio would be any different or greater than the shortage of domestic or industrial gas on consumers in West Virginia?

A. No; the same conditions of shortage would affect them in identically the same manner.

Q. That is, if the consumer in West Virginia didn't have enough gas in the winter, he would be subjected to the discomforts of cold, and if he was compelled to substitute other appliances or alterations in his dwelling house or his industrial plant, in order to use
1856 other fuel, his inconvenience and expenses would be just the same as in Ohio and Pennsylvania, and so on?

A. If the shortage was the same the effect would be the same.

Q. You say you made some investigation of gas shortages in West Virginia. When did those investigations occur?

A. My recollection is that the most severe was along in the winter of 1917–18. That was an unusually severe winter.

Q. From what parts of the state did those complaints originate?

A. Principally from Clarksburg.

Q. You say principally—From what other parts of the state?

A. The northern Panhandle.

Q. Any other part?

A. There were one or two other places, I think, but I didn't investigate it.

Q. Who did?

A. I don't know—Yes, I do know now; that was Sutton and Gassaway, I think.

Q. Did you make any investigation at Parkersburg?

A. No, I didn't.

Q. Wasn't it your information, and isn't it your informa-
1857 tion, that a shortage was reported in Parkersburg, in Wood County, in that year?

A. I only investigated regarding those other places. I believe there was a shortage in that place, but I didn't investigate.

Q. Who did make the investigation if you did not?

A. I don't know, unless it was the chief inspector of the Public Service Commission.

Q. Did you hear of shortages in that year in Fairmont, Morgantown and Grafton?

A. I think so; I don't know definitely about that. Frequently complaints would come to the Public Service Commission, but they

were not of the opinion that they required my investigation, and sent one of the inspectors.

Q. Did the inspectors report to you?

A. No; I was only chief inspector for about the first two years.

Q. As chief engineer, did you not keep a line on conditions of production, supply and consumption in the state?

A. No, I didn't keep a line on it.

Q. Did you hear any complaints or know of any, or investigate any, in the year subsequent to 1917–18?

A. I think there were some in 1918–19.

1858 Q. Did you investigate that?

A. I don't recall that I did personally.

Q. Where did those shortages or complaints of shortages come from?

A. I think one was Clarksburg, but I am not positive. It was a warm winter and there wasn't much complaint in West Virginia of shortage.

Q. Well, you went to Clarksburg and investigated that shortage in 1917–18?

A. I think so.

Q. What condition did you find there?

A. In some places no gas at all, and in other places a very small supply. That was only in a portion of the town.

Q. What was the company supplying Clarksburg and the surrounding territory?

A. Where I investigated, it was the Clarksburg Light & Heat Company.

Q. What were the conditions of shortage you found in such as dwelling houses, industries and schools, public buildings, and so forth?

A. Some of the schools were closed. There was a shortage in the hotels and also a shortage reported in some of the hos-

1859 pitals and in a number of dwelling houses in different sections.

Q. The fact is, that the number of dwelling houses included practically all in Clarksburg?

A. No; some had a pretty fair supply. The shortage was particularly due to the inadequacy of the distribution system. They had failed to put certain reinforcing mains through the town to connect up with the belt line on the outside. That condition was corrected subsequently.

Q. When?

A. In the following summer, I think.

Q. As a matter of fact, aside from the condition of the mains, Clarksburg Light & Heat Company had practically no gas to supply at that time, had it?

A. No, I wouldn't say it had practically no supply, but they had insufficient gas and nowhere nearly a supply to fill the demands.

Q. What was the shortage?

A. I can't tell you.

Q. Were any other gas companies operating, or did they have mains or pipe lines in the vicinity of Clarksburg at that time?

A. I think the Hope Natural Gas Company had some mains in that vicinity and did sell some additional quantities of gas to the Clarksburg Light & Heat Company, so as to relieve that con-
1860 dition.

Q. How far did the Hope Natural Gas Company mains lie from Clarksburg?

A. I don't know.

Q. As a matter of fact, one of its main lines ran through the outskirts of Clarksburg?

A. It may do so.

Q. As a matter of fact, the Hope Natural Gas Company supplied gas to the Clarksburg Light & Heat Company to relieve that shortage after you arrived at Clarksburg to investigate on behalf of the Public Service Commission?

A. I think I was instrumental in getting it to do so.

Q. Your kindly offices or intercession induced the Hope Natural Gas Company to supply gas to the Clarksburg Light & Heat Company?

A. I wouldn't say that it took that; but they did supply it, partly at my request.

Q. The Clarksburg Light & Heat Company is one of the companies to which you referred as a local company?

A. Yes.

Q. At the time of your visit at Clarksburg, did anyone inform you that the Hope Natural Gas Company, or any of its affiliations, bore any relation to the Clarksburg Light & Heat Com-
1861 pany?

A. I don't think they informed me at the time. I think I knew of that through some report to me.

Q. That is, that the Standard Oil Company of New Jersey, which controlled the Hope Natural Gas Company, was also the owner of a majority of the stock of the Clarksburg Light & Heat Company at that time?

A. That is my understanding.

Q. And is today?

A. I presume so.

Q. What was the condition that you found in the Panhandle of West Virginia?

A. I didn't investigate the condition locally, except as to the supply of gas to the industrial consumers and the treatment of the industrial consumers for the States of Ohio and West Virginia and Pennsylvania by the Manufacturers Light & Heat Company. I found there very fair treatment between the different states, and if anything, a little bit of increased supply being given to the manufacturers in West Virginia over and above that furnished to the manufacturers in Ohio and Pennsylvania.

Q. At that time, were there complaints of domestic shortage in the West Virginia Panhandle?

1862 A. I don't know.

Q. You didn't look into that?

A. No.

Adjourned until Friday, September 17, 1920, at 10 o'clock, a. m.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Friday, September 17, 1920.

1863 And now Friday, September 17, 1920, the hour of 10:00 o'clock a. m. having arrived, hearing resumed pursuant to adjournment.

J. K. ANDERSON resumes the stand.

Cross-examination (continued):

Mr. Hoffheimer:

Q. When we suspended yesterday, Mr. Anderson, we were referring to the local complaints of gas shortage in West Virginia, and I spoke of Clarksburg and the Panhandle Section of West Virginia. What were the complaints which originated at Morgantown and Fairmont?—The shortage at Morgantown which was complained of related both to domestic supply and industrial supply?

A. Yes, sir.

Q. At the time those complaints were made in regard to Morgantown, the main trunk lines of the Hope Natural Gas Company, the Pittsburgh & West Virginia Gas Company and the Carnegie Natural Gas Company were located within a very short distance of Morgantown, were they not?

A. I don't know the distance, but it was not so many miles.

Q. How many miles?

A. I don't know.

1864 Q. Well, you were Chief Engineer of the Commission; was it or was it not your duty to know the location of those lines?

A. It was not.

Q. What were your duties as engineer?

A. Do anything the Commission asked me.

Q. Did your duties as engineer have any regard to the preparation or the study of maps?

A. I don't believe they asked me to prepare any maps. I prepared some in connection with some reports.

Q. Well, you never did find out, then, the location of the lines of those three companies with relation to the city of Morgantown?

A. I did not.

Q. You never knew, and do not know to this day?

A. I do not.

Q. Well, let us travel down to the city of Fairmont; what were the complaints there?

A. The complaints there referred to lack of gas for domestic purposes.

Q. The people there were complaining that in the winter time they couldn't get enough gas to heat their houses and their public buildings and business buildings?

A. They were.

Q. There was also some complaint about industries?

A. There was some complaint on the part of industries,
1865 although I don't believe it was in connection with that complaint of shortage. The industrial manufacturers complained about shortages—being cut off.

Q. But from your position as chief engineer of the Commission, and your facility in reading and digesting readings, you knew in your official capacity that those complaints had been made and existed?

A. Yes, I knew they had.

Q. Did you at that time know, or have you at any time known, the location of the main trunk lines of the Hope Natural Gas Company, the Carnegie Natural Gas Company and the Pittsburgh & West Virginia Gas Company with relation to the city of Fairmont?

A. I have only seen some maps. I don't know about the location of the lines themselves.

Q. Where did you see the maps?

A. Well, I saw some of their maps in the offices of the—I think it was the Hope Natural Gas Company. I don't believe I have seen the maps of the Carnegie Company in their offices, nor of the Pittsburgh & West Virginia Company, but I have seen some maps prepared recently, I suppose in connection with this case, which show some of their lines. Then at one time there were some maps filed with the Public Service Commission showing only certain of their
main trunk lines, but did not pretend to show all of their lines.
1866 Q. Well, with your knowledge of the situation and your knowledge of the maps, are you able to state relatively what the location of those main trunk lines of the Hope Natural Gas Company was with reference to the city of Fairmont at the time when these complaints were made?

A. I could not give you the exact location, but they were not far away.

Q. How far?
A. I don't know.
Q. You never have investigated that?
A. I never have investigated that.
Q. While you were engineer for the Public Service Commissi where were your official headquarters, and where was your perso residence?
A. My official headquarters were at Charleston, West Virgin in the State Capitol Building; my place of residence was in the c of Charleston, 1414 Virginia Street; my voting residence was in t County of Mingo, West Virginia. I don't know whether that cov the ground as fully as you desire it or not.
Q. Passing the question whether they allowed you to vote, wh you were officially employed and actually residing in Charlest were there any shortages of domestic gas supply there?
1867 A. I think the domestic consumers were very well suppli in the city of Charleston, except at one time when a la main broke and necessitated a shortened supply for some hours.
Q. When was that?
A. I can't tell you the date.
Q. Can you give us relatively the time?
A. No, I cannot; I didn't attempt to carry that in my mind. recall it from my personal experience, not from any complaints ma
Q. How long did that shortage resulting from the breaking of t main continue?
A. I think that existed for three or four hours.
Q. Eliminating, then, the three or four hours, you testified th during the time of your official employment and your perso residence in the city of Charleston there was no complaint in gard to shortage of domestic gas supply?
A. That is my recollection.
Q. And no suffering or inconvenience in cold weather by rea of any shortage?
A. I think no serious shortage—or suffering or inconvenience all on the part of the domestic consumers. Some complaints reach me indirectly on the part of the manufacturers.
Q. Now you are talking about serious complaints; did you h of any complaints which you did not regard as serious?
A. Why, I think some of my neighbors complained of being little short once or twice in the early mornings from th
1868 accustomed supply.
Q. That is, they couldn't get a sufficient supply to ena them to pursue their breakfast preparations, or to heat their hous
A. Nothing like that, but a little short in the heating. Th usually wanted to turn on all the stoves and appliances all over t house at once, as we all have been in the habit of doing; and wh everyone did that at the same time it made a lower flame.
Q. Is that what they told you or your personal diagnosis of t situation?
A. Well, that is largely my personal diagnosis of it.
Q. Well then, the fact remains, they did complain?

A. Some of my neighbors did.

Q. Yes. Now, how about the city of Huntington?

A. I don't recall any complaints of shortages there.

Q. If there had been complaints, would they have come to your knowledge, or would you have been informed about them, in your official capacity as chief engineer of the Commission?

A. I might have been informed or might not, depending upon the pleasure of the Commission.

Q. Who would have investigated the conditions resulting from shortage or the cause of shortage, if such complaints had come to your knowledge?

A. Either myself or the assistant engineer, Mr. Taylor, while he was in the employ of the Commission.

1869 Q. Going back to the figures which you gave in regard to average gas consumption by the domestic consumers in West Virginia and other States, I suppose that those figures were produced by you in order to show a larger average domestic consumption in West Virginia than in Pennsylvania and Ohio—is that it?

A. Yes, sir.

Q. Have your investigations enabled you to determine why there was a larger per capita consumption in West Virginia than elsewhere?

A. I didn't make any investigation on that subject, but my supposition was that the low price for gas and the habit of having had very low prices prevailing in West Virginia for many years led to more extensive use of the gas. We use plentifully that which is cheap.

Q. And in the same connection, I believe you did give figures on average price of domestic gas, did you not?

A. I think there were some such figures filed in one of those reports or statements.

Q. And those figures were put forward by you to show that the average price was and is lower in West Virginia than in Pennsylvania and Ohio?

A. The idea which it was intended to convey was that the prices were lower in West Virginia than in the other States.

Q. That was and is true as to industrial gas as well as domestic?

A. I am not positive about that, but I believe so.

1870 Q. Well, the fact about it is that from the investigation of public records and reports and in the making of your compilations you have ascertained, and in your tabulations endeavored to convey the idea, that the gas companies were getting higher prices for their gas in Pennsylvania and Ohio than in West Virginia?

A. No, that was not my endeavor.

Q. You say it was?

A. I say that was not my endeavor.

Q. Well, that is the net result of your figures, isn't it?

A. I don't know. They speak for themselves.

Q. Your investigations and compilations did not go to that extent?

A. That was not my intention, to show that especially.

Q. What domestic gas consumption was included in your per capita or per consumer average?

A. Why, I presume whatever was included in those original reports. I cannot tell you in each case just what that included, because these companies make the reports on bases best known to themselves. I presume it included what we ordinarily know as domestic consumption.

Q. In other words, you took some other man's figures on faith, added them together and divided and found an average?

A. Took the most available and most accurate information that was available and performed that calculation.

1871 Q. How much free gas furnished by the gas companies to their lessors under their leases was included in your West Virginia average domestic consumption?

A. I don't suppose any of it was.

Q. Why do you say you don't suppose any of it was?

A. Well, some of that was based upon certain reports——

Q. Did or did not the reports to which you referred state that that free gas was included in that domestic consumption?

A. I didn't notice any such statement or information.

Q. Then you haven't any knowledge on the subject, have you?

A. No, I have not.

Q. The fact about it is that that free gas which is ordinarily provided for in oil and gas leases and is to be supplied to the lessor as part of the compensation for the lease is ordinarily used for domestic purposes, is it not?

A. I think so.

Q. In fact, the ordinary provision in the lease is for free gas for one dwelling house or two dwelling houses, or something of that character?

A. Something of that nature.

Q. And naturally, West Virginia being the largest gas-producing State, more free gas would be supplied under those leases in West Virginia than elsewhere, would it not?

A. I presume so.

Q. As a matter of fact, it is a matter of common knowledge that that free gas provision has been the source of rather waste-

1872 ful or excessive gas consumption—has it not?

A. It has; very wasteful and excessive use.

Q. A very serious cause of complaint?

A. On the part of the utilities.

Q. Yes. Now, you gave us some interesting figures as to dependency of certain populations on natural gas as fuel; what do you mean by "dependency"?

A. Why, I think dependency means having no other immediate source of supply of substitute fuel. We are certainly dependent upon some kind of fuel for heating, lighting and cooking and heating water. That is what I meant by "dependency."

Q. In other words, if a man had no other fuel for his cookstove, he would, within your definition, be regarded as dependent on gas for cooking purposes?

A. I think so.
Q. The same would be applicable to illumination?
A. Yes, sir.
Q. The same would be applicable to the heating of houses and buildings?
A. Yes, sir.
Q. The same would be applicable to an industry if natural gas was its fuel, and its appliances were not adapted to the consumption of other fuel or other fuel were not at hand?
A. Yes, sir.

873 Q. One and all of the people in those situations would come within your definition of "dependency" and be regarded by you as dependent on natural gas?

A. Yes, sir.
Q. And it would be true, I suppose, in West Virginia as well as in Pennsylvania and Ohio?
A. Yes, sir.
Q. How many natural gas consumers did you figure to have been existing at the period covered by you, in West Virginia?
A. The total number of domestic consumers of the natural gas utilities within the State of West Virginia for the year 1919 was reported to be 130,780.
Q. That was in accordance with the number of meters?
A. That is the number of consumers reported by these companies, probably based—or closely based upon the number of meters set. In some cases there might have been several meters for one consumer.
Q. Well, when you traveled over into Pennsylvania and Ohio and gave us figures of the number of domestic consumers, you proceeded to multiply that number by five, as an assumed average number of members of the families of consumers. Did you multiply that 130,000 in West Virginia by five also?
A. To show the population which is dependent upon natural gas, would multiply by the same figure.
Q. 130,000 multiplied by five?
A. Yes, sir.
Q. That would be 650,000?
A. In that neighborhood.

874 Q. I wish you would direct your attention to your compilations which have been filed here as Pennsylvania Exhibits Nos. 27, 28, 31, 32 and 33. (Handing exhibits to witness.) I find that in Exhibits Nos. 32 and 33 there is no inclusion of the Carnegie Natural Gas Company, while in Nos. 27, 28 and 31 the Carnegie Natural Gas Company is included in your tabulations and figures. Why is the Carnegie Natural Gas Company omitted from Nos. 32 and 33?

A. As to Exhibit 32, the Carnegie Natural Gas Company sell but little gas for domestic purposes in the State of West Virginia. They largely produce their gas for their consumption in the big steel mills and allied interests.
Q. In Pennsylvania?
A. In Pennsylvania. As to Pennsylvania Exhibit No. 33, we had

no report from the Carnegie Natural Gas Company as to their maximum domestic or industrial consumption as given in said statement.

Q. The steel mill or mills to which you referred as the place of consumption of the greater part of the Carnegie Natural Gas Company gas are located in the State of Pennsylvania?

A. Yes, sir.

Q. And have been for a number of years?

A. I believe so.

Q. Well, the same reports to which you have referred indicate that fact, do they not?

A. I think so.

1875 Q. Practically all of the Carnegie's consumption is industrial consumption in Pennsylvania at these steel mills?

A. It is.

Q. I believe you had something to say about the necessity for immediate marketing of natural gas when once wells are drilled in a particular field; I assume you intended to convey the impression that, as a practical proposition, when gas wells are drilled in a given field, it is necessary to get that gas to market and dispose of it as quickly as possible, in order to prevent loss to the operator?

A. That is true in a competitive field where numerous competitors are drilling on their leases for gas.

Q. What do you mean by "competitive fields?"

A. Where numerous different ownerships are had of the different gas wells which have been drilled in that field.

Q. Do you know of any gas fields in West Virginia during the period of your broad knowledge of those fields which have not been competitive in that sense?

A. Most of them have been competitive, with which I am acquainted.

Q. So that, the field being competitive and it being necessary to get the gas to market as soon as possible, the only way of getting the gas to market is by pipe lines?

A. Yes, sir; unless you include manufacture of carbon black or local use for manufacturing purposes near the field.

1876 Q. Well, the carbon black has been mostly manufactured from very low pressure gas, for which no market was available, or which could not be literally transported?

A. No, I think that is not entirely true. We frequently manufactured from gas in the fields having high rock pressure.

Q. In the manufacture of carbon black?

A. Yes, sir.

Q. Who are some of them?

A. I can't give you the names of those, but there were some carbon black factories that were located in Lewis County——

Q. And Kanawha, and Clay County, too?

A. Some in Clay, and some in Kanawha.

Q. The United Fuel Gas Company?

A. I think they have some manufactories.

Q. Of carbon black?

A. Of carbon black.

Q. But with those exceptions of carbon black factories, and strictly local consumption, the necessity for getting the gas to market and disposing of it as soon as possible, as you say, has always rendered it necessary that there should be pipe lines, and that pipe lines should be availed of and used for the transportation of gas to other localities where it could be consumed?

A. Yes, sir, if you find a market it is necessary to lay those pipe lines, in order to dispose of the gas.

Q. In other words, the man that had the pipe lines—or
1877 the company that had the pipe lines had to have the gas supply, and the people who had the gas supply had to have the pipe lines—is that right?

A. I think they were both contingent on each other.

Q. That is the question I asked, is it not?

A. It is an expression of it.

Q. You gave us some computations of operated and unoperated acreage in relation to what you termed the seven largest interstate gas companies and twenty local companies, as you termed them; is the Clarksburg Light & Heat Company included in that list of twenty local companies?

A. Yes, sir.

Q. That is the same Clarksburg Light & Heat Company which we mentioned yesterday in relation to the Clarksburg shortage?

A. It is.

Q. I see included also the Wetzel Natural Gas Company.

A. It is.

Q. Is that the same Wetzel Natural Gas Company which is a subsidiary of the Manufacturers Light & Heat Company?

A. It is not.

Q. Do you know who does own and control it?

A. I do not.

Q. Did your investigation of operated and unoperated acreage of local companies, as you term them, extend to any other companies than these twenty?

A. No, sir.

1878 Q. Did your investigation of records and reports carry you back far enough in the history of these twenty companies to determine whether they ever had any larger operated or unoperated acreage, preparatory to this?

A. They did not.

Q. If they ever had any larger acreage, either operated or unoperated, did you look to see what became of it or how it was disposed of?

A. I didn't examine that.

Q. Did you look to see what became of the acreage formerly owned by the West Fork Oil & Natural Gas Company and the Mountain State Gas Company, which were merged into the Clarksburg Light & Heat Company?

A. I did not.

Q. Did you look to see what became of any of the acreage, operated or unoperated, which was formerly owned by constituent com-

panies, or companies turned over to the Manufacturers Light & Heat Company?

A. I did not.

Q. Did your investigations, or perusal of records, extend to any figures which would indicate why these twenty local companies had no other acreage, either operated or unoperated, in their reports?

A. I made no investigation along that line.

1879 Q. Then you have no knowledge on the subject?

A. I have no personal knowledge on the subject.

Q. Did you ever have any?

A. I doubt if I had, unless at some time, looking at some of those reports, I may have noticed some figures on the matter you mention, but not with a view of applying it to the present case.

Q. If you did look at them, it was prior to October 1, 1919?

A. Yes, sir.

Q. You gave us some testimony as to the necessity of substituting appliances for the consumption of other fuel in Pennsylvania and Ohio, in case this West Virginia supply was cut off from those states, or those people deprived of natural gas as a fuel. Would your observation or your examination of records lead you to the conclusion that if the gas consumers of West Virginia were deprived of natural gas, they also would be compelled to make a substitution of other appliances, or to reconstruct their flues or other parts of their dwelling houses and factories?

A. It would.

Q. The same thing would occur in West Virginia as in Pennsylvania and Ohio?

A. It would. Under similar conditions the same thing

1880 would occur.

Q. Am I correct in recalling your testimony, that if the natural gas supply in Pennsylvania and Ohio became irregular or uncertain, it would create such dissatisfaction on the part of consumers in those states as would tend to cause those consumers to adopt other fuel, and would cause financial loss to the companies supplying them?

A. That was my judgment.

Q. If some other irregularity or uncertainty of service occurred in West Virginia, do you think the same result would follow there, with respect to the gas companies transporting gas out of West Virginia, or the local companies?

A. It would have the same effect, except as to the extent of properties affected. I think the extent of property affected in the case of these larger so-called interstate companies, the amount of money involved in the plant would be greater than it would be in many of the local companies in West Virginia. Otherwise the effect would be the same, except in the matter of degree.

Q. Of loss?

A. Yes, degree of loss.

Q. And with respect to these companies transporting gas

1881 out of the state, a similar dissatisfaction with their service in West Virginia would result from interruption or uncertainty of service, and cause them loss in West Virginia?

A. I think so.

Q. In other words, human nature is the same in all three states?

A. Absolutely.

Q. When you undertook to draw the conclusion or express the opinion that interruption or uncertainty of service would cause such dissatisfaction as to result in driving off consumers and causing their financial loss, you had it in mind that an interrupted or uncertain gas supply in time of need for consumption is practically equivalent to no supply, so far as the consumer is concerned?

A. When it reaches that degree of practically no supply.

Q. That is, if he cannot have the gas when and whenever he wants it?

A. Practically when and whenever he wants it. Any serious interruption, especially in times of extreme cold weather, would cause him to do that.

Q. You would think that was true at breakfast time, or at the time of preparation of meals in warm weather?

A. Largely, yes, sir.

1882 Q. Let us travel back to those figures of 98,000,000,000 and 55,000,000,000 and 32,000,000 of estimated increase of West Virginia consumption, by reason of the operation of this nefarious statute which we have in controversy. I suppose that you had in mind that this West Virginia statute required the delivery to West Virginia consumers of all the West Virginia gas, as long as any of the consumers in West Virginia required it or thought they needed it?

A. To supply an adequate amount for their various needs and demands.

Q. Putting it this way: You meant to imply that by your understanding of the statute and the result of its operation, if there were consumers along all the gas lines in West Virginia calling for or requiring 95,000,000,000 cubic feet of gas, and there were existent or actually produced in West Virginia at the time 95,000,000,000 feet of gas, that 95,000,000,000 would have to be devoted to the supply of those West Virginia consumers?

A. That is my understanding.

Q. Do I correctly understand you to express the opinion that the increase consumption of natural gas, as a result of the enforcement of this statute, would be to cut off or seriously diminish the

1883 supply of gas to consumers in Pennsylvania and Ohio, and cause financial loss to the companies serving those states?

A. Yes, sir.

Q. That was the substance of your testimony on that point?

A. I think so.

Q. Did you make any computation, or have you formed any opinion, as to the amount of increased consumption in West Virginia, which could be provided for by the gas companies, without depriving or inconveniencing Pennsylvania consumers, or causing financial loss to the companies supplying them?

A. I did not.

Q. Would any increase of consumption in West Virginia have the result of depriving Pennsylvania and Ohio consumers?

A. It would have the result of depriving them to that extent, I think.

Q. That is, for every 1,000 feet of added consumption in West Virginia, consumers in Pennsylvania and Ohio will be deprived to that extent?

A. I think so.

Q. And to the extent that the gas companies are prevented from furnishing that 1,000 feet in Pennsylvania or Ohio, those companies will suffer a loss in their plants, or the operation of their plants?

1884 A. And profits.

Q. I want to ask you whether the inconvenience in Pennsylvania and Ohio, resulting from the consumption of this extra 1,000 cubic feet of gas in West Virginia, would occur, whether that extra consumption were brought about by the enforcement of this statute, or brought about by additional consumers, or some other cause?

A. It would occur in the same way and to the same extent.

Q. In other words, if some citizen of New York or New Jersey should move to Clarksburg, West Virginia, and add to the population that way, and consume gas for domestic purposes, some Pennsylvania or Ohio consumer, or the consumers in those states in the aggregate, would be deprived and inconvenienced to that extent?

A. Providing he was located on the lines of some of these interstate companies.

Q. That is what I mean.

A. Where he could obtain some of their supply, or possible supply.

Q. Now, with regard to your knowledge and experience in the natural gas business, and your diligent reading of records, do you anticipate that the amount of natural gas produced in West Virginia will continue to be as great as it has been in the past?

1885 A. It will not, in my best judgment.

Q. The fact about it is that there has been a very heavy decline in gas production in the northern fields of West Virginia?

A. That is true.

Q. And it is your idea that that heavy decline is inevitably coming in the gas fields of southern Virginia?

A. It is.

Q. So that, in leaving this statute out of view, assuming that we wipe it off the books, do you anticipate that there will or can be a continued future transportation of West Virginia natural gas to Pennsylvania and Ohio, in the same amounts as in the past?

A. Not in the same amounts, but possibly in the same relative amounts, for a number of years to come; finally, there will be no gas transported out of the state, is my best judgment.

Q. Why do you say that?

A. I have in my mind the possible action of the Public Service Commission of West Virginia to somewhat limit the consumption

in the state. The industrial consumption in the state of West Virginia as compared to the domestic consumption at the present time is quite large, and a serious reduction in amount of
1886 gas consumed for manufacturing purposes would serve to maintain the present rate of export for a number of years to Ohio and Pennsylvania and other states.

Q. When you say "relatively," you mean to imply that you anticipate that for a number of years in the future Pennsylvania and Ohio will be able to get the same proportion of West Virginia natural gas as in the past, notwithstanding the natural decline of production?

A. That is, providing there is a corresponding decrease in the amount of gas used for manufacturing purposes in West Virginia, and assuming that natural gas will largely be used for domestic consumption, and even in that respect that the use of natural gas will be limited to cooking, lighting and hot water heating, and some incidental heating, eliminating the heating of residences; and in that way I think you will have a continued supply for many years. Of course, the total production will decrease and finally be eventually gone.

Q. Ultimately the amount of gas will become so small that it will be impossible to spread it out over the whole territory?

A. Yes, sir.

Q. Well, in the meantime, you spoke of depriving these dependents who are using gas for heating dwelling houses. Would
1887 that cost or incur any expense for these people?

A. It would, whenever it occurred; when it was necessary for them to make a change for other means of heating their homes, it would cause that expense.

Q. And whenever your natural gas supply becomes so reduced that it is not sufficient to spread it over the whole territory of West Virginia, Pennsylvania and Ohio with what you call relative proportions, those people in Pensylvania and Ohio and West Virginia whom you term dependents will have to incur expense in order to substitute other fuel, and so readjust their domestic arrangements and dwelling houses, will they not?

A. Yes, sir.

Q. The same readjustments and same expense, barring any change in prices of labor and material, as you described as the result of the enforcement of this West Virginia statute?

A. Yes, except the postponement of the evil day.

Q. You want to pass that on to posterity?

A. A very natural thing in regard to humanity.

Q. Now, still carrying out that idea of relative distribution of a diminished volume of West Virginia gas, have your answers involving relative distribution contemplated that that relative distribution throughout the three states would continue until nobody
1888 obtained a practical or available amount of gas for consumption?

A. I hadn't considered the relative distribution of gas in the figures presented. I figured on the results under the operation of the Act.

Q. I know, but I am leaving out the Act.

A. My opinion is that the relative distribution should so continue and probably would so continue, if this Act would not become effective.

Q. Until the supply of gas reached the vanishing point everywhere in the three states?

A. I hadn't felt like going that far. I felt there would be some preference given to West Virginia in the obtaining of the final amount of gas in the territory. That would probably be possible by reason of the excessive cost of transportation, and the necessity of marketing your gas very close home. When it reached that ultimate period of extermination, or discontinuance, at last of production —exhaustion of the supply.

Q. That would depend on the gas companies?

A. I think largely, and financial and operating conditions at that time prevailing.

Q. Then it is your idea that that contraction of territorial service under conditions of diminished West Virginia gas supply
1889 would only occur or be brought about, in order to save the gas companies from loss?

A. I think that would be brought about by financial pressure or financial conditions prevailing with them at that time.

Q. Under natural conditions, it would manifest itself in financial loss?

A. I think so.

Redirect examination.

Mr. Weil:

Q. Mr. Anderson, in giving your prognosis of the conditions resulting from the gradual decline and diminution in the gas supply of West Virginia, and its distribution in Pennsylvania and Ohio did you take into consideration the consideration that in the future as in the past there might be discovered from time to time new fields, either in those states where operations are now being conducted, or in other states, which would supplement that gas supply for all of the states now using gas in this section?

A. I considered a possibility of discovering some new fields, but did not consider it as being very probable.

Q. Did you take into consideration also the fact that the
1890 present supply of natural gas and the supply that might subsequently be obtained, however diminished, might be supplemented by some manufactured gas that might be developed which could be economically mixed with and supplied with the natural gas?

Mr. Hoffheimer: I object to that question as speculative, as not proper redirect examination, and as marvelously leading.

The Commissioner: Note the objection and let the witness answer.

A. In the matter of supplementing the diminishing supply of natural gas by artificial or manufactured gas, I had only felt that

the same would be feasible and practical in the larger towns and cities, and that for the smaller communities and for the scattered consumers along these main transmission lines, it would be impossible to supply them with any gas of any nature when the natural gas supply practically became exhausted.

Mr. Weil:

Q. Do you know that experiments are now being conducted
1891 by those interested in the natural gas business, of processes and methods of developing or procuring a manufactured gas to be mixed with the natural gas, which contemplate the establishing of such plants in the field where the coal is being mined, and the by-products can be preserved and saved, and the gas, as one of the by-products, thus used and turned into these natural gas mains, to supplement the natural gas supply?

Mr. Hoffheimer: That is objected to as a leading question in the superlative degree; for the further reason that it is not proper redirect examination; and also, on the substantial ground that the State of West Virginia knows of no prin-ple under which it is bound to await some one's experiments, or the result thereof, as a condition precedent to the power of the Legislature.

The Commissioner: Note the objection and let the witness answer.

A. I know of a by-product coal and coking plant——

1892 Mr. Weil:

Q. Just answer the question. Do you know of this or don't you?

A. Yes.

Q. It is the fact, is it not, that the men familiar with the natural gas fields, the natural gas industry and the natural gas business, as well as experts who are familiar with that general situation, see the *ultimation* extinction of the natural gas supplies for practical commercial purposes from the fields now developed or discovered, unless there are new fields developed or other methods obtained for supplementing the supply of natural gas with a manufactured product.

Mr. Hoffheimer: That is objected to as leading in the doubly superlative degree, and also as not proper redirect examination, because it does not appear that the witness has the knowledge to qualify to answer the question.

The Commissioner: Note the objection and let the witness answer.

A. It is.

1893 Mr. Weil:

Q. As an expert who has studied the natural gas business, the production, transportation, delivery and consumption of natural gas as a fuel for domestic purposes, do you believe that those who have become accustomed to the use of natural gas for domestic pur-

poses will ever return to the use of such fuels as formerly existed for domestic purposes, such as wood, coal and coke?

Mr. Hoffheimer: I object to that question on all the grounds stated in the three volumes of Greenleaf on Evidence, from pages 1 to 5,000, inclusive, including footnotes and appendixes.

The Commissioner: Note the objection and let the witness answer.

A. I dislike that word "expert." I am just a plain engineer, but I believe that those who have heretofore enjoyed the luxury of natural gas for the purposes mentioned, would not change to other fuels except under compulsion of some kind, either necessity or other compulsion, if the prices at which it could be obtained were at all reasonable.

1894 Recross-examination.

Mr. Hoffheimer:

Q. What do you mean by a luxury?

A. A luxury is that, perhaps, which we heretofore did without, or for which some other reasonable but not so desirable substitute we likely had.

Q. Is that the end of the definition?

A. I think so.

Q. Then you regard the use of natural gas for cooking, lighting, heating of hot water and warming houses as a luxury?

A. Very decidedly a luxury, I think, in one sense of the word, and has almost become a necessity by reason of our becoming accustomed to it.

Q. Well, a luxury is something that people can get along without, isn't it?

A. No, I wouldn't want to give that definition.

Q. Well, you told of a number of people in Pennsylvania and Ohio who were dependent upon natural gas for fuel. Do you think that that on which people are dependent is a luxury?

A. Well, I think a great many of them are dependent upon luxuries. I have always considered natural gas as a real luxury to the human race——

1895 Q. Well, let it go at that.

A. Also a necessity.

Q. Where were these new fields of gas which you considered as possible, but failed to take into consideration, which were mentioned in answer to one of Mr. Weil's questions on redirect examination?

Mr. Weil: That is objected to. The witness did not mention any fields or locate any, or state he had knowledge of any.

The Commissioner: Note the objection and let the witness proceed.

A. I don't know of any new fields. I think I stated that there was a possibility of their discovering new fields; where I don't know.

Q. If you were asked to go out and look for such fields or discover them, you wouldn't know where to turn around?
A. I don't believe I would have very extensive knowledge on that matter. That is usually the province of the geologist, to aid in that search.
Q. In all your testimony, based upon the decline in gas supply, you had in mind that there are no further available fields?
1896 A. I had in mind that there was not much possibility—or not much probability—of discovering any new fields of considerable production.
Q. Well, I won't ask you the difference between a probability and a possibility. Where did you get this extensive knowledge as to experiments in relation to by-product gas?
A. I don't have any extensive knowledge as to by-product gas.
Q. Have you any?
A. I looked into that matter in 1906, to some extent, as to the practicability of manufacturing by-product coke in the coal fields, and at that time it didn't seem to be practical. Since that time, I don't know, I haven't made any extensive study on that subject.
Q. People are still experimenting with it?
A. I don't know.
Q. You don't know whether anybody has succeeded or not?
A. In what?
Q. In making a by-product gas which could be used as a substitute for natural gas.
A. I know that such gas has been manufactured near certain large cities.
1897 Q. Where?
A. I think near Milwaukee, for one.
Q. Wisconsin?
A. Milwaukee, Wisconsin; Gary, Indiana, and there were some other towns—Hamilton, Ohio.
Q. That is all you know of?
A. I think there is a plant being erected at or near Fairmont, West Virginia.
Q. By the Hope Natural Gas Company?
A. I don't know whether that is the company or not.

Mr. Weil:

Q. Do you know of one near Pittsburgh?
A. I have understood that there was one near Pittsburgh, I don't know of it.

Mr. Hoffheimer:

Q. Whose plant is it?
A. Which?
Q. Whose plant is it near Pittsburgh?
A. I don't know.

Recess was here taken until 2 o'clock, p. m.

1898 Friday Afternoon, September 17, 1920.

And now, the hour of 2 o'clock p. m. having arrived, hearing re sumed.

SAMUEL S. WYER, a witness called on behalf of Complainants having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Wyer, what is your business?
A. Consulting engineer.
Q. Where do you reside?
A. Columbus, Ohio.
Q. Will you state the scientific organizations of which you ar a member?
A. Member of the American Society of Mechanical Engineers American Institute of Mining Engineers, American Association fo Advancement of Science.
Q. Are you a member of the American Gas Association?
A. Yes.
Q. Did you occupy any position, and if so, when did it begin with the Natural Gas Conservation Department of the United
1899 States Fuel Administration?
A. During the period of the war, I was in charge of al natural gas work for the United States Fuel Administration.
Q. Will you state what your duties were in that connection?
A. Primarily, to first study the waste situations in all of the vari ous gas fields and larger centers of gas utilization; and secondly work out ways and means for more equitably distributing what wa then recognized to be a rapidly declining national natural resource
Q. And how many years did you devote to that work?
A. Why, I have given practically all of my professional lif to natural gas problems.
Q. For how many years?
A. I graduated from the Ohio State University, College of En gineering, in 1903, and went into private practice very shortly there after, and have given practically all of my time to public utility and natural gas problems since that time.
Q. Are you the author of any treatises on the subject of natura gas and kindred subjects?
A. I have written a textbook on Producer Gas and Gas Producers which was published back in 1905; a pamphlet on Rate Regulation of Electric Power; a treatise on Regulation, Valuation and
1900 Depreciation of Public Utilities; a pamphlet on Depreciation of Natural Gas Wells; a pamphlet on Natural Gas Service prepared a compiliation of all of the leading cases relating to the use of gas compressors; paper before the American Institute of Mining Engineers on "Is it Feasible to Make Common Carriers o

Natural Gas Transmission Lines?"; paper before the American Institute of Mining Engineers on "Development of the Law Relating to the Use of Gas Compressors in Natural Gas Production"; paper before the American Institute of Mining Engineers on "Effect and Necessary Use of Gas Compressors in Natural Gas Production"; paper before the American Society of Mechanical Engineers (jointly with Prof. Robert F. Earhart, Professor of Physics, Ohio State University, Columbus, Ohio), on "Deviation of Natural Gas from Boyles' Law"; paper on "Criteria for Making Public Utility Service Extensions," published in Case and Comment; paper on "The Reasonableness and Legal Right of the Minimum Charge in Public Utility Service;" paper before the American Institute of Mining Engineers on "Principles of Natural Gas Leasehold Valuation;" paper on "Electrolysis Damages from Stray Electric Currents from Single Trolley Electric Railways," published in Case and Comment;
1901 paper on "Effect of Gas Pressure on Natural Gas Cooking Operations in the Home" (jointly with Edna Noble White and Grace Linder, of the Department of Home Economics, Ohio State University),—this was published as Ohio State University Bulletin No. 28; Digest of all of the publications of the Bureau of Standards on Electrolysis of Underground Structures, caused by the Disintegrating Action of Stray Electric Currents from Electric Railways; paper before the Natural Gas Association of America, on "Elimination of Discrimination in Public Utility Rates by Readiness-to-Serve Charges;" paper on "Natural Gas, its Production, Service and Conservation," published as Part 7, Bulletin 102, of the Smithsonian Institution, Washington, D. C.; pamphlet on "Use and Conservation of Natural Gas," published by the United States Fuel Administration; paper on "Fire Hazard due to Stray Electric Currents from Single Trolley Electric Railways," published by National Fire Protection Association; Compilation of Cases Relating to Off-Set Well Drilling; pamphlet on "Waste and Correct Use of Natural Gas in the Home," published as Technical Paper No. 257, United States Bureau of Mines; Catechism on Natural Gas, prepared especially for those teaching conservation of natural gas, pub-
1902 lished and printed as part of the natural gas conservation program of the United States Bureau of Mines.

Q. Have you for some years given attention to investigation of natural gas problems, with special reference to economical features of production, transportation and distribution of natural gas by natural gas companies, natural gas service, valuation of property of natural gas companies, and other questions affecting the production, transportation, distribution and sale of natural gas, and in that connection made an examination of plants and valuations in different localities?

A. I have.

Q. Will you give us a list of such examinations and verifications?

A. Made an examination of valuation of all the property of the Kansas Natural Gas Company, in Kansas and Oklahoma; the Logan Natural Gas & Fuel Company, Ohio; Ashtabula, Ohio, natural gas and manufacturing gas plant Richmond, Indiana, natural and

manufactured gas plants; Terre Haute, Indiana, manufacture
plant; Bloomington, Illinois, manufactured gas plant; Chilli
Ohio, water plant; Richmond, Indiana, private electric plant;
mond, Indiana, municipal electric plant; Lorain, Ohio, el
plant; Warren and Chautauqua Gas Company's natura
1903 plants in Pennsylvania; Manufacturers Company natur
plants in Pennsylvania; Fayette County Gas Comp
natural gas plants in Pennsylvania; natural gas plant of Clarks
West Virginia; all of the natural gas properties of the Hope Na
Gas Company in West Virginia; all of the Peoples Natural
Company properties in Pennsylvania; the natural gas pla
Weston, West Virginia; all of the Eastern Oil Company's na
gas properties in West Virginia and Maryland; all of the na
gas properties of the Ohio Fuel & Supply Company in Ohi
of the natural gas properties of the Philadelphia Company in
sylvania and West Virginia; natural gas property of the Ame
Natural Gas Company in Pennsylvania; natural gas propert
the Natural Gas Company of West Virginia, in Pennsylvania,
and West Virginia; natural gas property of the Phillips Oil &
Company in Pennsylvania; natural gas property of the Potte
Company in Pennsylvania and New York State; natural gas
erty of the Randall Gas Company in West Virginia; natura
property of the United Fuel Gas Company in West Virginia.

Q. In addition to those examinations and reports, have you
reports on natural gas service and plants?

1904 A. I have.

Q. Will you state where?

A. Made a report to the City of Columbus, Ohio (jointly
Prof. E. A. Hitchcock), on the natural gas service rendered
The Columbus Gas & Fuel Company; to the Public Utilities
mission of Ohio, on natural gas pressure regulators; report on
nicipal Natural Gas Plant Failures in Ohio; report on Vital Fea
of the Natural Gas Industry in the United States; report on N
sary Use and Effect of Gas Compressors on Natural Gas Field
ating Conditions in Ohio; report on House Heating Fu
Efficiencies, with special reference to efficiencies that can be
tained with natural gas as compared with solid fuels; repor
Economy of Natural Gas Engine Plants, with special referen
the economies that can be obtained, as against other types of p
movers; report on the distinction between natural gas and m
factured gas service; report on cost comparison of producer
and natural gas; report on the feasibility of making common
riers of the mail lines of the Kansas Natural Gas Company,
Ohio Fuel Supply Company and the Northwestern Oil Na
Gas Company; report on Gas Leakage, with special refer
1905 to current practice in a large number of manufactured
plants; report on Principles of Valuing Public Utili
report on Reasons Why Natural Gas Should Not be Sold
Sliding Scale downward, Based on Mere Quantity; report on
trolysis of Gas Mains from Stray Currents of Electric Street
ways, at St. Louis, Missouri; report on Electrolysis of Gas M

rom Stray Electrical Currents of Street Railways, at Springfield, hio; report on Electrolysis of Gas Mains from Stray Currents of lectric Street Railways, at Lorain, Ohio; report on Electrolysis of as Mains from Stray Currents of Electric Street Railways, at Elyria, hio; report on "When Is the Drilling of Off-set Wells for atural Gas Justifiable?" report on "Definition of What the Term Natural Gas' Means;" report on Reasons for Increased Cost of the Hope Natural Gas Company Gas Service; report on the Reasons or Increased Cost of the Peoples Natural Gas Company's Gas ervice; report on Reasons for Increased Cost of the United Fuel as Company's Service; report on the Natural Gas Rate Situation f the Eastern Oil Company's Natural Gas Property; a report on he Natural Gas Resources of Northern Montana; report on the
Relation of the Natural Gas Industry to the Present Military
906 Needs of the Nation; report on the Natural Gas Service at Louisville, Kentucky, made for the United States Bureau f Standards, Washington, D. C.; report on Natural Gas Conserva- on Work of the United States Fuel Administration, Washington, . C.; report on Natural Gas Waste Situation of the Kansas Natural as Company; report on the Present and Prospective Supply of atural Gas Available in Pennsylvania, made for the Public Service ommission of Pennsylvania; report on Value of Service as a actor in Public Utility Rates, with special reference to natural as rates; report on Ownership of Invested Earnings and Invested urplus in Public Utilities; report on Relative Costs of Natural Gas, oft Coal, Coal Oil, Gasoline and Electricity for Cooking (jointly ith Anna R. Van Meter and Edna Noble White, of the Depart- ent of Home Economics, Ohio State University); report on Reasons or the Increased Cost of the American Natural Gas Company's Gas ervice; report on Reasons for Increased Cost of the Potter Gas ompany's Gas Service; report on Reasons for Increased Cost of atural Gas Company of West Virginia's Natural Gas Service.

Q. What, if any, connection have you at the present time
907 with the United States Bureau of Mines at Washington, with reference to the natural gas industry?

A. I am acting as consulting engineer for the bureau, and am n charge of the natural gas conservation activities of the bureau ll over the United States.

Q. Have you made for them any investigations, and if so, what?

A. There has not been a single complete investigation turned n, covering the industry as a whole. A large number of individual nvestigations, covering either particular local localities or particular hases of waste or utilization conditions have been turned in, and hose are used in the bureau's work, in trying to teach the public nd the gas companies how to produce and transmit gas with less aste and how to use it more efficiently.

Q. Have you been working with the United States Bureau of ines in determining the quality of natural gas in Ohio?

A. I have, in the past.

Q. In the removal of gasoline from natural gas?

A. I have.

Q. With the United States Bureau of Standards at Washington, on the development of the standard type of apparatus de-
1908 termining the specific gravity of natural gas?

A. I have.

Q. On the natural gas safety code?

A. I have.

Q. Have you been working with the Smithsonian Institution at Washington, D. C., on the preparation of a model showing the various steps in prospecting for, mining, transmission and distribution of natural gas?

A. I have.

Q. And with the Internal Revenue Bureau of the U. S. Treasury Department on the valuation of natural gas properties for income taxation?

A. I have.

Q. Have you been working with any of those departments of the United States Government on any other subject, and if so, can you recall any now?

A. The list which has been given, I think, covers all of the important pieces of work that I recall at the present moment.

Q. Have you been employed from time to time as a natural gas expert on the production, transportation and distribution of natural gas by the Federal government, by several states, and by a
1909 number of Public Service Commissions?

A. I have.

Q. And by a large number of municipalities and some of the largest natural gas companies?

A. Well, not very many municipalities; most of the larger natural gas companies of the United States. I have done work for the City of Medicine Hat, Canada; Hamilton, Canada; Columbus, Ohio.

Q. Have you done any public work for the City of Hamilton, Ontario?

A. I have; I mentioned that.

Q. And Medicine Hat, Alberta?

A. I have.

Q. What was it?

A. At Medicine Hat, it was complete investigation of the entire field situation supplying that town.

Q. Field situation of what—natural gas?

A. Natural gas. Of course, that is the most unique natural gas plant in the world. It is a situation where a small number of wells, located in the heart of the town, are supplying the entire town, and the investigation was made because the supply from the wells showed very clear evidence of decline, and they wanted to
1910 know what to do in order to make the supply last for as long a period in the future as possible. At Hamilton, Ontario, it was an investigation of the situation relating to gas service to the entire community.

Q. And what was your investigation with reference to Columbus, Ohio?

A. An exhaustive study there, made jointly with Prof. E. A.

COPY BOUND CLOSE

itchcock, on the field, transmission and distribution systems of
at was then the Columbus Gas & Fuel Company.
Q. And what was your special work in connection with the Public
rvice Commission of Ohio, with reference to the natural gas?
A. Making a study of the use of gas pressure regulators for more
icient distribution of natural gas.
Q. Did you give us the work you have done for and with United
ates Bureau of Standards, United States Fuel Administration
d the United States Bureau of Mines?
A. You have the important pieces of work.
Q. Did you, at the request of the complainants, in the cases of
e Commonwealth of Pennsylvania against the State of West Vir-
nia, and the State of Ohio against the State of West Virginia,
make an investigation and study of the gas situation in West
11 Virginia, and in Pennsylvania and Ohio, with reference to
the statute which is in controversy here?
A. I have.
Q. Were you asked to make that study, with reference to what
ect the statute would have upon the transportation of gas from
st Virginia into Pennsylvania and into Ohio?
A. I was.
Q. And have you given much time and consideration to the in-
tigation of those questions?
A. I have.
Q. Will you give us the definition of the term "gas" and of the
m "natural gas," and the distinguishing features?
A. The fundamental conception of the word "gas" embraces the
owing: gas is a fluid composed of a large number of molecules
ich are vehicles of energy continually in motion, and having an
erent tendency to get farther and farther apart. The range of
tion of the molecules is limited only by the volume of the closed
taining vessel in which they constantly move to and fro. Every
molecule possesses the inherent power of energy and is eter-
2 nally energetic within itself—that is, the molecules are in a
state of constant bombardment against each other and against
sides of the containing vessel. The most distinguishing charac-
stic of gas is its universal property of completely filling an en-
ed space.
he term "natural gas" is used to denote a gas that is highly com-
ible and made by a secret process of nature. It is not a chemical
pound, as popularly supposed, but a mechanical mixture of
ral combustible and diluent gases and vapors thoroughly dif-
d through each other. The number and exact proportion of the
ous crude natural constitutents vary for the different localities,
somewhat during the working lives of individual wells.

Mr. Hoffheimer: I move to strike out that answer as having no
ing and shedding no light on this case or the issues involved
ein, and for the further reason that the answer is irresponsive
he question.
he Commissioner: Note the motion.

IN CENTER

1913 Mr. Weil:

Q. What is the cause of gas pressure?

A. Starting with the fundamental definition of natural gas just given in the record, the inherent tendency of gas to expand is the basic cause of all gas flow. Gas flow in pipes or underground reservoirs cannot take place except between openings of higher to openings of lower pressure. This flow can be obtained only by sacrificing pressure. This is in accordance with the universal law that as long as energy of any form undergoes no transformation it tends to gravitate to a lower degree of intensity—that is, becomes more stable and approaches a universal level of stable equilibrium; thus, water always seeks the lowest level and confined gas always tends to expand to lower pressures. Even where gas compressors are used to increase the pressure by contracting the volume, the gas is not pushed through the pipe like a plug of incompressible fluid like oil or water, but goes through by virtue of the increased expansive force resulting from the higher pressure.

Mr. Hoffheimer: I make the same objection with respect to the answer last given. I also call the attention of the Commis-
1914 sioner to the fact that, in answering the two last questions, the witness has read out of a bulky treatise of some sort, in regard to matters concerning which, if he is competent at all, he is competent to testify without the aid of refreshing his recollection. We have no objection to the witness referring to appropriate memoranda, in reference to statistical or technical matter; but we do object to the witness's constant reference—and more than reference, his reading verbatim out of a book before him—as entirely improper. This objection is made not only in respect to the last two preceding answers, but to any further or future pursuance of the same course in this examination.

Mr. Weil:

Q. What is the document from which you are reading?

A. Merely a notebook.

Q. Of your own?

A. Yes.

Q. Prepared by yourself?

A. It was. The answers were read in merely in the inter-
1915 est of accuracy.

The Commissioner: Let the motion be noted and the witness proceed.

Mr. Weil:

Q. What is the effect of pressure on gas volume?

A. Gas pressure is the result of the combined efforts of all of the moving molecules in the gas trying to get farther and farther apart—that is, a mass of gas enclosed in a vessel expands and fills it, and being restrained from further expansion, it exercises a pressure against

the falls of the vessel. This pressure is the same in all directions on equal areas of surface. Not only is every gas molecule eternally energetic, but its energy may be augmented or retarded by external conditions. Contracting the volume of gas increases the intensity of its internal molecular motion, and therefore increases its pressure. Conversely, expanding the volume of a given mass of gas decreases the intensity of its internal molecular motion, and therefore decreases its pressure,—that is, with a given mass of gas any increase in volume of the containing vessel will give the
1916 molecules more range of motion, and thereby lower the pressure. Thus, if a part of a given mass of gas is removed from a closed vessel or reservoir, the remaining mass of gas will expand instanter and keep the vessel or reservoir filled, but at a lower pressure.

Mr. Hoffheimer: I renew the motion to strike out the last preceding answer, and call the Commissioner's attention to the fact that the witness read that answer out of his book.

The Commissioner: Note the motion. The answer was read from a book which the witness stated to be his own notebook, in which he has prepared a statement of the principle which he undertook to announce. The Commissioner assumes that the witness read from the notebook in order to condense his answer. The witness may proceed.

Mr. Weil:

Q. Have you prepared a diagram showing the amount of gas to be contracted by the application of pressure, and the effect thereof?

A. I have.

1917 (Diagram produced and marked as "Pennsylvania Exhibit No. 35—Wyer.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 35—Wyer," and ask you if that is such diagram?

A. It is.

Q. Will you explain that, please?

Mr. Hoffheimer: That is objected to, and objection is also made to the diagram if proposed to be offered in evidence, on the ground that it has no materiality or relevancy, and does not shed any light upon the issues in this case, and tends to encumber the record with a mass of theoretical matter which can serve no useful purpose.

The Commissioner: Note the objection and let the witness proceed.

A. The diagram in question illustrates graphically one of the big fundamental features of natural gas transmission and one of the fundamental principles on which the whole transmission problem of natural gas is predicated, and shows the effect of taking a given mass of gas and raising the pressure from one-quarter of a
1918 pound, or four ounces, gauge pressure, to 300 pounds per square inch gauge pressure, and by so doing, contracting the volume from 1,000 cubic feet to 46 cubic feet.

Q. As a matter of mathematics then, this volume has been contracted 21.7 times?

A. That is correct.

Q. Has it had any effect whatever—this contraction—upon the total heat units that were originally contained in the gas?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. It is not.

Q. Now, will you explain what makes gas flow?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. The fundamental definition previously read into the record from the notebook gives the basic engineering features, to wit,
1919 that the fundamental reason for gas flow is its inherent tendency to expand, and the gas flow always and only takes place from points of higher to points of lower pressure,—that is, you cannot have any flow of gas without a loss of pressure.

Q. Now, what is it that is usually denominated as the gas rock or the gas sand in a gas field?

A. Natural gas, as it exists in the underground formation, exists in a state of relatively high pressure, the gas having been compressed by some unknown process of Nature into the small spaces between the grains of sand rock,—that is, the gas is not found in a cavern or huge cavity or large room; the gas is found always and only in the very minute spaces that exist between the grains of sand that are cemented in a compact mass relatively that go to make up the main body of the sand rock, which, by common consent, has been called gas sand, although in reality it is a sand rock.

Q. What information has the trade or engineering profession as to the extent to which this gas rock or gas sand extends over any given area, or as to the quantity of gas that is contained therein in any given acreage?

A. The only way that you can get accurate information as to the actual presence is by drilling down from the earth's surface
1920 and puncturing the rock. By the number of holes that would normally be drilled in the average field and the limits that could be approximately fixed for the outline of a pool, and the known thickness of sand, and the degree of porosity, very rough estimates may be made, knowing the rock pressure, as to the amount of gas that is possibly stored underground. However, those estimates all, from the very nature of the limited and meagre data, must be accepted with a very wide range of possible variation from the exact facts to be found later on in the actual removal of the gas.

Q. Is there any way of determining the degree of hardness or porosity—or closeness or porosity, I will put it—of this gas sand or rock, under any given area?

A. Not accurately.

Q. Is it not the fact that in any given field, as experience has demonstrated, a gas well would be drilled at one point, producing

certain quantity of gas for twenty-four hours, and another well illed perhaps 500 or 1,000 feet therefrom, and produce many nes the same quantity of gas as the other well for twenty-four urs, or perhaps many times less? Is that not the experience in all s fields?

A. It is.

21 Q. Can the operator determine in the operation of a gas field in a given territory what character of well—that is, what lume it will produce—by knowing the volume that is being pro-ced by any other well in the same field?

A. Not definitely; except by drilling the hole and actually testing.

Q. And it is the fact that these wells in the same territory and in same field do vary enormously?

A. I have frequently seen dry holes within two hundred feet of ducing wells. That is not an unusual situation.

Q. And after going 200 or 300 or 400 feet farther, you can find ducing wells?

A. Yes, sir.

Q. Now, what do you understand by the term "rock pressure"?

A. When nature compressed the gas into the minute microscopic ces existing between the sand grains, the pressure employed was y high, and a very much larger volume of gas was forced into these nute spaces than the mere net volume of the underground reservoir ld contain—that is, by some unknown process nature forced in compressed the gas into this underground reservoir, and in so doing created a definite high pressure. That pressure of the

2 gas, as it exists in this underground reservoir, is known as the rock pressure, and this pressure is inserted and is the result he molecular activity in the gas, as discussed in the first funda-tal definitions read from the notebook.

Q. Does a high rock pressure or a low rock pressure, as the case be, determine the quantity of gas—the volume of gas—that flow during any period of twenty-four hours, let us say, from well?

A. No.

Q. Does a high rock pressure—or, conversely, a low rock pres—indicate a large or small volume of gas in a given area?

A. It does not.

Q. Has the experience of the trade demonstrated that where there well in a sand that is called by the trade open or porous, or of t porosity, it exhausts itself much more quickly than where the is close and the volume of gas therefore produced smaller?

Mr. Hoffheimer: That is objected to as going into immaterial de- having no bearing on the issues, and tending to encumber the record.

The Commissioner: Note the objection and let the witness proceed.

A. The possibility of getting the volume of an open sand well out kly depends entirely on the pressure conditions prevailing at the th of the well. If those conditions are such that relatively low

pressures are maintained, then the well from the open sand will discharge its gas in a very much shorter period of time than one where the sand is compact.

Q. Is there then known to the trade or the profession of natural gas engineers any method of determining, either from the character of the sand or the volume of gas produced or the rock pressure, the amount of gas that can be obtained from any given area?

A. Estimates can be made that would apply rather closely, if a large number of wells are involved. However, estimates made on one or two wells will have the probability of ultimately being very far from the fact.

Q. As I understand your answer then, the estimates would not be of much value, unless the territory had been substantially drilled over?

A. And you had the data from a rather large number of wells, so as to get a fair average, rather than the figures pertaining to merely one or two wells.

Q. Now, how is natural gas severed from soil?

1924 A. Natural gas is severed from the soil in two definite steps. After the hole is drilled, the first step—assuming that a producing well has been found—is to place what is known as a packer at or near the bottom of the well——

Q. Just a moment, before going into that. Have you prepared a diagram showing this process?

A. I have.

Q. Will you produce it?

A. The heading of the exhibit is, "How natural gas is severed from the soil, brought under control and delivered into a fixed closed container."

(Diagram produced and marked "Pennsylvania Exhibit No. 36—Wyer.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 36—Wyer," that being the diagram which you have referred to, and I will ask you to make your explanation from that diagram.

Mr. Hoffheimer: That is objected to, and the diagram itself, if proposed to be offered in evidence, is objected to as encumber-

1925 ing the record with immaterial details and shedding no light upon this case or the issues therein. The defendant concedes, for the purpose of this case, that natural gas is severed from the soil by the drilling of wells and piping the gas through and from the wells.

The Commissioner: Note the objection and let the witness answer.

A. Referring to Pennsylvania Exhibit No. 36, the packer is shown at the left. This is the first step in severing the gas from the soil. The black substance at the side of the packer is a rubber ring, which in the set of the packer is compressed against the walls of the gas well hole, and in so doing seals the space between the pipe and the rock, so as to make it impossible for the gas to come up to the sur-

ace, except as the gas first, because of its inherent tendency to ex-
and, goes into the packer, then starts up towards the surface through
he tubing. The final step in the matter of severance is shown at
e right on this same exhibit. This diagram shows the well fittings
n the ground, and after the gas comes up through the tubing from
the packer, usually set about one-half mile below the earth's
926 surface, this gas, by virtue of its inherent tendency to expand,
forces itself out through the shut-off gate, through the check
alve, and the gas is then delivered into a fixed closed container.

Q. Is the gas at that point then on its way to market?

A. Assuming that the gate valves beyond it are open, the gas would
en immediately begin its journey to the ultimate consumer, fre-
ently many miles away, and possibly in another state.

Mr. Hoffheimer: I move to strike out the statement as to the gas
ing on its way to market many miles away and possibly to other
ates, as irresponsive to the question, being merely a suggestion by
e witness.

The Commissioner: Let the motion be noted.

Q. Have you prepared a diagram showing the manner in which
tural gas is transmitted to the ultimate consumer?

A. I have.

Q. Will you let me have it?

(Diagram produced and marked as "Pennsylvania Exhibit No.
—Wyer.")

27 Q. I show you diagram marked "Pennsylvania Exhibit
No. 37—Wyer," just produced, and ask you to explain that.

Mr. Hoffheimer: The question, and diagram itself, if proposed to
offered in evidence, are objected to as involving immaterial de-
ls and tending to encumber the record; for the further reason that
e diagram bears notations which, if competent, relevant or
terial, have no place upon the diagram, but are the subject of
rmative testimony.

The Commissioner: Let the objection be noted and the exhibit
sidered.

Q. In view of the objection as to the notation here "in another
e," I would ask you if this same process, as exhibited by this
gram, would be followed where the gas is transmitted to the con-
ner in another state?

A. It would.

Q. Now, answer the question.

A. Pennsylvania Exhibit 37 shows in diagram-atic form the im-
tant features of natural gas transmission from the gas sand
usually one-half mile below the earth's surface to the ultimate
28 consumer's gas using appliance. Referring to the exhibit,
gas well is shown at the left. Here the hole has been drilled
m from the earth's surface, until the gas sand has been reached,
by puncturing the gas sand, the gas is enabled, due to its in-

herent tendency to expand, in accordance with the fundamental definitions previously read into the record from the notebook, to come to the surface. At the surface, the gas then passes through the gate valves, out into the gathering line, and begins its journey to the ultimate consumer. As the gas passes through the line, the pressure must drop, for the fundamental reason that there can be no gas flow without a loss of pressure. Under ordinary conditions, the rock pressure in the sand forces the gas out into the gathering line. As the rock pressure declines, due to the removal of the gas, the pressure in the line will of course also decline, and, in order to enable the gas to be transmitted to the ultimate consumer, it is necessary to instal what are known as compressing stations, to re-compress the gas by mechanical means, so that, by virtue of the higher pressure, the gas may then continue its former journey toward the ultimate consumer. After the gas passes the com-
1929 pressing station, it again travels through the line by expansion, going through the gas cooling basin immediately ahead of the compressing station,—the object of this cooling basin being merely to cool the gas, which has become heated by the mechanical work of compression. The gas then goes into the main transmission lines, is carried to the gates of the various distributing plants, should be measured at the gates of the town, as shown in the diagram, is delivered to the medium pressure regulator, shown in the upper right hand corner of the diagram, where the pressure is reduced and regulated to the pressure limit carried in the medium pressure line, usually 15 or 20 pounds. From the medium pressure regulator, the gas travels again by expansion through the medium pressure lines to the low pressure regulator, where the pressure is again reduced to that carried in the low pressure line. From this the gas then passes through the low pressure line into the service line going to the ultimate consumer's premises, through his gas meter, and is then delivered to the gas meter. The whole series of steps between the gas sand, shown in the lower left hand corner of the exhibit, and the kitchen stove shown at the bottom near the middle of the exhibit, represents a continuity of service features,—that is, the
1930 gas is never at rest, but is a constantly seething, moving mass, and that movement must be continued clear through the entire system, in order to enable the ultimate consumer to get the gas delivered under working conditions at his appliance.

That statement, of course, would apply to any type of appliance used, whether it were a kitchen stove, a mantel lamp or a large industrial furnace. The underlying principle relating to the transmission of gas through these lines to the ultimate consumer's appliance would be the same.

Q. From the moment the gas leaves the mouth of the well until it reaches the ultimate consumer, is it ever at rest?

A. It is not.

Q. Where the ultimate consumer resides outside of the state where the gas well is located, when the gas starts on its journey from the mouth of the well, is it ever at rest until it reaches such ultimate

consumer beyond the state line of the state where the gas well is located?

Mr. Hoffheimer: That is objected to as repetition.
The Commissioner: Let the objection be noted.

1931 A. No.

Q. Why does rock pressure and volume necessarily decline,—or, let me put the question in another form: does rock pressure and volume necessarily decline, and if so, why?

A. You cannot remove gas from an underground reservoir without ultimately making the rock pressure itself decline. The reason for this is in accordance with the fundamental definitions previously read from the notebook, namely, that the gas itself is continually in motion, as far as the molecular activity of the gas itself is concerned, and because of gas pressure, as previously explained, as the result of the molecular bombardment against the walls of the containing vessel; and, since there is no regeneration but merely the compression of a fixed mass of gas into a closed containing reservoir, a removal of a part of that gas will, of course, not alter the total volume of the reservoir, but by virtue of such partial removal, the residue gas left in the underground reservoir will instanter expand and keep the underground reservoir completely filled, but at a lower pressure. That lower pressure represents the lower rock pressure that will prevail after a period of time following the removal of a part of the volume of gas in the underground reservoir.

1932 Q. The degree of decline and rapidity of decline depends, does it not, upon the several contingencies—First, the pressure under which it is contained in the sand or rock; and, secondly, the amount that is removed?

A. Correct.

Q. When this removal continues, what is the fact as to there being necessarily a continuance, ever-increasing decline?

A. You cannot remove gas from the reservoir without lowering the pressure. Therefore, the continued removal of the gas in the ordinary routine of commercial operation for marketing the gas, must result in an inevitable lowering of the rock pressure. The two go together and are inseparable.

Q. Why are natural gas compressors used, and are they necessary?

A. Natural gas compressors are used merely to recompress the gas, and in that way supplement the declining natural rock pressure, so as to fit or prepare the gas for transmission through the lines to the ultimate consumer.

Q. Do you know how long natural gas compressors have been in use by natural gas companies?

A. The natural gas compressing art is over thirty years old.

Q. Are they all substantially of the same character?

1933 A. Practically all follow the same fundamental principle.

Q. Have you made a diagram of a natural gas compressor such as is in general use?

A. I have.

(Diagram produced and marked as "Pennsylvania Exhibit No. 38—Wyer.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 38—Wyer," and ask you if that is the diagram of the natural gas compressor which has been prepared by you?

A. It is.

Q. Will you explain the operation of that compressor on that diagram?

Mr. Hoffheimer: That is objected to on the grounds stated in the objection to the explanation of previous diagrams, and the diagram itself is objected to, on the grounds previously stated.

The Commissioner: Note the objection and let the exhibit be considered.

A. The diagram on Pennsylvania Exhibit No. 38 shows
1934 the salient features, as far as principles of operation are concerned, of a typical natural gas compressor. The various steps in compressing gas with this device are described in detail at the left of the exhibit, where the letters refer to the letters on the diagram.

Q. Well, describe it.

A. The action of a typical gas compressor is illustrated in the diagram at the right of Pennsylvania Exhibit No. 38. A is a reciprocating piston, working in cylinder B. C and D are inlet valves to the cylinder, and E and F are discharge valves to the cylinder, drawn to their seats by the springs K K. All the gas wells are connected to the intake side of a compressor, so that the pressure from the wells drives the gas to the compressor. As the piston moves in the direction of the arrow, the inlet valve C is opened by the higher pressure of the gas in the intake G, and the gas then rushes from G through C into the space H. As the piston moves toward the end of its stroke, the gas in space I is forced out into the discharge line J, through the discharge valve E. When the piston A reaches the end of its stroke, the spring K closes the valve C, and on its return stroke the piston A compresses the gas
in H until the pressure is great enough to open the discharge
1935 valve F, and thereby drive the gas out into the discharge line J.

The previously described cycle is, of course, repeated at a rather high rate of speed continuously, larger compressors frequently having at least two double-acting pistons and operating at rates of more than 100, 150 revolutions per minute.

Q. The gas then is compressed by both the up and down stroke?

A. Correct—Because the diagram shows a double-acting compressor. Of course, there are a large number of single-acting compressors in use, but the principle of operation is the same.

Q. What is the capacity of some of the compressing stations with which you are familiar, on some of the lines?

A. I cannot give the exact capacity, but many of the larger stations will run up into thousands of horse power. In fact, a typical unit is a twin double-acting gas engine that will vary from

1,100 to 1,300 horse power for each unit, and many of the larger stations have a rather large number of these units in the same station.

Q. Could natural gas be transmitted through pipe lines for long distances without the use of these natural gas compressors?

A. It would not be expedient. It would be physically
1936 possible to build a large number of lines to do it, but the cost would be prohibitive, and building the compressing station is the economical way of transmitting it.

Q. Do you recall the time in the infancy of the natural gas business when the transmission lines were constructed with the smaller lines at the intake and gradually increasing to very large lines at the outlet end of the line, at the point of consumption?

A. Yes, that was true in the early stages.

Q. Instead of using compressors at that time, it was sought, was it not, particularly in the Pittsburgh district, by the Westinghouse interests, to transport the gas—to transport the gas in that way?

A. It was.

Q. Do you recall now what was the size of the pipes at the outlet?

A. At least 42 inches in diameter. I know positively that 42-inch pipe was used, a great deal of 36-inch was used, and a great deal of 30 was used.

Q. That method of transportation was superseded, was it not, by the introduction of natural gas compressors?

A. It was.

Q. The other method of transmission was found impractical, was it not?

1937 A. Too expensive.

Q. We sometimes hear—have heard in this examination—of natural gas transmission lines and natural gas transportation lines, of transporting natural gas and transmitting natural gas; will you give us the distinction between "transmission" and "transportation," as applied to the natural gas industry?

A. "Transportation" fundamentally, from the roots of the word, means literally to transport over, or carry over. "Transmission" likewise means more nearly literally to transmit through. Natural gas is never transported over the line, it always passes through. Furthermore, there is entire or absolute continuity in that transmission from the gas sand in the field to the ultimate consumer's utilization appliance. Because it is transmitted through rather than carried over, it is my personal belief that the word "transmission" more actually describes the transference of natural gas from the field to the ultimate consumer many miles away, by the usual commercial means of pipe lines.

Mr. Hoffheimer: I move to strike out that answer as irresponsive to the question, and as irrelevant. We fail to see how that etymological discussion enters into this case.

1938 The Commissioner: Note the motion.

Q. By reason of this distinction, as applied to natural gas transmission and transportation, what would you say as to being able

to take out or off from a line by any part of the gas therein with affecting the whole transmission system?

A. You cannot.

Q. And to bring out—in view of the objection that has be made—the purpose of this distinction: if there are being tra ported over a line of railway a thousand cars of coal, when you t in the State of West Virginia 100 of those cars, it does not aff the delivery of the other 900 cars, does it?

A. That is correct.

Q. But if you take out of the line through which gas is bei transported, out of a thousand feet thus being transported, 100 f before it leaves the line of the state of West Virginia, what is t effect on the other 900 feet which was being transported throu that line?

A. You immediately disturb the pressure conditions, and there alter the flow capacity of the line—that is, the diversion of natu gas from a transmission line is not merely a separation
1939 the commodity from the line, but by virtue of that separati you get an inevitably disturbed pressure condition, whi if the amount of gas diverted is large enough, may annihilate service at the extreme end of the line to the ultimate consumer.

Q. Even though the amount of gas taken out would not be t entire capacity of the line?

A. That is correct.

Q. Have you prepared from the exhibits that have been offe in evidence in this case—that is, from the map exhibits that h been offered in evidence in this case—and from the records of t respective companies, photographic reproductions in size of m showing how the West Virginia gas is transmitted by these respect companies to other states, by the Fayette County Gas Company, t Hope Company, the Reserve Company, United Fuel Gas Compa Manufacturers Light & Heat Company, Philadelphia Company, C negie Natural Gas Company, and the Eastern Oil Company?

A. I have.

Q. Will you give me those?

(Eight maps produced and marked as Pennsylva
1940 Exhibits Nos. 39-A to 39-H, inclusive, showing main li and properties of the several gas companies, as follows:

No. 39-A—Fayette County Gas Company;
No. 39-B—Hope Natural Gas Company;
No. 39-C—Reserve Gas Company;
No. 39-D—United Fuel Gas Company;
No. 39-E—Manufacturers Light & Heat Company;
No. 39-F—Philadelphia Company;
No. 39-G—Carnegie Natural Gas Company;
No. 39-H—Eastern Oil Company.)

Q. Now, take Pennsylvania Exhibit No. 39-A, showing the F ette County Gas Company. This shows in the black lines, does the lines of the Fayette Company—the pipe lines of the Fayette C Company?

A. Correct.

Mr. Hoffheimer: This is objected to, and the map itself, if proposed to be offered in evidence, is objected to, because no proper foundation has been laid for the introduction of the map, nor has any proper foundation been laid for questions based upon the map; and for the further reason that the map itself contains nota-
1941 tions or legends which have no place on the map, but which, if competent, relevant and material, are the subject of testimony by the witness, or some other witness having competent knowledge.

The Commissioner: Note the objection and let the witness answer.

Q. Was this map of the Fayette County Gas Company prepared under your direction?

A. It was.

Q. Was it made from the records of the Fayette County Gas Company?

A. It was.

Q. Does it correctly represent the lines of the Fayette County Gas Company, the location of its wells, towns supplied by it, and the contour and direction of its pipe lines?

A. It does not show any of the local wells in Pennsylvania. It shows all of the other features that you have mentioned. The Fayette Company has a few local wells in Pennsylvania; those are not shown on this map.

Q. It shows the location of the territory of the Fayette Gas Company in West Virginia, does it?

1942 A. The Fayette Gas Company has no territory in West Virginia at the present time. It shows, however, the territory in West Virginia which was formerly—at least in part—owned by this company, and which is now used for furnishing gas service to the Fayette County Gas Company.

Q. Does this map, Pennsylvania Exhibit No. 39-A, show the geographical location of the pipe lines of the Fayette County Gas Company?

A. It does.

Q. Both in West Virginia and in Pennsylvania?

A. Correct. But you must bear in mind that the Fayette County Gas Company does not at the present time own any pipe line property in West Virginia, and the pipe lines that are shown here are those pipe lines of the Hope Natural Gas Company that are used particularly for service to the Fayette County Gas Company across the state line. That is, the gas is produced by the Hope Natural Gas Company, transmitted to the Wade measuring station, and then delivered there to the Fayette County Company. They take it on into Pennsylvania.

Mr. Hoffheimer:

Q. What company is that in West Virginia?

A. Hope Natural Gas Company.

1943 Mr. Weil:

Q. The gas is produced in West Virginia by the Hope Company in Marion and Monongalia Counties, is it?

A. Correct.

Q. And you say, delivered to the Fayette County Gas Company at Wade Station on the Pennsylvania-West Virginia state line?

A. Correct.

Q. And it is then delivered to the towns, cities, named in Fayette and Westmoreland Counties in Pennsylvania?

A. Correct.

Q. What are some of the largest cities supplied by it in Pennsylvania?

A. Uniontown and Connellsville are the two principal towns.

Q. What about Vanderbilt?

A. That is also supplied.

Q. And Scottdale?

A. All of the towns supplied are shown on this map in the black circle.

Q. You say Connellsville and Uniontown are the two largest cities?

A. Those are the two principal centers of utilization.

Q. Do you know how large a city Scottdale is?

A. I cannot give you that from memory.

1944 Q. The legend which is contained in the left upper corner of the map shows the producing gas wells in Pennsylvania, the natural-gas-using towns, transmission lines, compressing stations, and measuring stations, and the red lines show the direction of the gas flow?

A. Correct.

Mr. Hoffheimer: I move to strike out all evidence of the witness relative to gas production, gas flow and gas supply by the Fayette County Gas Company to cities and towns in Pennsylvania, as not based upon any personal or competent knowledge of the witness himself, and as manifestly constituting hearsay.

The Commissioner: Let the motion be noted.

Q. You made an examination, did you not, as you previously testified, of the Fayette County Gas Company's gas plants?

A. I have been consulting engineer for that company for about eight years.

Q. Are you personally familiar with its plant?

A. I have been in every town, made a valuation of its property.

1945 Q. I next call your attention to Pennsylvania Exhibit No. 39-B, being the map of the main lines of the Hope Natural Gas Company in West Virginia, and I will ask you if you are familiar with the lines of the Hope Natural Gas Company, and if you have made an examination of its plant and property in West Virginia?

A. I have.

Q. Does this map correctly show the transmission lines of the Hope Natural Gas Company?

A. It does.

Q. Was it prepared under your personal direction?

A. It was. In fact, it was prepared from the same map which was used in the valuation of the property of the Hope.

Q. I call your attention to the legend in the left upper corner of this map; you have designations there showing the compressing stations, measuring stations, towns supplied with natural gas, and the red lines indicate the direction of the gas flow.

A. Correct.

Mr. Hoffheimer: That is objected to, and any questions based upon this map as well as the map itself, are objected to, because
1946 the map contains notations, which do not constitute a proper subject matter of the map, but which, on the contrary, are a matter for testimony by a witness otherwise competent.

The Commissioner: Note the objection, and let the witness proceed.

Q. Are these statements in red, which are printed upon this map, anything more than repetition of that to which you have already testified in this case?

Mr. Hoffheimer: That is objected to as calling for an opinion or conclusion of the witness, and as an improper method of examination.

The Commissioner: Let the objection be noted, and the witness may proceed.

A. The red ink figures are merely the salient engineering facts of natural gas transmission, all of which have been covered in the previous testimony.

Mr. Hoffheimer: I move to strike out the answer, on the ground stated in the objection.

The Commissioner: Note the motion.

1947 A. (Continuing:) The map merely takes the fundamental principles and localizes those as far as local geographical features are concerned.

Motion to strike out renewed.

The Commissioner: Let the motion be noted.

Q. At what points on the state line of Ohio does the Hope Natural Gas Company deliver gas?

A. Well, its principal delivery into the State of Ohio is to the connections of the East Ohio Gas Company.

Q. And where are those?

A. There are two connections immediately opposite the village of Clarington, which is to the right of the letter "H" in "Ohio," on the Ohio River. The other two connections are a short distance to the north, southeast from the final "O" in the word "Ohio."

Q. What about the delivery at the point marked "Marietta, Ohio"? To whom is the delivery made there?

A. There is a small amount of gas sold at Marietta, at Bellpre, farther down the river, and several other places farther up. The major part of the delivery, however, is to the East Ohio Gas
1948 Company at the two points first described.

Q. Are there any deliveries also at Eureka and Belmont?

A. There are.

Q. And New Matamoras?

A. Well, Eureka and Belmont are not on the Ohio side; New Matamoras is on the Ohio side.

Q. Where are the principal deliveries made as between the West Virginia and the Pennsylvania state line?

A. The largest delivery is at a point just south of the Brave compressing station, where the gas is delivered to the Peoples Natural Gas Company. Another delivery farther east is where the Hope Company delivers to the Fayette County Gas Company.

Q. And what about the other delivery to the Peoples Natural Gas Company above Littleton?

A. There is a delivery made there. The Hope line runs to the state border, and the Peoples line then takes the gas from there and takes it over.

The Commissioner:

Q. At Brave station?

A. Yes.

An adjournment was here taken until Tuesday, September 21, 1920, at 11 o'clock, A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Tuesday, September 21, 1920.

949 And now Tuesday, September 21, 1920, the hour of 11:00 o'clock A. M. having arrived, hearing resumed pursuant to djournment.

Present: The Commissioner, Levi Cooke, Esq.; on behalf of The ommonwealth of Pennsylvania, A. Leo Weil, Esq.; on behalf of he State of Ohio, Freeman T. Eagleson, Esq.; on behalf of the tate of West Virginia, Philip R. Steptoe, Esq., and George M. offheimer, Esq.

SAMUEL S. WYER resumes the stand.

Direct examination (continued).

Mr. Weil:

Q. When we adjourned on Friday last, I was examining you at hat time with reference to the map of the Hope Natural Gas Company, being Pennsylvania Exhibit No. 39-B. While I asked you this map correctly shows the transmission lines of the Hope Natural Gas Company, I omitted to ask you if it correctly
950 shows not only the transmission lines but also the compressing stations, measuring stations, towns supplied with natural as, and the direction of the natural gas flow.

A. That is correct.

Q. It shows that?

A. Yes, sir.

Q. And correctly shows it?

A. Yes, sir.

Q. I now call your attention to map showing the main lines o the Reserve Gas Company in West Virginia, identified as "Pennsy vania Exhibit No. 39-C—Wyer," was that map prepared unde your direction?

A. It was. The entire map is predicated upon the company original map records and surveys, and correctly shows the gener location of the main lines, compressing stations and the larger mea uring stations, the general direction of gas flow and the connectio to interstate transmission lines.

Q. Are you familiar with these lines, and have you been over th same personally at different times?

A. I have.

Q. And know that this is a correct representation of the lines o the Reserve Gas Company, which you have just described?

1951 A. It is.

Q. Now, where does it obtain its gas, in what counties?

A. In Harrison and Lewis Counties, West Virginia.

Q. What, if any, towns in West Virginia, does the Reserve Ga Company supply?

A. It does not supply any towns of any consequence. There ar some small hamlets, but they are not shown on this map.

Q. Does it supply the towns of Camden and Wilsonburg?

A. I believe that is true, but I am not absolutely sure about tha

Q. I notice that notation on the map. Now, does this show th general gathering lines?

A. Because of the smallness of the scale, only the larger lin could be shown. Individual wells and the individual gatherin lines from the wells to the main lines could not be shown on th small scale.

Q. But it shows the larger gathering lines?

A. Yes, sir, and everything in the way of main transmissio lines from the compressing stations forward to the western termin at the Ohio River crossing.

Q. Now, what compressing stations does this company have?

A. Wilsonburg, Camden and Kennedy.

Q. What about Corrin?

1952 A. Corrin is correct, too.

Q. Where are the measuring stations?

A. The main line measuring station measures the gas going ou of West Virginia, and is located at Dry Fork, near the weste boundary line of Lewis County.

Q. Where does this deliver gas on the state line between We Virginia and Ohio?

A. It delivers at the Ohio River to what is known as the Co necting Gas Company, which is merely a transportation compan having two 16-inch lines running from the Ohio River to Sug Grove, Fairfield County, Ohio.

Q. And that gas is taken, is it, to Ohio and Indiana?

A. Correct.

Q. At what point is that, in what county?
A. The western terminus of the Reserve Gas Company's main line is in Wood County, where the lines cross the Ohio River.

(Pennsylvania Exhibit No. 39-D shown witness.)

Q. I now call your attention to "Pennsylvania Exhibit No. 39-D—Wyer," which purports to be a map of the natural gas property of the United Fuel Gas Company in West Virginia, Kentucky and Ohio, as of January 1, 1919. Are you familiar with
1953 this property of the United Fuel Gas Company?
A. I am. The map in question is one that was made when I was making an appraisal of the entire property in the three states.
Q. You have been over all of this property?
A. I have.
Q. And this map was made under your personal direction, as I understand?
A. It was based——
Q. In connection with your appraisal of the property?
A. The map was built up from the original survey notes of the United Fuel Gas Company, and accurately represents the general location of their main lines, compressing stations, towns that are supplied in these three states and the general outline of the fields from which they draw gas.
Q. I call your attention to the map more specifically as shown by the legend in the southwest corner of the map; this map shows the United Fuel Gas Company trunk lines, the Columbia Gas & Electric Company trunk lines, the United Fuel Gas Company compressor stations, the Columbia Gas & Electric Company compressor stations, the United Fuel Gas Company's gas drying plant,
1954 the Columbia Gas & Electric Company's gas drying plants, the United Fuel Gas Company's gas fields, and the distributing plant owned by the United Fuel Gas Company?
A. Correct.
Q. As indicated in the legend; that is true, is it not?
A. It is.
Q. The Columbia Gas & Electric Company is one of the constituent companies, is it not, of the United Fuel Gas Company?

Mr. Hoffheimer: That is objected to as calling for an opinion or conclusion of the witness, and not for a statement of facts, and the record has not shown that the witness has any competent knowledge in the matter.
The Commissioner: Note the objection.

A. The Columbia Gas & Electric Company owns the United Fuel Gas Company in part.
Q. The two properties of the United Fuel Gas Company and the Columbia Gas & Electric Company are operated together as a unit, are they not?

Same objection.

1955 The Commissioner: Note the objection.

A. They are.

Q. Now, then, returning to the map, does the United Fuel Gas Company or the Columbia Gas & Electric Company, as the case may be, own and operate natural gas properties in the states of Kentucky and West Virginia?

A. It does.

Q. Does it have any in Ohio?

A. It has distributing plants and main lines in Ohio.

Q. No, I mean production—gas production.

A. No production.

Q. It produces gas then in Kentucky and West Virginia?

A. Correct.

Q. And where is this gas distributed?

A. First, the United Fuel Gas Company has a large volume of business in the State of West Virginia to both industrial and domestic consumers; secondly, at the end of the main line marked "T," running over towards and into Gilmer County, at the point marked "Cedarville," the United Fuel Gas Company delivers gas under a sale contract to the Hope Natural Gas Company and to the Pittsburgh & West Virginia Company, the latter company being usually spoken of as the Philadelphia Company.

1956 Q. Now, where is that Gilmer County, in what state?

A. West Virginia,—upper right hand corner of the map (referring to Exhibit 39-D). The United Fuel Gas Company also has a main line marked "E," running north and west as far as the Ohio River, in the top central part of the map (Exhibit 39-D). The company here—that is, the United Fuel Gas Company—sells gas to the Ohio Fuel Supply Company, at Ball's Gap——

Q. Now, just a moment. Where is that gas taken by the Ohio Fuel Supply Company, in what state?

A. The Ohio Fuel Supply Company then take that gas from the Ohio River, carry it up through the state of Ohio, and distribute it generally to the various towns that they serve in the State of Ohio, some of it going as far west as Cincinnati, Ohio. At Ball's Gap, the United Fuel Gas Company delivers gas to the Columbia Gas & Electric Company.

Q. And where is that, in what county?

A. The southern part of Cabell County, West Virginia, right close to the boundary line. At Inez——

Q. Now, just a moment. You say it delivers gas there to whom?

A. Columbia Gas and Electric Company.

Q. Where is that gas taken?

1957 A. Taken westward through West Virginia, through Kentucky, distributed to a number of small towns in Kentucky en route, but the larger volume is carried clear through and over into Ohio, where it is delivered into Cincinnati, Cincinnati having two sources of supply from West Virginia—one through the Columbia Gas & Electric Company's main line that brings the gas up

through Kentucky, south of the Ohio River, into Cincinnati, and the other one, the Ohio Fuel Supply Company's main line, that brings the gas in from the northeast into Cincinnati.

Q. Now, go ahead. Where is its next one?

A. At Inez, in Martin County, Kentucky. The United Fuel Gas Company sells gas to two Kentucky companies, one which carries the gas to Louisville, Kentucky, and the other one which carries gas to Lexington and Frankfort, Kentucky, including a number of other smaller towns. In addition to the sale deliveries mentioned, the United Fuel Gas Company also has a number of towns in Kentucky and Ohio, where they distribute gas directly to the ultimate consumers.

Q. Now, this gas delivered at Inez, of which you speak, is that gas all produced both in Ohio and West Virginia? I mean, not only in West Virginia but also in Kentucky, from what is known as the Kermit field?

1958 A. That is correct.

Q. And is the gas taken from that point at Inez by other companies to Louisville and to Lexington?

A. Correct.

Q. What are the names of those other companies, if you know—if you can recall?

A. I am afraid that I can't give you exact name as to the corporate name.

Q. All right. They are companies operating in Louisville and Lexington?

A. Two entirely separate, distinct pipe lines, with no intercorporate relation between them. That is, the line that goes to Louisville, Kentucky, while it has a separate name, is controlled and owned by the Byllesby interests that operate the distributing plant in Louisville, Kentucky. It might not be amiss to add, that when these lines were connected, the gas supply in the Kermit field was such that gas went northward as well, through the 10-inch line marked "B," towards the Ohio River, but that now, due to the decline in this southern field, the direction of flow has been reversed, and the gas is now going south to this line, and a part of the gas used in Louisville, Kentucky, comes from the field over the center of the map.

1959 (Pennsylvania Exhibit No. 39-E shown witness.)

Q. I now direct your attention to the map marked for identification "Pennsylvania Exhibit No. 39-E—Wyer," being map of the main lines of the Manufacturers Light & Heat Company in Ohio, Pennsylvania and West Virginia, and ask you if that map was prepared under your personal direction?

A. It was, and is based on the company's original surveys and all the other office records, as far as location, main lines, compressing stations and towns supplied are concerned.

Q. Have you examined the properties of this company?

A. I have.

Q. And made an appraisement of their properties?

A. I have.

Q. And you are familiar with their lines and the location thereof?

A. I am.

Q. Does this map correctly represent the compressing stations, reducing stations, Pitot tube measuring stations, towns supplied by Manufacturers Light & Heat Company, transmission lines and general direction of the gas flow through those lines, of the Manufacturers Light & Heat Company, as shown by the legend?

1960 A. It does.

Q. Now, I ask you: it does not show the territory from which it obtains its production, does it?

A. The outline of the field could not be shown on this map, because the scale was so small that it would have been impossible to have made a legible map, and therefore the wells, the smaller gathering lines, and the field outline are not delineatd on this map.

Q. The end of these various projecting lines from these various lines, as shown upon the map, indicate, do they not, some connection at that point with wells or fields?

A. They do.

Q. And with other gathering lines extending thereto?

A. That is correct.

Mr. Hoffheimer:

Q. That is, in all cases, or in this particular instance?

A. Well, in practically all cases where you see a lateral line running out from a larger main line, and there is not a town shown at the end of the line, you can be reasonably certain that that line is used only for bringing gas into the main line from wells.

Mr. Weil:

Q. Now, Mr. Wyer, will you take the line along the Ohio River between West Virginia and Ohio, beginning with the line in Doddridge County, West Virginia, passing the Sedalia compress-

1961 ing station and the Porter's Falls compressing station, and point out on the map where it crosses back and forth from West Virginia into Ohio, and from Ohio into West Virginia, giving the towns along the line that are supplied, both in West Virginia and in Ohio, if you can.

A. Well, the towns supplied on the Ohio side are all shown on the Ohio side of the river, starting in with Sardis, in Monroe County, Ohio, Duffy, Hannibal, Clarington; Shady Side, in Belmont County; Bellaire, Bridgeport, Martins Ferry; in Jefferson County, Yorkville, Rayland, Brilliant, New Alexandria, Mingo Junction, Steubenville, Wintersville, Richmond, Costonia, Toronto, Knoxville and Empire; then in Columbiana County, Wellsville and East Liverpool. The lines supplying these towns, in some cases, of course, are connected to small producing pools on the Ohio side, and in a number of instances, gas at different times of the day will be going in different directions—that is, due to changed pressure conditions, the network of piping is so connected that a reversal of the gas flow will sometimes take place. On the West Virginia side, the main lines run gen-

erally northward along the eastern side of the river, extending clear up to the farthest northern point of the West Virginia Pan-
1962 handle, in the northern part of Hancock County, supplying the towns of Chester, Newell and Congo, and then coming down——

Q. That is, in this extreme northern part?

A. Yes, sir. And then coming down from the northern point on the West Virginia Panhandle, we have New Cumberland, Weston, Weirton, Hollidays Cove, Wellsburg, Warwood, Wheeling—industrial consumers only, however, in Wheeling, as far as the Manufacturers Light & Heat Company is concerned—Benwood, McMechen, Glendale, and Moundsville, and then New Martinsville, at the extreme south.

Q. And Middlebourne?

A. Middlebourne is away from the state line.

Q. Can you recall how many times this line crosses and recrosses the Ohio River, from West Virginia into Ohio, and from Ohio into West Virginia?

A. Not all of the detailed crossings could be shown on this map. I checked that up on the large detailed map based on the individual surveys, and, if my memory is correct, it is somewhere in the neighborhood of forty times across the boundary line.

Q. Crosses and recrosses the line from one state into the other?

A. Yes, sir.

1963 Q. Can you recall how many different fields this company has in Ohio which puts gas into this line?

A. I can't answer that as to the number. There are a number of small pools in the eastern part of the state that have a small number of wells.

Q. And that gas is conducted into the general line?

A. It is.

Q. Now, the gas passing through this line, as you have described, is it connected in any way with the system supplying Pennsylvania?

A. The system as a whole, of course, is laid out and built and interconnected without any reference whatsoever to state lines.

Mr. Hoffheimer: I move to strike out that answer as not responsive to the question.

The Commissioner: Note the motion.

Mr. Weil:

Q. Go ahead.

A. That is, the main lines cross and recross and are connected to the various pipes on the Pennsylvania side.

Q. Just as it is on the Ohio side?

1964 A. Yes, sir.

Q. And the whole system is connected, is it?

A. It is merely one huge network spread over parts of three states.

Q. West Virginia, Ohio and Pennsylvania?

A. Correct.

Q. Now, then, following the lines traveling from West Virginia into Pennsylvania, give us the situation there?

A. There is a small connection down at Blacksville——

Q. Where is that?

A. Right on the northern boundary of Monongalia County, in West Virginia. There is another small connection a short distance west of Blacksville. There are a number of crossings in the western part of Greene County, Pennsylvania. Then you have a 10 and a 20-inch line coming into Pennsylvania near the Majorsville compressing station——

Q. The Majorsville compressing station is——

A. On the Pennsylvania side.

Q. That is, in Greene or Washington County—Washington County, isn't it?

A. It would be right in the southwest corner of Washington County, Pennsylvania.

Q. Now, before you go there,—There is a compressing sta-
1965 station at Hundred, is there not?

A. On the West Virginia side, yes.

Q. And that drives the gas into West Virginia and the lower end of Greene County, Pennsylvania, does it not?

A. Yes, and then back into West Virginia again.

Q. And also drives the gas into West Virginia, to the lower end of Marshall County?

A. Correct.

Q. The southeastern corner of Marshall County, West Virginia?

A. That is correct.

Q. All right, go ahead with the line.

A. I have covered that.

Q. I mean, go ahead with the line at Majorsville that you were talking about when I interrupted you.

A. Then farther north there is a crossing just about due east of Steubenville, and there the gas is coming from Pennsylvania into West Virginia.

Q. And what is that station known as?

A. Well, there is no station there where the line crosses. There is a reducing station over on the western boundary of West Virginia. There is no station on the Pennsylvania line.

Q. That runs from the place in Pennsylvania known as Hickory, does it not?

1966 A. Correct.

Q. What are the sizes of those lines?

A. Two 8-inch lines.

Q. Which runs across from Pennsylvania, you say, and deliver gas into——

A. Deliver the gas into West Virginia.

Q. And that also delivers gas not only into West Virginia but into Steubenville?

A. Yes.

Q. The same line?

A. There is a river crossing there, and gas is carried into Steubenville, Ohio.

Q. And into Wintersville?

A. Correct. Farther north you have an 8, 10 and 12-inch line crossing the Western Pennsylvania boundary line in a northwestwardly direction from what is known as the Frankfort compressing station, going over into the general direction of East Liverpool, Ohio.

Q. And does that run through parts of West Virginia?

A. It runs through the northern part of Hancock County and into Ohio.

Q. Does that supply the town of Chester?

A. It does.

Q. Chester, West Virginia, as well as East Liverpool and
1967 Wellsville, Ohio?

A. It does.

Q. Where does that gas come from?

A. Primarily from Pennsylvania.

Q. Into Ohio and West Virginia?

A. Yes, sir.

Q. And from that point the gas is taken into—well, from the various points you have described, the gas is taken generally in Greene, Washington, Allegheny, Beaver, Butler, and Lawrence Counties, Pennsylvania?

A. Correct. The Manufacturers Light & Heat Company have no towns in the southern part of Butler County. The only one they have in the north is supplied from a local field.

Q. And they also supply gas in the counties of Harrison, Tyler, Wetzel, Monongalia, Marion, Marshall, Ohio, Brooke and Hancock Counties, West Virginia?

A. They do.

Q. And in the towns and villages in the counties of Monroe, Belmont, Jefferson and Columbiana, Ohio?

A. Correct.

Q. Now, from the manner in which the lines are constructed and operated, would it be possible, for any given period, to tell
1968 whether the gas produced by this company and transmitted through its lines into any one of those three states, comes from any particular one of the three states?

A. Well, that would depend on where you would expect to make the test. In the southern part of the system, any test made there would, of course, show that all of that gas was from West Virginia. Any test made in the eastern part of the system in Pennsylvania would show that all of that gas is from Pennsylvania. However, in the northern part of the West Virginia Panhandle, you would have both West Virginia and Pennsylvania gas intermingled.

Q. And Ohio gas?

A. And some Ohio gas.

Mr. Hoffheimer:

Q. What counties do you embrace in that last statement in regard to the Panhandle?

A. Hancock and Brooke; and such a situation might arise in Ohio and Marshall Counties, but not as probable there.

(Pennsylvania Exhibit No. 39-F shown witness.)

Mr. Weil:

Q. I now show you map marked for identification "Pennsylvania Exhibit No. 39-F—Wyer," designated as the map of
1969 the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia. How was that map prepared?

A. This map was prepared in connection with an appraisal of the company's property that I made, and is based on the company's original survey records, and the best records available in their office, showing the exact location of lines, compressing stations, towns supplied by the company, the general outlines of gas fields in West Virginia and Pennsylvania that are used for supplying the Philadelphia Company with natural gas.

Q. Have you been over that property and those lines?

A. I have.

Q. And examined the same?

A. I have.

Q. Does this map correctly represent the natural gas distributing plants, compressing stations, general direction of the gas flow, and the outlines of the gas fields, the towns supplied with gas, as well as the county and state line locations?

A. It does.

Q. Does the Philadelphia Company supply gas to any towns, and so forth, in West Virginia?

1970 A. It does.

Q. As well as in Pennsylvania?

A. Correct.

Q. Now, will you point out on the map where the lines cross from West Virginia into Pennsylvania?

A. There are three groups of crossings on the southern boundary line of the State of Pennsylvania. The first group is over in the southwest corner of Pennsylvania, where a 16-inch and then a 10-inch, and then another 16-inch, come up from West Virginia and cross into Pennsylvania. A short distance east of this there is an 8-inch line that comes up from West Virginia into Pennsylvania. And a short distance east again there are several lines close together that cross from West Virginia into Pennsylvania. After crossing into Pennsylvania these lines then generally go up towards the Pittsburgh district.

(Pennsylvania Exhibit No. 39-G shown witness.)

Q. Now, I show you map of the main lines of the Carnegie Natural Gas Company in Pennsylvania and West Virginia, marked for identification "Pennsylvania Exhibit No. 39-G—Wyer," and ask
1971 you if that correctly represents the lines of the Carnegie Natural Gas Company, as shown by its maps, records, and so forth?

A. It does, based on a personal examination of those records and all of the data available pertaining to the general location of the main lines, compressing station, and outlines of pools supplying gas to the Carnegie Natural Gas Company's system.

Q. This map then, as the legend shows, correctly represents the compressing stations, measuring stations, outline of the natural gas fields, and general direction of the gas flow?

A. Correct.

Q. This map shows that the Carnegie Natural Gas Company is producing gas in Ritchie, Doddridge, Lewis, Tyler, Marion, Harrison, Wetzel, and Monongalia Counties, West Virginia, as well as in Greene, Washington and Allegheny Counties, Pennsylvania.

A. Correct.

Q. Does it have a field somewhere near Dunkard compressing station that extends across the state line into both Greene County, Pennsylvania, and Monongalia County, West Virginia?

A. It does.

1972 Q. From which it is taking gas?

A. Correct.

Q. Now, then, where does this pipe line—and give the size of the same—cross the line between Pennsylvania and West Virginia?

A. There is a crossing in the southwest corner of Pennsylvania, where a 10 and a 12-inch line come up from West Virginia.

Q. South—what?

A. Southwest corner of Pennsylvania.

Q. Southwest or southeast?

A. Southwest corner of Pennsylvania.

Q. What county?

A. Greene County. Then a short distance east, 10-inch crosses from West Virginia into Pennsylvania, and a short distance east of this, a 12-inch comes up from West Virginia into Pennsylvania, and then farther east, at or near the Dunkard compressing station, a 10-inch crosses from West Virginia into Pennsylvania.

Q. Now, returning to the lines on the west?

A. There is a 10-inch that crosses into Pennsylvania from Marshall County, West Virginia.

Q. Do you know what it supplies in Marshall County, West Virginia, if anything, or is that the field from which it produces

1973 gas.

A. That is the field.

Q. Now, then, that line extends all through Greene, Washington and Allegheny Counties?

A. And up into the general direction of the Pittsburgh district.

Q. And supplies what?

A. Steel plants owned by the United States Steel Corporation.

Q. Where?

A. In Pittsburgh and vicinity.

Q. Pittsburgh, McKeesport, Braddock, and so forth?

A. Yes, sir.

Q. Now, it also supplies, does it not, a number of towns and villages in Pennsylvania, and also some in West Virginia?

A. I cannot answer as to that. They are very small, if they do. They, of course, supply farm consumers, but as to what they actually supply that might be denominated villages, I can't answer.

Mr. Hoffheimer:

Q. That is, their lessors are supplied with free gas under their leases?

1974 A. Yes, sir, or right of way contracts.

(Pennsylvania Exhibit No. 39-H shown witness.)

Mr. Weil:

Q. I now call your attention to "Pennsylvania Exhibit No. 39-H—Wyer," being the map of the natural gas lines of the Eastern Oil Company in West Virginia and Maryland. Does that map correctly represent the main transportation lines, compressing stations and towns or villages supplied with gas by the company in West Virginia and Maryland?

A. It does.

Q. Where does this company obtain its gas supply?

A. It has a number of wells in Harrison and Lewis Counties, West Virginia, where gas is brought together through the Horner, Thomas and Forman compressing stations, where it then flows eastward through a 12-inch and a 10-inch line with laterals running over to various towns shown on the map, the line ultimately going as far east as Cumberland, Maryland.

Q. What is that point designated as "Mt. Savage?" What is that?

1975 A. That is a small town in Maryland.

Q. It is also in Maryland?

A. Yes, sir.

Q. Now, what towns in Maryland does it supply?

A. Hutton, Oakland, Mountain Lake Park, Deer Park, Gorman, Dobbin—I am not sure about Dobbin; I will omit that—Bloomington, Barton, Midland, Westernport, Lonaconing, Eckhart, and Frostburg.

Q. Those are in Maryland?

A. Yes, sir.

Q. Now, this same line crosses the dividing line between Maryland and West Virginia, back and forth, in a number of places does it not?

A. Well, only once. It takes gas from West Virginia into Maryland and then back again, to Corinth and Terre Alta.

Q. What about Gorman?—At Gorman, Maryland, and Gormania West Virginia?

A. That is correct. Gormania, West Virginia, gets its gas supply through a small connection that is tied to the Gorman, Maryland distributing plant. And the same thing is true at Ridgeley, West Virginia, immediately opposite Cumberland.

Q. What about Davis?

1976 A. Davis is in West Virginia. At that point the gas does not travel out of the state.

Q. Does the Eastern Oil Company have any production in Maryland?

A. None.

Q. How far is its line from Thomas compressing station to Cumberland, do you know?

A. About 115 miles.

Q. Have you made any drawings showing the daily actual and normal atmospheric temperatures at Parkersburg, West Virginia, based on United States Weather Bureau Records for 1916, 1917, 1918 and 1919, representing the temperature deficiences and the low points that create abnormal demands for domestic natural gas service, necessitating the curtailing of industrial gas during such periods—Have you made such drawings?

A. I have.

Mr. Hoffheimer: I move to strike out that answer, in so far as it is based upon the question as to necessitating curtailment of industrial gas, as calling for an opinion or conclusion of the witness; also, as incompetent, irrelevant and immaterial.

1977 The Commissioner: Let the motion be noted.

(Four tables showing atmospheric temperatures at Parkersburg, West Virginia, produced and marked, respectively, as Pennsylvania Exhibits Nos. 40-A to 40-D, inclusive, as follows:
No. 40-A—1916,
No. 40-B—1917,
No. 40-C—1918,
No. 40-D—1919.)

Mr. Weil:

Q. Where did you obtain the Weather Bureau records?

A. Directly from the Weather Bureau.

Q. At what point in West Virginia?

A. Parkersburg.

Q. I show you these papers marked for identification Pennsylvania Exhibit No. 40-A, for 1916, No. 40-B, for 1917, No. 40-C, for 1918, and No. 40-D, for 1919, and ask you to explain them.

A. The data on Exhibits 40-A, 40-B, 40-C and 40-D are merely the graphical presentation of the normal and actual atmospheric temperature records printed and published by the United States Weather Bureau for its Parkersburg, West Virginia, station,
1978 respectively, for the years 1916, 1917, 1918 and 1919.

Q. For which months?

A. Taking the months of January, February, November and December of each year. The vertical scale is in temperature degrees Fahrenheit, and the horizontal scale is in terms of days. The normal temperature is shown by the heavy zigzag line that runs across the face of each diagram, and this represents the normal temperature for Parkersburg. The actual observed temperature is shown by the

heavy black line, with the points where the actual observed temperature was below normal, shown in black, so as to bring out more effectively those periods of time when there was a very marked deficiency in temperature, which, of course, had a direct bearing on the gas service situation.

Mr. Hoffheimer:

Q. Let me see if I understand you: Do you mean by "normal temperature" average or mean temperature for the locality?

A. Normal temperature is the average temperature of the locality for a long period of time, and there is such a record available now for practically every Weather Bureau station.

1979 Mr. Weil:

Q. What are the lines above the heavy lines indicating the normal temperature?

A. When the temperature was in excess of the normal temperature—that is, those were the warm periods, while the black areas below the normal temperature were the cold periods, and suffering was, of course, very acute.

Q. Between the 15th and 30th of January of 1916, there was a variation, was there not, of about 60 degrees temperature?

A. 56, to be accurate.

Q. And in 1917, there was a variation in February of that year—extreme variation of——

A. 60 degrees.

Q. Now, take the variation in 1917, between January 30 and February 5, what was it?

A. 52 degrees.

Q. Well, take the variation between December 25 and December 31, of the same year, what was it?

A. About 18.

Q. Between the 20th and the 31st?

A. 46.

Recess was here taken until 1.30 o'clock, p. m.

1980 Tuesday Afternoon, September 21, 1920.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed.

SAMUEL S. WYER resumed the stand.

Direct examination (continued).

Mr. Weil:

Q. Have you made a diagram, Mr. Wyer, of the volume of natural gas and percentage of the state's production exported from West Virginia?

A. I have.
Q. I show you a paper marked for identification "Pennsylvania hibit 41—Wyer." Is that the diagram to which you refer?
A. It is.
Q. What do you mean by "volume of natural gas?"
A. This is made in terms of cubic feet. The vertical scale at the t of Exhibit 41 reads in billion cubic feet of gas.
Q. Well, to what state does that volume of gas exported refer?
A. West Virginia.
81 Q. And the per cent of state's total production exported from West Virginia refers to what state?
A. West Virginia.
Q. Up to what year was this diagram prepared?
A. 1918.
Q. Have you the data to extend it to the year 1919?
A. I have not the official data from the United States Geological rvey, but the general information from the field as a whole and e situation generally, indicate the volume of decline will be pro-ted downward in practically a straight line, extending the line con-cting the years 1917 and '18.
Q. And up to the end of 1919, to what point would that extend?
A. About 138,000,000,000.
Q. Now, explain this diagram, please.

Mr. Hoffheimer: That is objected to, and the diagram itself is ob-ted to, in so far as it purports to show percentages; it is objected for the reason that the witness has given us no figure or state of ts from or upon which the alleged percentages have been based, d the percentages themselves are a mere conclusion from facts or alleged matters of fact not shown in evidence here.
82 The Commissioner: Note the objection.

A. The percentage growth is nearly the arithmetical computation ulting from considering the amount of gas produced and the ount of gas exported, as compiled and published by the United tes Geological Survey.

Mr. Weil:

Q. You mean, produced and exported from the State of West Vir-ia?
A. Yes; and shows that in the year 1906, about 50 per cent of st Virginia's production was exported, and that increased to about per cent in 1911, then remained practically constant until 1917, d is now on the decline. The total volume of natural gas pro-ced in the State of West Virginia in 1906, was about 61,000,000,-0, and that increased until the peak was reached in 1916, when it s about 193,000,000,000 cubic feet, and has declined since that ie.
Q. And about what would you estimate it at the present time; t is, at the beginning of the end of 1919?

Mr. Hoffheimer: Same objection.

1983 The Commissioner: Note the objection.

A. About 138,000,000,000 feet.

Q. From 193,000,000,000 in 1916–17, then, to 138,000,000,000 in the end of 1919, or beginning of 1920?

A. That is correct.

Q. As I understand from this diagram, that is the amount of gas that was exported from the State of West Virginia, as shown by this diagram, during those respective years?

A. That is correct.

Q. And as extended by you since 1918?

A. That is correct.

Q. Now, then, explain what you mean by the per cent or the dotted line?

A. That is merely the percentage of the total production and is arrived at by taking the total production of 100 per cent and plotting what the actual exported gas from West Virginia represents in terms of percentage.

Q. That is, as I understand you, this dotted line shows the percentage of gas——

A. Exported from West Virginia.

Q. Of its total production?

A. Taken as 100 per cent, yes.

1984 Mr. Hoffheimer:

Q. Suppose you give an illustration of that, so we will understand it.

A. For instance, just for easy arithmetic, if the total production is 100,000,000,000 cubic feet, and the amount exported is 50,000,000,000 cubic feet, then the percentage exported would be 50 per cent.

Q. I understand all about that; but I mean a practical illustration from that diagram.

The Commissioner: Take the year 1908 or 1916, for instance.

A. In the year 1906, the volume of gas produced in West Virginia was, in round numbers, 122,000,000,000 cubic feet; the amount exported was, in round numbers, one-half or 50 per cent, or 61,000,000,000 cubic feet, as shown by the scale at the left of Exhibit 41.

Mr. Weil:

Q. Now, then, take the years 1916 and 1917, and give us the same illustration.

A. In the year 1916, the total production, in round numbers, was 300,000,000,000 cubic feet. The amount of gas removed
1985 from the state was, in round numbers, 193,000,000,000 cubic feet, or in round numbers 64 per cent of the state's production.

Mr. Hoffheimer:

Q. Without cross-examining you, if you coordinate your solid ne or your production of gas or volume of gas with your dotted ne showing percentages, all any of them mean is this: That in 906, a little over 60,000,000,000 cubic feet was 50 per cent of the tal production?

A. That is correct.

Q. In 1908, your a little over sixty billion cubic feet coordinates ith the dotted line at 55 per cent?

A. Correct.

Q. And you carry it on all the way through?

A. That is right.

Mr. Weil:

Q. I ask you now if you have prepared a diagram showing the illion cubic feet of natural gas consumed per million population n West Virginia, Ohio and Pennsylvania, from the year 1906 to he end of 1918?

Mr. Hoffheimer: Objected to, for the reason that such
986 a computation or diagram can have no possible materiality or relevancy in relation to the amount of practical consumption of gas.

The Commissioner: Note the objection.

A. I have.

Mr. Weil:

Q. I show you a paper marked for identification "Pennsylvania Exhibit 42—Wyer," and ask you if that is the diagram to which ou refer?

A. It is.

Q. I ask you if you have prepared another diagram showing the tal number of feet of natural gas consumed annually per domestic onsumer in West Virginia, Ohio and Pennsylvania?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 43—Wyer," and ask you if that is the diagram showing he total amount of natural gas consumed annually per domestic onsumer in West Virginia, Ohio and Pennsylvania?

A. It is.

987 Q. I ask you if you have prepared a diagram showing the volume of industrial natural gas, consumed annually per omestic consumer, in the States of West Virginia, Ohio and Pennylvania, and I show you exhibit marked "Pennsylvania Exhibit 44 -Wyer," and ask you if that is the diagram about which I have sked?

A. It is.

Mr. Hoffheimer: These diagrams are objected to, for the reason hat no figures have been given, nor has any proper foundation

been laid, for the introduction of the exhibits or for any testimo as to the alleged matters set forth therein.

The Commissioner: Note the objection.

Mr. Weil:

Q. I show you another paper marked "Pennsylvania Exhibit —Wyer," and ask you if that is a diagram prepared by you, sho ing the volume of domestic natural gas consumed annually p domestic consumer, in West Virginia, Ohio and Pennsylvania.

Mr. Hoffheimer: Same objection.

1988 The Commissioner: Note the objection.

A. It is.

Mr. Weil:

Q. As to Exhibit 42, from what sources did you obtain the da for this computation?

A. Population data were furnished by the United States Bure of Census, and natural gas volume data by the United States Ge logical Survey.

Q. And that data is contained in their official reports?

A. It is.

Q. From what source did you obtain the data for the Exhibit 4

A. That was taken entirely from data compiled by the Unit States Geological Survey.

Q. And that information is contained in their official reports?

A. It is.

Q. From what source did you obtain the data for Exhibit 44?

A. From the United States Geological Survey.

Q. That data is contained in their official reports?

A. It is.

Q. From what source did you obtain the data contain

1989 in Exhibit 45?

A. United States Geological Survey.

Q. And that data is contained in their official report?

A. It is.

Q. Now, returning to Exhibit 42, which purports to give t billion cubic feet of natural gas consumed per million of populati for West Virginia, Ohio and Pennsylvania; take the year 1906, a give us those figures.

A. In that year, for the State of West Virginia, there was co sumed about 52,000,000,000 cubic feet of natural gas for each m lion population in the state. For Pennsylvania, there was consum in the year 1906, about 22,000,000,000 cubic feet of natural gas f each million population; and for the State of Ohio, about 17,00 000,000 cubic feet per million population in the state.

Q. For Pennsylvania, then, the consumption was over twice a for Ohio nearly three times the number of billion feet to the millio population as shown by those figures?

A. No; you have it just turned around. In the State of We

Virginia for that year, the consumption of gas per million population was, in round numbers, about two and a half times what it was in Pennsylvania, and in round numbers about three
1990 times what it was in Ohio—that is, per million population.

Q. Now, take the year 1917, and make the same comparison and give us the data.

A. In the year 1917, there was consumed in West Virginia 81,000,000,000 cubic feet of gas per million population; in the State of Pennsylvania, for that year, it was 23,000,000,000 cubic feet per million population, and in the State of Ohio, about 32,000,000,000 cubic feet per million population. I would like to call your attention to another fact that is of considerable importance as applied to Exhibits 43, 44 and 45; that the vertical scale for the three comparisons is the same, and the horizontal scale is the same, so that the relative positions on the three sets of periods or the three sheets are always relatively correct, and that is the reason why there is that much vacant space on the top of Exhibit 45, because, in order to make it fair, it was necessary that the vertical scale should be the same for the three comparisons.

Q. Now, turning to Exhibit 43, what was the total amount of natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania, giving each separately for
1991 the year 1906, and then give the same figures for the year 1918.

A. The total amount of natural gas consumed annually per domestic consumer in the year 1906 was as follows: West Virginia, 1,120 M cubic feet; Pennsylvania, 593 M cubic feet; Ohio, 241 M cubic feet. For the year 1918, the similar relationship was as follows: West Virginia, 854 M cubic feet; Pennsylvania, 368 M cubic feet, and Ohio 162 M cubic feet.

Q. Without being exact, in round numbers, how many times more did the West Virginia domestic consumer use than the domestic consumer in Pennsylvania and Ohio during those respective years?

A. That question does not square with the facts shown on here. The question should read "gas used annually per domestic consumer." The domestic consumer did not use all of this gas; it is a pro-rating of the state's total consumption against each domestic consumer, and not the domestic consumer's use. The relationship now on that basis, in the year 1918, was: West Virginia had more than twice as much gas for each domestic consumer than was available in the State of Pennsylvania and about five times as much as was available to each consumer in the State of Ohio.

1992 Mr. Hoffheimer: Motion is made to strike out the answer as not responsive to the question.

The Commissioner: Note the motion.

Mr. Weil:

Q. The domestic consumers, as a whole, in West Virginia, consumed that much more gas, as you have described, than the domestic consumers as a whole in Pennsylvania and Ohio?

A. No, that is still not a correct statement of the situation.

Q. What distinction do you make between the amount of gas used and the amount of gas consumed?

A. The difficulty is, you are confusing Exhibits 43 and 45.

Q. I am looking only at Exhibit 43.

A. Exhibit 43 is the total amount of gas consumed in the States of West Virginia, Pennsylvania and Ohio, per domestic consumer, but does not mean that that gas was consumed by the domestic consumer. That is, this total figure includes both industrial and domestic consumption, the industrial consumption being given separately on Exhibit 44, and the domestic consumption being given separately on Exhibit 45. It does not represent consumption by the domestic consumer.

1993 Q. In order to get this clear, you have taken the total amount of gas consumed by industrial as well as domestic consumers in each state, and divided it by the number of domestic consumers?

A. Correct, in order to get a basis for making a comparison between the amount of gas that was used in terms of the number of domestic consumers in the respective states for comparative purposes.

Q. Now, turn to Exhibit 44, and give us the amount of industrial gas consumed in the States of West Virginia, Ohio and Pennsylvania per domestic consumer, assuming that you arrive at your figures here in the same way as on Exhibit 43, by dividing the total amount of gas consumed industrially by the number of domestic consumers in those respective states.

Mr. Hoffheimer: Objected to as calling for a mere fanciful calculation, which has no bearing upon the issues in this case; also, objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

1994 A. The industrial gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania, for the year 1906, was as follows: West Virginia, 932 M cubic feet; Pennsylvania, 442 M cubic feet; Ohio, 135 M cubic feet. For the year 1918, West Virginia, 689 M cubic feet; Pennsylvania, 244 M cubic feet, and Ohio, 51 M cubic feet.

Q. Turn now to Exhibit 45. This diagram purports to show, does it not, the amount of domestic natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania?

A. That is correct.

Q. You take the total amount of gas consumed by the domestic consumers and divide it by the number of domestic consumers in each of those states, do you?

A. Correct.

Q. Now give us the amounts respectively consumed per domestic consumer, in the three states, in 1906 and in 1918.

A. Domestic natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania, for the year 1906, was: West Virginia, 188 M cubic feet; Pennsylvania, 151 M cubic feet, and Ohio, 106 M cubic feet; and for the year 1918, in West

Virginia, 165 M cubic feet; Pennsylvania, 124 M cubic feet; and Ohio, 111 M cubic feet.

1995 Q. How do you account for the larger consumption per domestic consumer of the West Virginia domestic consumption, as compared with Pennsylvania and Ohio?

A. Low prices and inefficient wasteful use in West Virginia. What is cheap will never be saved. Natural gas in West Virginia has been considered so cheap as not to be worth saving. Very frequently in warm weather they will allow the gas to burn rather than turn it off. They will open the windows for ventilation rather than turn off the fuel supply.

Q. Now this waste of gas in West Virginia, by the domestic consumer, to which you have referred, have you obtained knowledge and information of this by personal investigation, as well as from an examination of the records of the various companies, to which you have already referred?

Mr. Hoffheimer: Objected to, as no basis has been laid for such a question. Let him tell what he saw and what he did.

The Commissioner: Note the objection.

A. I have been around West Virginia a great deal in the gas fields, and have had opportunity to make observation as to
1996 how they were using gas in their homes, and I know gas is used there in a very much more wasteful manner than in the other states, speaking generally. For instance, a number of years ago I was in Weston, West Virginia, on a warm day in May, and I remember distinctly of counting twenty-five stoves, just as I was walking through the town, that were burning, with the gas on, of course, and the windows open. It is very seldom that you see torchlights turned down in West Virginia. In going through New Cumberland in West Virginia just recently, every street light was burning at noon and three of those street light mantels—most of them have three mantels to the post—three of those mantels will waste enough gas to supply a domestic consumer. That indicates what could be accomplished with natural gas in West Virginia if it were used with more care.

Q. What do you know about the waste of gas in West Virginia in industrial plants?

A. I have been about a large number of industrial plants, have made first hand inspection at the furnaces, and there are very few places where they are using even first class mixers for mixing the air necessary for combustion with the gas. As a result of that inspection, I remember very distinctly that I found but one place
1997 where they had any apparatus for determining the efficiency of combustion. That is, to determine whether all of the gas fed into the furnace had been properly consumed, and in that particular instance, if my memory serves me correctly, they admitted that correcting undesirable combustion conditions had resulted in saving 20 per cent of the fuel in that particular furnace.

Mr. Hoffheimer: I move to strike out the alleged admission of some unidentified third party, as incompetent.

The Commissioner: Note the motion.

A. (Continuing:) That is a very common thing in West Virginia, to see them burning natural gas in industrial plants with comparatively no mixers—merely a small piece of pipe going into the combustion chamber and burning the gas nearly raw—that is, with only a small amount of air that the homemade apparatus will permit to get to the flame. As another indication of what can be done along that line, in one instance the change in design of a kiln for burning pottery resulted in saving 70 per cent of the fuel used. That is, they could get the same output of ware from
1998 a plant with only 30 per cent of the fuel formerly used.

Mr. Weil:

Q. Generally speaking, where the mixer is not used, what percentage of gas is wasted through improper combustion, if you are able to give us any such estimate?

A. I have made a large number of checks on other furnaces in other states, and the use of fuel under those conditions always results in a waste of 20 or 25 per cent at least.

Q. That is, where mixers are not used?

A. Yes, sir.

Q. I believe you stated that you found this condition general, from your examination of the industrial plants in the State of West Virginia?

Mr. Hoffheimer: Objected to as leading and also as assuming a matter not testified to by the witness, and also because no foundation has been laid or information shown, sufficient to base any such generalizations upon.

The Commissioner: Note the objection.

1999 A. I have not inspected all of the plants in West Virginia, but for those plants I did inspect, the statement I have made implies as a true condition of fact.

Mr. Weil:

Q. Can you give us an estimate of the number of industrial plants that you did inspect, and the location of them in different sections, and when the inspection was made?

A. I can't give you the exact number, without counting them up in my notes, but I have examined most of the plants supplied by the Philadelphia Company, the Manufacturers Light & Heat Company, and the Randall Gas Company, at Morgantown, and a number of the plants supplied by the Hope Natural Gas Company.

Q. What do you know about the use of Natural gas in West Virginia in carbon black plants?

A. Natural gas has had a rather extensive use in West Virginia for the manufacture of carbon black.

Q. How is it used for that purpose?

A. In making lamp black, the gas is burned without any air

at all, with a view of getting the most imperfect combustion that you possibly can get, so as to make the largest amount of soot. The flame from the raw gas is made to impinge on a metal plate, and the lamp black, which is merely ordinary soot, such as
2000 we have in the Pittsburgh air, is precipitated on the plates and then scraped off. It is a negligent and gross misuse of natural gas, and a use that ought not to be permitted under any consideration where the gas could be used for public utility service.

Mr. Hoffheimer: Counsel for West Virginia move to strike out the criticism by the witness, with reference to the negligent and gross misue of gas for carbon black, as irresponsive to the question, and as mere opinion or a conclusion of the witness, not a proper subject of expert testimony, and as incompetent, irrelevant and immaterial and gratuitous.

The Commissioner: Note the motion.

Mr. Weil:

Q. Do you know whether or not there are any number of such carbon black plants in the State of West Virginia, and if you do, tell us how many?

A. I can't give you the exact number from memory. I can furnish that for the record if you want it. About nine per
2001 cent of the state's production, is misused in carbon black manufacture.

Mr. Hoffheimer: We move to strike out the statement that nine per cent of the state's production is misused in carbon black manufacture, as not responsive to the question, and for the reasons given in the last preceding motion to strike out.

The Commissioner: Note the motion.

Mr. Weil:

Q. You mean by that, nine per cent of the total natural gas production of the State of West Virginia?

A. Yes.

Mr. Hoffheimer: West Virginia renews its objection and motion to strike out.

The Commissioner: Note the objection and motion.

Mr. Weil:

Q. What has been the effect of low prices for gas in the State of West Virginia upon the removal of gas from the ground.

2002 Mr. Hoffheimer: Objected to as not the proper subject of expert or opinion evidence, and for the further reason that no sufficient foundation has been laid, and that the evidence proposed to be adduced is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. Low prices have resulted, of course, in an inevitable low field level price in the field. This has made it unprofitable to remove a large amount of residue gas that would be available and could be removed if it were profitable so to do. That is, to give you a concrete illustration, at the present time, for most companies in West Virginia, when the rock pressures get down in the neighborhood of 40 or 50 pounds, under present existing low price conditions it is not profitable to operate many such low pressure wells or to build the additional compressing station equipment necessary to properly drain and get all the residue gas out. The result of this condition is, because of this low price situation, many wells are pulled before they would be pulled with higher prices in vogue, and this of course, results in leaving much residue natural gas in the
2003 ground and unfortunately in a form in which it will not be feasible to redrill for it later on, or remove it later. In brief, it represents an unqualified and absolute waste of the natural gas resources of the state.

Mr. Hoffheimer: The State of West Virginia moves to strike out the answer on the ground stated in the objection.

The Commissioner: Note the motion.

Mr. Weil:

Q. Have you prepared a diagram showing the main transportation systems of the various gas companies outside of West Virginia in Indiana, Ohio, Pennsylvania, Kentucky, and Maryland, with the names of the principal towns outside of West Virginia depending on natural gas for their natural gas service through these respective lines?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 46—Wyer," and ask you if that is the diagram to which you have referred?

A. It is.

Q. Do those cities and towns represented upon this diagram
2004 on this system of transportation, depend to any extent, and if so to what extent, on the gas transported from West Virginia through those lines to those respective towns and cities?

Mr. Hoffheimer: That is objected to, because no proper foundation has been laid and no statement of facts made or shown to be within the knowledge of the witness as a basis of a conclusion to that effect, and for the further reason that the evidence asked for is a matter of opinion or conclusion, and not a proper subject for opinion or expert evidence, and for the further reason that it is incompetent, irrelevant and immaterial.

The Commisioner: Note the objection.

A. The towns shown on this map depend on West Virginia for their natural gas service; that is, they all are connected directly to lines that are supplied with West Virginia natural gas.

Mr. Weil: I now offer in evidence, in connection with the testimony of the witness, Pennsylvania Exhibits 35 to 46, inclusive.

2005 Mr. Hoffheimer: Objection is made to the introduction in evidence of each and every of the exhibits offered severally, upon the several grounds heretofore stated when said exhibits were identified or referred to, and for the further reason that each of said several exhibits is incompetent, irrelevant and immaterial, and no proper foundation has been laid for the introduction thereof, and that said exhibits, and each of them, bear no notations or legends constituting proper matter for the information of the witness.

The Commisioner: Note the objection and let the exhibits be received.

Mr. Weil:

Q. Will you furnish us with a list of those principal cities and towns outside of West Virginia, set forth upon Exhibit 46?

A. Do you want merely those that are on there? There are more than are shown on that map.

Q. Well, if you have any data showing others that are dependent upon West Virginia for their gas service, we would like to have that too.

A. Very well.

2006 Q. Have you that list with you?

A. I haven't it here, but I can furnish it later. It is in my office or at the hotel.

Mr. Hoffheimer: If any list is expected to be presented before the conclusion of the examination of Mr. Wyer, so that cross-examination may be had thereon, a proper objection may be made thereto, if offered.

The Commissioner: Note counsel's remark.

Mr. Weil:

Q. What is the number of towns that would be affected outside of West Virginia by diminishing or inhibiting the transmission of gas from West Virginia to those respective towns?

Mr. Hoffheimer: Objected to as calling for an improper opinion and conclusion, and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. About 650.

2007 Mr. Weil:

Q. And what number of consumers would be likewise affected?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. Over a million.

Mr. Weil:

Q. And what population?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. Over five million.

Mr. Weil:

Q. What amount of property has money invested by the respec
ive gas companies in these interstate transmission lines from We
Virginia to Kentucky, Maryland, Pennsylvania, Ohio and Indian

Mr. Hoffheimer: Objected to for the reason that no prope
2008 foundation has been laid, and the witness is not shown to
in position to inform us of these facts or to possess the info
mation upon which to base a conclusion such as is asked for, an
for the further reason that the evidence is incompetent, irrelevan
and immaterial.
The Commissioner: Note the objection.

A. The property value that would be affected by the enforcemen
of the law in question would be at least $200,000,000,000.

Mr. Weil:

Q. What does this include, generally?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. It includes compressing stations, transmission lines, and
course a large number of distributing plants that would becom
worthless by the salvaging of the main transmission lines, for th
simple reason that it is not feasible to distribute manufa
2009 tured gas in a small town, and all these towns that now hav
natural gas from a main transmission line, when such a tran
mission line is no longer in use, the town distributing plant woul
also have to go out of business.

Mr. Hoffheimer: Counsel for the State of West Virginia move
strike out the statement about local distributing plants as not r
sponsive to the question.

Mr. Weil:

Q. This does not include any loss to individual consumers in th
readjustment of their appliances to the burning of other fuel tha
natural gas?

Mr. Hoffheimer: Objected to, for the reason given in the previou
objection, and also as incompetent, irrelevant and immaterial, an
leading.

The Commissioner: Note the objection.

A. It does not.

Mr. Weil:

Q. To readjust the appliances and houses of the consumers
2010 to the use of other fuel, where natural gas has heretofore been used, what would be the effect as to the cost to these individual domestic consumers?

Mr. Hoffheimer: Objected to, for the reasons given in the previous objection.

The Commissioner: Note the objection.

A. The enforcement of the act in controversy would mean a loss of at least $100 on the average to each consumer affected, and this would mean an aggregate loss of at least $112,000,000.

Mr. Weil:

Q. What do you say as to the necessity, in some cases, for the reconstruction of dwellings that have been built for the purpose of using natural gas as fuel?

Mr. Hoffheimer: Objected to on the same grounds as previously given, and for the further reason that the question assumes that dwellings have been built for the consumption of natural gas.

The Commissioner: Note the objection.

2011 A. There are a large number of houses in use that are built for burning gas only. These houses would very obviously have to have a different kind of chimney and then there is another group where, after natural gas had been used for some time in the ordinary masonry chimney, it is necessary to rebuild the chimney before solid fuel can be used in the chimney.

Mr. Weil:

Q. Can you give us, from investigations which you have made, the percentage of all the gas used in Maryland, Pennsylvania, Ohio, Indiana and Kentucky, that is furnished from West Virginia, or supplied from West Virginia?

A. Maryland, 100 per cent; Pennsylvania, 35 per cent; Ohio, 50 per cent; Indiana, 80 per cent; Kentucky, 90 per cent.

Q. How many municipalities in Ohio, Pennsylvania, Kentucky, Indiana and Maryland, respectively, depend entirely on West Virginia for their natural gas service, having no other gas supply?

Mr. Hoffheimer: Objected to, on the grounds previously stated to questions relative to dependency.

2012 The Commissioner: Note the objection.

A. About 650 towns in the five states.

Mr. Weil:

Q. How many in each?

A. Ohio, 300; Pennsylvania, 300; Kentucky, 25; Indiana, 15; Maryland, 14.

Q. Will you give us now the number of domestic consumers, respectively, in Pennsylvania, Kentucky, Indiana, Maryland and Ohio, who are dependent entirely on West Virginia for their natural gas service, and the number of people?

A. Pennsylvania, 300,000 consumers, one and a half million population; Kentucky, 75,000 consumers, 375,000 population; Indiana, 15,000 consumers, 75,000 population; Maryland, 10,000 consumers, 50,000 population; Ohio, 725,000 consumers, 3,625 population.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the answer, on the ground stated in previous objections to questions on the matter of dependency.

The Commissioner: Note the motion.

2013 Mr. Weil:

Q. How have you arrived at the population?

A. Estimated five people for each domestic consumer.

Q. Is it possible to provide storage facilities for natural gas, after it has been produced from the rock and brought to the surface?

A. It is possible, but not commercially expedient—that is, the cost of storage facilities would be prohibitive.

Q. Have the compressing stations that have been constructed in the State of West Virginia on these various transmission lines, been constructed for the purpose of transmitting gas in the State of West Virginia on through these interstate transmission lines?

Mr. Hoffheimer: Objected to as being a matter of opinion or conclusion, and for the further reason that no proper foundation has been laid, and the witness has not shown that he has any competent knowledge on the subject. Objected to further as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. Most compressing stations built in West Virginia have been built for the purpose of transmitting natural gas through the interstate transmission lines to other states.

2014 Mr. Weil:

Q. Is the gas going from the well in the field to the ultimate consumer ever at rest?

Mr. Hoffheimer: Same objection.

The Commssioner: Note the objection.

A. It is not.

Mr. Weil:

Q. What do you know as to the interstate demands for West Virginia natural gas during the peak load period?

Mr. Hoffheimer: Objected to as incompetent, irrelevant and immaterial, and for the further reason that it calls for a conclusion or opinion from the witness. Let him state the facts.

The Commissioner: Note the objection.

A. The demand for West Virginia gas outside the State of
2015 West Virginia is now greater than the available supply.

Mr. Weil:

Q. What percentage does the peak load demand for domestic consumers exceed the lowest demand?

A. As a general average for most domestic consumers, the peak load will be from fifteen to eighteen times larger than the demand which would be lowest during the summer time.

Q. Is there such a thing as the regeneration of natural gas in the sands from which it has been removed?

A. There is not. When the gas is once removed it is gone forever.

Q. What do you say as to the maintenance of gas pressures in the lines to suit the operating conditions of the lines from West Virginia to the various points of consumption outside of the state, even to the remotest point?

A. The pressures maintained in West Virginia must be such as will properly feed into the transmission scheme as a whole, and must be subordinated to the operating conditions necessary to deliver gas to the various communities en route along the various
2016 transmission lines going out of the state.

Q. What would be the effect of making physical connection in West Virginia between those interstate lines and local lines or communities, as is provided for in the statute now under discussion, as to the service on the lines of such interstate companies?

Mr. Hoffheimer: Objected to as involving an opinion or interpretation by the witness as to the effect of the statute in question.

The Commissioner: Note the objection.

A. The immediate practical effect of making such connections would be to demoralize in all cases, and in many instances destroy entirely, the interstate service for natural gas transmission, in towns outside of West Virginia.

Mr. Weil:

Q. Will you explain this a little more fully, and tell us why this result would follow?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

2017 A. For instance, in gas transmission, the gas is not only the commodity that is being transmitted through the line, but it is within itself endowed with an inherent energy for propelling itself along the line by virtue of its own expansion. That is, the gas flow in these interstate main transmission lines is always by expansion. The gas is never pushed forward like a plug of incompressible fluid, like water or oil, and any disturbance or any removal of gas by diverting part of that gas out of the line, has the effect of not merely lessening the flow, but disturbing the transmission conditions all along the line. This, for instance, is in marked contrast to what can be done with other commodities. For instance, a train of coal cars starting in West Virginia for Toledo, Ohio, the train itself has no physical connection and no dependence on other trains ahead or behind it. Each train goes along as an independent unit, and each car on the train is an independent unit. The shunting off in West Virginia of one or more coal cars from such a train would not in any way affect the other cars en route or the other trains en route. However, the shunting off from an interstate transmission line of a certain amount of natural gas would not only bring about a shrinkage in volume by an amount equal to that so re-
2018 moved, but may so disturb the pressure conditions as to demoralize the transmission conditions all along the line.

Mr. Weil:

Q. What would you say as to the interstate service, such as is now being supplied, being possible when and if such connections are made from time to time, for uncertain quantities at unexpected and unprovided for times, to meet the shortages that might occur in the State of West Virginia, and which these companies engaged in interstate transmission of gas would be called upon to supply under the terms of the Act in controversy?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. If the diversion were done to any extent at all, it would result in demoralizing all such service and ultimately destroying it entirely.

Mr. Weil:

Q. Has the capacity of the transmission lines through which the gas is at the present time being transmitted for service in
2019 other states than West Virginia, been computed and fixed and arranged for the purpose of supplying that service?

Mr. Hoffheimer: Counsel for the State of West Virginia object to the question as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. It has.

Mr. Weil:

Q. Would it be possible as a practical operating operation to rearrange these transmission lines or reconstruct the same, so as to provide for the contingencies possible under the operation of the Act in controversy, say in West Virginia?

Mr. Hoffheimer: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. It would not, for the very simple reason that the enforcement of this Act would merely kill all interstate shipments of
2020 natural gas out of the State of West Virginia.

Mr. Weil:

Q. If there should be supplied to all the industrial, domestic and other consumers in the State of West Virginia an adequate supply of natural gas before the same were transmitted outside of the state, what would be the effect as to the quantity of gas, if any, that would be left for transmission outside of the state?

Mr. Hoffheimer: Objected to, on the grounds stated to similar questions along this line.

A. There wouldn't be any left to transmit.

Mr. Weil:

Q. Why?

A. It is very easy to create an industrial demand in West Virginia that would absorb all the gas that could be sold to the industries of West Virginia; or, to state it this way, the enforcement of this Act would make such a demand for gas, because of its low price, that the industries that have had inadequate service would, of course, come on, and those that have had no service at all would
2021 demand gas connections, and the two industrial groups together, combined with domestic consumers, could easily use all the gas inside of the State of West Virginia that is now produced inside the State of West Virginia.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the answer, on the ground that it is speculative.

The Commissioner: Note the motion.

Mr. Weil:

Q. Have you any figures at the present time as to the percentage of gas now used by the lamp black factories in West Virginia, of the gas used by domestic consumers in the entire state?

Mr. Hoffheimer: Objected to as irrelevant and immaterial.

The Commissioner: Note the objection.

A. The carbon or lamp black industry in West Virginia uses about 50 per cent more gas than is used by all the domestic consumers within the State of West Virginia.

2022 Mr. Weil:

Q. That is true of the industry in its present situation?

A. Substantially so. It is, of course, impossible to get accurate information up to the last thousand feet for the last year.

Q. Did the United States Fuel Administration, when it was in operation, recognize, or endeavor to enforce, any principle for the equitable distribution of natural gas, as between the industrial consumers and domestic consumers?

Mr. Hoffheimer: Objected to as calling for an opinion or conclusion of the witness, and for the further reason that it is not the best evidence of the acts or policy of the Fuel Administration, and for the further reason that the evidence is incompetent, irrelevant and immaterial, and without bearing on the issues in this case.

The Commissioner: Note the objection.

A. When I was chief of Natural Gas Conservation for the United States Government, we had worked out a definite program for
2023 pro rating the gas supply then available to various consumers and communities. That program was worked out and the final details of the program would have been completed and the whole scheme placed into operation before the end of 1918, had it not been for the premature signing of the armistice.

Mr. Hoffheimer: While regretting that the war prematurely ceased at such time as to prevent the practical operation of this program, counsel for the State of West Virginia, move to strike out the statement of the witness as to the program of the Fuel Administration, for the reason that the answer itself is a mere conclusion or opinion of the witness as to the program; for the further reason that the program, like other programs of the Fuel Administration, was or is of no binding force and effect or evidence against any one; and for the further reason that the alleged program is incompetent, irrelevant and immaterial, so far as the issues of this case are concerned.

The Commissioner: Note the motion.

2024 Mr. Weil:

Q. What was this program?

Mr. Hoffheimer: This question is objected to for the reason set forth in the motion to strike out the last answer.

The Commissioner: Note the objection.

A. The program was simply to secure an equitable distribution of a natural resource. The investigations made showed, of course, very conclusively, that the State of West Virginia, on any basis of comparison, either in terms of population, terms of total gas used

per domestic consumer, or industrial gas used per domestic consumer, had always, and did then, have a larger share in this supply than any other state. In other words, any program contemplating an equitable distribution of natural resources would immediately involve a very marked curtailment in the amount of natural gas that could have been used in West Virginia under such a scheme. That condition is, of course, accurately reflected on Pennsylvania Exhibits 42, 43, 44 and 45, where the amount of gas used in West Virginia on any one of the four bases of comparison
2025 is always larger than the amount in Ohio or Pennsylvania.

Mr. Hoffheimer: Counsel for the State of West Virginia moves to strike out the answer as not responsive to the question, and also on the ground expressed in the objection to the question.

The Commissioner: Note the motion.

Mr. Weil:

Q. What was this conclusion as to giving the domestic consumer preference over the industrial consumer when there was not enough gas to go around.

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. That, of course, would have been the fixed policy of the Fuel Administration. That, of course, has since been practically copied in toto by the Public Service Commission of West Virginia, the Public Service Commission of Ohio and the Public Service Commission of Pennsylvania.

2026 Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the answer as irrelevant.

The Commissioner: Note the motion.

Mr. Weil:

Q. Can you give us the estimate you have made of the losses which would be suffered by the enforcement of the Act in controversy, first, to natural gas companies engaged in interstate transmission of natural gas from West Virginia to other points; secondly, by the consumers; and thirdly, by the public generally?

Mr. Hoffheimer: Unless that question calls for yes or no as an answer, and is expected to be followed by a substantial answer of the question, the question is objected to as calling for an incompetent opinion or conclusion of the witness, it being based upon no facts stated by or within the knowledge of the witness; and further, no foundation has been laid for such evidence; and for the further reason that the evidence sought to be adduced is incompetent, irrelevant and immaterial.

2027 The Commissioner: Note the objection.

A. I can, as far as the companies and consumers are concerned. That figure has already been given.

Mr. Weil:

Q. Well, give it to us right here.

A. For the companies, $200,000,000 in property that would be practically destroyed; for the consumers, $112,000,000.

Q. If you can't give us any figures, can you give us an estimate of what would be the effect upon the public, such as domestic consumers and their families, in the other states than West Virginia, of the enforcement of this statute, referring to those who are now using natural gas as fuel.

Mr. Hoffheimer: Objected to as speculative and calling for the witness's opinion and conclusion, and not the proper subject of expert testimony, and that no foundation has been laid for such testimony; and further, as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

2028 A. It would deprive all such consumers of natural gas service.

Mr. Weil:

Q. What would that effect be?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. It would be a very great inconvenience. It would represent a very distinct financial loss. Of course, it would be very difficult to fix that by any definite arithmetical amount, because natural gas at any prices that it has been sold for in the past is cheaper by far than any other service or competing commodity that could be purchased for performing any similar function in the house. One dollar natural gas would be only 40 per cent as expensive in actual cost to the consumer as manufactured gas at current prices, and for the larger communities it would be necessary to go to manufactured gas. For the smaller communities—and they of course are in the majority as far as numbers are concerned—it would not be feasible to
2029 operate artificial gas plants, and they would have to go without any gas service at all, and for any other commodity they could purchase at present market prices, the cost would be very much greater and would represent a distinct and great financial loss, in addition to the very important one of the great convenience of natural gas for domestic purposes.

Mr. Weil:

Q. If the companies engaged in the business of supplying gas from West Virginia to the communities in other states, as has been described, should not adopt the policy of cutting off all such service under the operation of this act, and of notifying the consumers to discontinue all such consumption, and continued their business as now, taking their chances under the operation of this Act, what would

be the effect, in your opinion, as a natural gas expert and with your knowledge of the situation, upon the health and life and comfort of those domestic consumers who are using natural gas in other states, transported from West Virginia?

Mr. Hoffheimer: Objected to, for the reasons given in the previous objection to similar questions.

2030 The Commissioner: Note the objection.

A. I do not believe that in the operation of the Act any one of those interstate lines would attempt to use natural gas, for the simple reason that there wouldn't be any, so the effect on health would be that they would have to get other fuel for heating and cooking, and something else for lighting. As far as convenience is concerned, there is nothing they could get that would be in the same class with the natural gas of which they had been deprived. That is, to state it this way, the operation of this law in West Virginia for most of these towns depending on these interstate lines, there would not be left any twilight zone for discussion. The gas would all stay in West Virginia.

Cross-examination.

Mr. Hoffheimer:

Q. You have been specializing in matters relating to natural gas how many years?

A. It has monopolized most of my time since 1911 or '12.

Q. Before that time, what line were you specializing in?

A. More general engineering practice. My first work was on manufactured gas.

2031 Q. For the last half-dozen years, what gas companies have you been devoting most of your time to?

A. I have done a great deal of work for the Kansas Natural Gas Company, the Logan Natural Gas & Fuel Company's properties in Ohio, the Ohio Fuel Gas properties in Ohio, the United Fuel Gas Company in West Virginia, Clarksburg Light & Heat Company, Keener Oil & Gas Company, at Weston, West Virginia, Randall Gas Company, Eastern Oil Company's properties in West Virginia and Maryland, Eastern Ohio Gas Company, in Ohio, Union Gas & Electric Company in Cincinnati, Philadelphia Company, in Pennsylvania and West Virginia, Peoples Natural Gas Company in Pennsylvania, Manufacturers Light & Heat Company, in Pennsylvania and West Virginia, Pennsylvania Gas Company, United Natural Gas Company, in Pennsylvania, Iroquois Natural Gas Company, in New York, Potter Gas Company, in Pennsylvania and New York, T. W. Phillips Oil & Gas Company, in Pennsylvania, American Natural Gas Company, in Pennsylvania, Natural Gas Company of West Virginia—their Pennsylvania, Ohio and West Virginia properties—and the Ashtabula Gas Company. That covers the principal ones.

Q. How much of your time in the last half-dozen years have

the affairs and business of these companies you have
2032 enumerated taken?

A. Most of my time.

Q. Have you, during the last half-dozen years, been employed continuously by all of these companies?

A. No, at different times by different ones.

Q. How many of them and which ones have you been with continuously during that period?

A. Well, I have had some engineering work on all the time since 1912, for the Ohio Fuel Supply Company. I have had some engineering work on most of the time the last five years for the Eastern Oil Company. I have had some work on most of the time for the last three years for the Peoples Natural Gas Company and the Hope Natural Gas Company. I have had some work on all of the time since the first of April for the Philadelphia Company. I have had some work on most of the time for the last two years for the Pennsylvania Gas Company and the United Natural Gas Company. I have had some work on for a part of the time for the last eighteen months for the Iroquois Natural Gas Company. I have had some work probably each year, for the Kansas Natural Gas Company, since the latter part of 1912. I have had some work on most of the time for the Manufacturers Light & Heat Company for the last four
2033 years. I have had work on most of the time for the Lone Star Gas Company for the last six years. I forgot to mention that before.

Q. Did you mention the United Fuel Gas Company?

A. I have had some work on for them for the last two years.

Q. Well, by which of those companies are you now employed?

A. At the present time I am doing work for the Ohio Fuel Supply Company, Lone Star Gas Company, National Fuel Company, which owns the Pennsylvania, the United Natural and the Iroquois Company, the Peoples Company, the Hope Natural Gas Company and the Eastern Oil Company, the American Natural Gas Company, Potter Gas Company, Kansas Natural Gas Company, Leavenworth Light, Heat & Power Company—I forgot to mention that before—and another I forgot to mention was the Producers Gas Company, at Olean, New York.

Q. When were you in the service of the United States Fuel Administration?

A. In the year 1918.

Q. Just that one year?

A. Yes, and only a part of that year with the Fuel Administration. I was stationed at the Bureau of Standards for part of the year, and was Advisory Engineer on fuel matters for the National Defense Council.

2034 Q. What was the position you occupied with the Fuel Administration?

A. Chief of Natural Gas Conservation.

Q. Who succeeded you?

A. No one; the administration went out of existence.

Q. That I suppose terminated the program?

A. Certainly, as far as the Federal Government was concerned, although as far as giving the domestic consumers precedence is concerned, that matter has been revived and agreed to by the utility commissions of the five states, West Virginia, Maryland, Pennsylvania, New York, Second District, and Ohio.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the statement of the witness as to any agreement on the part of the Public Service Commissions, and particularly in so far as it relates to the Public Service Commission of West Virginia, first, because the statement is not the best evidence of any such agreement, if it exists, and without engaging in any controversy of fact with the witness, I have reason to think that the Public Service Commission of West Virginia has not entered into any such
2035 agreement.

The Commissioner: Note the motion.

A. The Public Service Commission of West Virginia has issued an order on the Eastern Oil Company, which makes it necessary for that company to shut off all industrial consumers and give domestic consumers precedence, and that Commission also agreed to a resolution just a few days ago, among other things, containing the following——

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out these voluntary statements of the witness.

The Commissioner: Note the motion.

Mr. Hoffheimer:

Q. When did you make the surveys and investigations of the individual natural gas properties of the Hope Natural Gas Company, the Reserve Gas Company, the Manufacturers Light & Heat Company, the Philadelphia Company, the Eastern Oil Company, the Fayette County Gas Company, the United Fuel Gas Company, and the Carnegie Natural Gas Company, from which you prepared the maps which have been offered in evidence?

2036 A. The first investigation was made in the earlier part of 1919. That was then supplemented at various times during the year 1920.

Q. That applies to all of the companies I have mentioned in my question?

A. Yes. Of course, what I did in all cases where I had information in my office pertaining to any of those companies, where the information was gotten for another purpose or in another investigation, obviously it was not necessary to duplicate that work. I used all of the information in my own files pertaining to those companies because I had been doing work on them before I entered this, and then I supplemented that with detailed information early in the year 1919, and at various times in the year 1920.

Q. Where did that information in your files come from?

A. Well, the information was gathered together in various in-

vestigations that had been made on the company's properties for other purposes.

Q. By whom?

A. By myself.

Q. Have you traveled all over the routes of these various lines in existence?

A. No, I didn't travel over all the main transmission lines.
2037 I have driven over a great deal of West Virginia, but I do not mean to state that I have driven over every foot of the many thousand feet of gas lines in the State of West Virginia.

Q. As of what date or dates are these maps intended to represent the conditions?

A. Unless otherwise stated, the maps generally show conditions as of 1920. There is one exception to that. The United Fuel Gas Company, I merely used a map prepared as of January 1, 1909, and on the Eastern Oil Company, a map prepared several years ago, but where there are no changes in line construction since that time. The map, even though it is several years old, represents the property as far as the main lines are concerned exactly as it exists today.

Q. And I assume from what you have answered on your direct examination, that these various maps are correct in all respects, according to your knowledge and available information?

A. Yes, they are.

Q. That you swear to?

A. Yes, sir.

Q. In what particular connections have you made examinations of these various properties, by which you came in possession
2038 of the information which you employed in making these maps and gathering together the other information about which you have testified?

A. Well, for instance, on the Ohio Field Supply Company, in Ohio, I have made an appraisal of that property and have studied their operating conditions, and have prepared a number of reports since 1912, covering various phases of their natural gas operations in the State of Ohio, one of which was the possible effect of the common carrier provision on that entire system. As far as the East Ohio Gas Company is concerned, I have made an appraisal of that property. As far as the properties of the Logan Natural Gas & Fuel Company are concerned, I have made a complete appraisal of the entire property, which included a personal inspection of practically every single distributing plant. I have also made a complete appraisal of the Northwestern Ohio Natural Gas Company's property, which hooks on to the United. I have worked out a program for prc-rating gas in the various communities served, and have acted as consulting engineer for a number of years. As far as the Manufacturers Light & Heat Company is concerned, both in Pennsylvania and Ohio, as well as the West Virginia end, I made a rather extended study of that four or five years ago. I can't give
2039 you the exact date. I have made a recent study of properties of the Philadelphia Company in West Virginia and Pennsylvania, making an appraisal of the property and working out a

rather elaborate report on the gas situation of the Philadelphia Company's natural gas properties in West Virginia and Pennsylvania. That report is printed and nearly a hundred pages in length, and in that there was included a detailed study of the economic features as well as the engineering facts pertaining to the use of manufactured gas in Pittsburgh, this company having already gone ahead and spent some two million dollars in building a manufactured gas plant. As far as the Peoples and the Hope Natural Gas Companies are concerned, I have made a total appraisal of each property. As far as the Fayette County Gas Company is concerned, I have made an appraisal of its property and a report on the reasons for increased cost. As far as the United Fuel Gas Company is concerned, in West Virginia, I have made an appraisal of that property and also prepared a rather lengthy report on the rate situation and the reasons for increased cost. Valuations were also made on all of the property of the Clarksburg Light & Heat Company, at Clarksburg, West Virginia, all of the property of the Randall Gas Company,
2040 in Morgantown and the field surrounding Morgantown and a small plant at Weston, Virginia. I also made a valuation and study of the rate situation of the Natural Gas Company of West Virginia, where gas is produced in Pennsylvania, contrary to the name of the Company, and transmitted through the West Virginia Panhandle and then sold to West Virginia consumers, and also where gas is produced in Ohio and imported into Virginia.

Q. How many of those studies and appraisals and valuations were made by you, in connection with rate cases and applications for permission to increase rates on the part of the Gas Companies?

A. Well, they were all made either for use immediately in proceedings asking for increase in rates or for the formulation of future policies leading to future rate increase situations.

Q. How much of your time has been taken up in testifying for Gas Companies in support of applications for increase of gas rates?

A. I can't give it to you definitely, but I have spent a great deal of time on that line of work in the last eight years.

Q. Uniformly in support of applications for increase of
2041 rates?

A. Yes, sir.

Q. Do you remember any case in which you testified in opposition to an application for an increase of rates?

A. I am quite sure that I did not.

Q. In regard to these maps of individual gas properties which have been offered in evidence, have you undertaken to show anything except what you call main transmission lines?

A. Some of those maps show some of the larger gathering lines but in no case are well lines shown or individual well connections. In one instance we were able to show a few of the wells supplying the Fayette County Gas Company, but with the small scale necessary to use on a map that will be introduced in printed form, it was of course physically impossible to show all of the wells or all of the well lines, because the map would not be legible.

Q. What was the minimum size of lines that you undertook to place on these maps?

A. There is no definite arbitrary limit fixed. The feature that determined whether a line could or could not be shown was whether the finished map could be reproduced. In some cases, it was
2042 possible to show a two-inch line, whereas in other cases it would not be possible to show a four-inch line, because the proximity on the map would be such that because of the very great reduction necessary in the scale the map would not have been legible.

Q. Does that statement apply equally to all of the maps?

A. Yes, I think that is a general statement with regard to the maps that we used here.

Q. Did you omit any line whatever in the State of Ohio from the map of the Manufacturers Light & Heat Company property?

A. We undoubtedly omitted—I can't tell you from memory, but we undoubtedly omitted many of the small gathering lines. I cannot give you the exact details. As stated before, the primary object was to get a map that could be reproduced and which would be accurate; but it very obviously could not show all of the small details.

Q. Well, aside from gathering lines and field lines, were there any lines omitted from those maps?

A. I am quite sure not, unless it might have been in some place where there were several lines close together and it was not possible to get them through and show them. There are a number of instances in the field where the lines are very close. That is especially true at junction points where the lines radiate from a com-
2043 mon center.

Q. What do you mean by a field line or a gathering line?

A. The term "gathering line" in a natural gas man's parlance means the line that runs from a well to a larger trunk line that takes the gas into a main line or to a compressing station. There is no hard and fast rule on that and different practical field men use the term differently. In some cases the term is applied to everything behind the compressing station; in other cases, to anything that is lateral to the transmission line; but, in general, it means a line or group of lines that gathers the gas together and brings it to some common point where it can be distributed for transmission purposes. But bear in mind, to avoid any question of ambiguity, that none of the small lead lines directly off from the wells are shown on these maps.

Q. Have you left off of any of these maps any lines as large as eight inches?

A. Yes, in a number of cases in the field.

Q. Where?

A. I can't recall that. I remember distinctly that such
2044 has happened, where the matter was referred back to me where they were sure that the map would choke in reproduction.

Q. How about six-inch lines?

A. Certainly that is true. I remember distinctly a number of

places where lines as large as eight inch could not be shown. For instance, at each one of these compressing stations, instead of one line going out, there are sometimes six or eight small sized lines, sometimes through a stream for half a mile or more, used as a cooling point.

Q. Aside from these cases of compressing stations and junctions of that character, have all lines as large as four, six or eight inches branching off of trunk lines, been shown?

A. No, there are several cases, I remember, where lateral lines branch off in feeding into main lines. Those have not been shown. There probably are a few cases where it was not possible to actually black in the lateral connection.

Q. That is, you mean, by lateral connection, a line leading off from the main line to the local distributing line?

A. Yes; for instance, taking the Manufacturers' Light and Heat Company, there are a number of places where one black line
2045 is shown crossing the river and instead of having one line at that crossing they may have half a dozen making the crossing, but if you had attempted to spread those out, all you would have had on a small scale map of this size would be a smeared streak along the Ohio River.

Q. In regard to the cities and towns shown upon these maps, of the individual properties, how was the selection made of those?

A. The towns we have shown here are the towns they supply. The legend covers that in each case. I wouldn't now, without verifying it, state that no other towns are shown; but the legend indicates on each map whether it is a distributing plant owned by that company and there is a legend on each map.

Q. Have you undertaken to show on the maps any cities or towns or villages which were not supplied by the line of the company to whose property the map relates?

A. I could not answer that without verifying each individual map. That would take some time. In map making, it is frequently customary, and it may have been done here, in order to tie
2046 in relative geographical positions, to give some larger towns, even though they do not have any bearing or direct connection on the detail, but giving them merely to enable the eye to get the general bearings.

Q. Unless that occurred, or unless the city or town was supplied from the lines of the company to whose properties the maps related, no cities or towns were placed upon the map?

A. No, and of course I have had the maps checked up to be sure that they were accurate on that point, as well as on the general detail information given.

Q. In other words, if there were a city or town somewhere within a mile or two of a trunk line, but which was not in fact supplied by that trunk line, you took no note of that in making up the map?

A. That is the understanding. In all cases, the legend, which I am quite sure is the uniform one, namely, a black circular dot, represents the town supplied.

Q. I notice on each of these maps of the individual properties the

uniform statement in red to this effect: "From wells natural gas is transmitted by its own inherent tendency to expand by pipes to many ultimate consumers in Pennsylvania and Ohio." That was intended by you as a statement of fact?

2047 A. Correct.

Q. And that truthfully sets forth the fact, according to your knowledge and information?

A. It does. It is merely the superimposition of an engineering fact on a geographical map.

Hearing here adjourned until 9:30 A. M. Wednesday, September 22nd, 1920.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Wednesday, September 22, 1920.

2048 And now, Wednesday, September 22, 1920, the hour of 9:30 a. m. having arrived, hearing met pursuant to adjournment.

Present: The Commissioner, Levi Cooke, Esq.; on behalf of the State of Ohio, Hon. John G. Price, Attorney General, and Freeman T. Eagleson, Esq.; on behalf of the State of West Virginia, Philip R. Steptoe, Esq., and George M. Hoffheimer, Esq.

SAMUEL S. WYER resumed the stand.

Cross-examination (continued).

Mr. Hoffheimer:

Q. I notice on these maps along what I understand to be the main trunk lines, red arrows uniformly directed toward the States of Pennsylvania and Ohio. Those arrows are intended to indicate the flow of gas from West Virginia?

A. The general direction of gas flow out of West Virginia into some other state, which might be Maryland, Pennsylvania,
2049 Ohio, Indiana, or Kentucky.

Q. What you mean by that is, that the gas leaving the wells on this continuous journey to the other states you have mentioned, uniformly and constantly pursues its travels in the direction of the arrows?

A. Well, the object in putting the red arrows on is to give the general direction. There are some places—that happens to be espe-

cially true in the case of the Manufacturers Light & Heat Company—where gas is crossing from one trunk line to another, where the direction of flow would be not as shown by the red arrows, due to local disturbed pressure conditions. The red arrow merely shows the general direction as between two or more states.

Q. But aside from the exceptional condition you point out, in the instance of the Manufacturers Light & Heat Company, you intended to be understood that the constant and uniform direction of the flow of gas from wells from West Virginia into other states is with the points of the red arrows along these trunk lines?

A. Correct.

Q. Does gas ever flow backward in those trunk lines?

A. Why, it would not flow backward when the trunk lines are in operation. You could easily imagine a situation—for
2050 instance, in the trunk lines of the Eastern Oil Company, where there are two parallel lines in the same trench, located about 18 inches apart, if one of those lines were put out of service for certain purposes, and drained at the rear end, with the forward end closed, the gas in that particular situation would flow backward out of the drain pipe.

Q. But in the ordinary normal course of operation, the flow is all in the one direction, is it not?

A. Correct.

Q. If you have no compressor stations in operation, your gas can only flow forward?

A. It must always flow from the point of higher to the point of lower pressure.

Q. I know, but in the direction of the arrows from the well to the compressors?

A. Correct.

Q. Why did you tell us there is a flow backward and forward over the Ohio River crossings of the Manufacturers Light & Heat Company?

A. That happens to be a fact.

Q. How do you determine it to be a fact?

A. Why, I have studied pressure conditions on the system. That is, they have recording gauge pressure records in a good
2051 many towns on the system. The flow must always be from point of higher to a point of lower pressure. I remember very distinctly that a number of years ago I was called in to investigate that phase purely from an operative standpoint, because they had an argument as to whether a certain gas line—one of those river crossings, I don't recall which specific one of them—as to whether it was of any particular value.

Q. Did you find that condition of flow backwards and forwards crossing the state boundary line at any other place?

A. Any number of them.

Q. Among the Ohio River crossings of the Manufacturers Light & Heat Company?

A. There were a number, but I could not remember them now.

Q. Where were they?

A. On the upper part of the river—that is, up in the upper part the Panhandle section. I could get that information for you if want it; I can't give it to you from memory.

Q. What you have in mind, river crossings of the Manufacturers ht & Heat Company?

A. Yes, at points where gas comes in from Ohio and from Pennvania to a common point.

Q. As I understand you, the direction of that gas at the 2 Manufacturers Light & Heat river crossings, whether the flow is from Ohio into West Virginia, or from West Virginia Ohio, or from West Virginia into Pennsylvania, or from Pennvania into Ohio, is all dependent upon the relative pressure?

A. Yes, sir; it will always flow to the point of lower pressure.

Q. And where did you ordinarily, from the pressure records which have examined, and from which you drew the conclusion that flow was in this direction, find the pressure to be the highest ing the greater part of the time—West Virginia, Pennsylvania Ohio?

A. This particular investigation was made merely as to the boundline between Ohio and West Virginia, and not between West ginia and Pennsylvania. Usually the pressure conditions on the st Virginia side were higher.

Q. Where?

A. Pressure conditions on the West Virginia side were higher.

Q. During the larger portion of the time?

A. Yes. That, of course, was several years ago.

Q. I know, but during what proportion of the time did you find pressure on the West Virginia side was greater than on the Ohio ?

A. I couldn't give you a definite mathematical value on 3 that, because that investigation was made four years ago. I would say about three-fourths of the time the pressures the West Virginia side were higher, but that is not meant to be urate—I mean, in the sense that that is absolutely 75 per cent.

Q. The fact is, that unless it was a period of a very heavy drain oad on the West Virginia gas, the West Virginia pressure always eeded, during the period covered by your observations, the Ohio ssure?

A. Oh, yes.

Q. The fact is, there is very little rock pressure left in those Ohio ls—is that true?

A. That is true.

Q. Very little volume?

A. Very little.

Q. Where did you tell us that the natural gas of the Carnegie ural Gas Company, produced in West Virginia, was consumed?

A. Consumed largely in Pennsylvania, right here in the Pittsgh industrial district, at the various steel plants of the United tes Steel Corporation.

Q. The fact is, that the Carnegie Natural Gas Company is a sidiary of the United States Steel Corporation?

A. I so understand it.

Q. Then its chief object in life is to produce and transmit natural gas for the consumption of the steel plants in the Pittsburgh district?

A. That is true.

Q. Do you know of any cities, towns or villages in either West Virginia or Pennsylvania, which are supplied with gas by the Carnegie Natural Gas Company?

A. I cannot name a one.

Q. That is because you never knew of one, never heard of one?

A. That is true. Of course, I have not made a special investigation as to whether they might supply some small village. I know from the general field conditions that they do not supply any towns of any size.

Q. But you are not prepared to say that they do not supply any?

A. Certainly not. But I want it to be clear, that I wouldn't want to say that they might not supply some small hamlet along the main line.

Q. But you are not prepared to intimate to the Court that they do?

A. I am very sure that they do not supply anything of any size, because it is primarily an industrial company.

Q. I beg your pardon?

A. It is primarily an industrial gas company.

Q. For the steel plants subsidiary to the United States Steel Corporation?

A. Correct—and, of course, has drained the field very greatly, because it has operated at a uniform load each hour of the day, and each day of the year, on the smallest acreage of any gas company of equal size operating in West Virginia.

Q. That is because they had no peak load?

A. That is it exactly.

Q. Do you know of any domestic consumers or any industrial consumers, other than subsidiaries of the steel plants, of the Carnegie Natural Gas Company?

A. I do not.

Q. What is the nature of these steel plants, if you know?

A. Well, they make various steel products, such as would be made in the plants of the United States Steel Corporation. Natural gas, of course, is used for various purposes in steel making.

Q. Blast furnaces?

A. Natural gas is never used in blast furnaces; coke is used there.

Q. But in the manufacture of steel?

A. Yes, sir.

Q. For uses which you call industrial uses?

A. Oh, solely—Used in open-hearth furnaces and various heating operations, used in the tube mills.

(Pennsylvania Exhibit No. 39-G shown witness.)

Q. Now, I wish to direct your attention to your map, Pennsylvania Exhibit 39-G, purporting to be a map of the main lines of Carnegie Natural Gas Company in Pennsylvania and West Virginia, intro-

ed with your evidence, and ask you what you mean by the state-
it on that map, in red, "From wells natural gas is transmitted—
its own inherent tendency to expand—through pipes to many
mate consumers in Pennsylvania?"
. That refers to the different industrial consumers connected at
northern terminus of the line, and where incidentally the owner-
is all the same. That feature, of course, is not brought out in
map.
. How many steel plants do you think of that the Carnegie
plies in Pennsylvania?
. I couldn't give you the number, but there are a large number
ndividual consumers in each steel plant—that is, many of these
l plants are made up of a large number of individual units.

Q. What you mean by that, every department in the steel
7 plant is a unit?

A. Yes. Each unit has its own cost system and must stand
its own feet, as far as production of output is concerned, and fuel
l raw material input, and they are regarded as definite units and
arate individual consumers, although the ownership of the prop-
y is the same. I think I can anticipate what is in your mind and
rify that, by merely stating that the term "ultimate consumers,"
sed on that map, does not for one moment mean to convey the
a that the Carnegie Natural Gas Company is supplying gas either
domestic consumers or to other industrial consumers outside of its
n constituent properties.
. "Many ultimate consumers" is misleading?
. On that particular map.
. In that sense?
. It would be, yes, without the explanation.

(Pennsylvania Exhibit No. 39-F shown witness.)

. Let me direct your attention to your map Pennsylvania Ex-
it No. 39-F, purporting to be a map of the natural gas property
of the Philadelphia Company in Pennsylvania and West Vir-
58 ginia. Is the legend on that map accurate in the title given
to it?
. It is.
. Does the Philadelphia Company conduct any operations in
st Virginia?
. The term "Philadelphia Company" is used on this map as rep-
enting the parent ownership of all of the constitutent companies
ng in to make the operating property as a whole. For instance,
ncludes the Pittsburgh and West Virginia Gas Company, in West
rginia, the Monongahela Gas Company, in Pennsylvania the
uitable Gas Company, in Pennsylvania, and, as I recall, about a
lf dozen other companies, all, however, owned by the Philadel-
ia Company, and all controlled and directed from one office in
s building. The popular name, as far as the public is concerned,
these various groups, is the Philadelphia Company.
. Well, Mr. Wyer, you don't mean to intimate that you are

giving popular testimony, do you—that your maps are meant merely for——

A. No, but I am using the term, and used that term, in the valuation. For instance, it was impossible, on a map of this sort, to make any separation of intercorporate relationship, and the appraisal that was made of the Philadelphia gas property was
2059 made without any regard to intercorporate relationship at the time the appraisal was made, and the map shows all the property—that is, natural gas property—of the Philadelphia Company in the two states.

Q. But you do know this: that in relation to the properties of the Philadelphia Company, as you call them, the producing gas company in West Virginia is the Pittsburgh & West Virginia Gas Company, and that the Philadelphia Company throughout its career has taken especial care to maintain separate corporate entities, such as the Equitable Gas Company and the other companies you have mentioned; that the Pittsburgh & West Virginia Gas Company delivers its gas to the Equitable Gas Company at or about the state line between West Virginia and Pennsylvania; and that may be true as to other companies maintained in Pennsylvania, and that the transportation—I beg your pardon, transmission—of the supply of gas in Pennsylvania is by the Equitable Gas Company and the other subsidiary distributing companies in Pennsylvania. Isn't that a correct statement?

A. Yes. Each group is kept separate as far as the distribution is concerned, but the Philadelphia Company—president right on this floor—owns the whole outfit, and the policy of the entire outfit is the same, and directed from this office. And it was not
2060 possible in the making up of this map to go into all of that intercorporate detail. For instance, we have exactly the same situation on the map referred to here as Eastern Oil Company property. There are six distinct corporate interrelationships on that property, some very complicated—for instance, one where two corporations own part of part of the same line, another one where one owns the pipe and another one owns the couplers. Now you can't show small details like that on a geographical map. The title on the map, which reads "Map of Natural Gas Property of the Philadelphia Company," is correct. It shows the natural gas property that the Philadelphia Company owns in the two states.

Q. What are those companies of the Eastern Oil Company, as you now recall them?

A. West Virginia Central is one.

Q. What is the full title of that, if you please?

A. I wouldn't attempt to give that from memory.

Q. As you recall it, it is the West Virginia Central Natural Gas Company, is it not?

A. I wouldn't state whether it is the West Virginia Central or West Virginia Central Natural.

Q. Mr. Steptoe says the word "natural" should be out of it.
2061 A. It would be my recollection that it should. That is so complicated, however, that, notwithstanding the fact that I

have made an appraisal of that Eastern Oil Company, and have in the original appraisal a hand-colored map that does show the complicated intercorporate relationship, in all dealings with the company at the general office the matter has always been referred to merely as the Eastern Oil Company's natural gas property.

Q. Do you remember the names of any of the companies in Maryland?

A. One is the West Virginia and Maryland, and then there is a Northern Natural Gas Company that takes in part of it.

Q. And they get their gas from the West Virginia Central?

A. All the same organization.

Q. And included in your designation of the Eastern Oil Company?

A. Correct.

Q. Now, if it is true that the situation is as you describe, and for the purpose of designation on the maps it has been impracticable to separate what you call the constituent companies, how is it
2062 that you do not unite the Hope Gas Company and the Reserve Gas Company, the East Ohio Gas Company and the Peoples Natural Gas Company, under the designation of the Standard Oil Company?

A. The object in separating the Reserve from the Hope was merely to make it clearer and be able to show the detail. That was the sole object, and of course the gas goes in an entirely different direction, and separate. Of course, it is true that that entire group—that is, the East Ohio Gas Company, the Reserve, the Peoples and the Hope—are Standard Oil Companies. As far as I am concerned, there would be no objection——

Q. Now, the fact about it is this, is it not, that the connection between the Philadelphia Company and the Eastern Oil Company, the titles Philadelphia Company and Eastern Oil Company were selected because they convey more nearly the idea of unity of construction, operation and management?

A. Yes, that is true, as far as those two are concerned. In the Eastern Oil none of the gas companies in West Virginia even have the name on the office door, in Buffalo everything is operated under the name of the Eastern Oil Company. In the present instance, the Philadelphia Company—I don't know what their accounting
2063 practice is—but very frequently things will be taken care of by the Philadelphia Company as a corporation, in their corporate name, and the expense then allocated to the particular corporation in the scheme as a whole, to which it applies. As far as the East Ohio and the Hope are concerned, of course there is no uniform management, and not even a uniform policy—in fact, a rather bitter feeling between those two operating managements.

Q. Yes, I have noticed it in this hearing. Now, do you mean to intimate that these constituent companies of the Philadelphia Company and the Eastern Oil Company and the Manufacturers Light & Heat Company were all organized and their properties constructed at the same time, or by the controlling companies?

A. Certainly not. Very few gas companies are. Nearly always

it is a matter of their gathering together of individual plants, in order to build a larger unit, or of slow growth. In the matter of the Eastern Oil Company, it was a problem there of getting rid of surplus gas. The company, of course, was an oil company operating for oil, and as an incident to the oil development, found natural gas and then started to find a market for it and built—or rather started to build—pipe lines eastward, first going only a short distance
2064 and then starting out with the laterals and finally adding an additional line and ultimately going clear to Cumberland and Mt. Savage, Maryland. The Manufacturers Light & Heat Company is, of course, in the true sense, an aggregation of a number of smaller properties.

Q. Local companies?

A. Yes.

Q. In a large number of instances?

A. Yes. And that is true of most of the large natural gas companies today.

Q. Both in Pennsylvania, West Virginia and Ohio?

A. Yes. For instance, it would be true of the United Fuel Gas Company in West Virginia. It is, of course, true of the Ohio Fuel Supply Company in Ohio. And, in fact, if you were to trace back the history of practically all of these companies, you would find that one of two things happened—that is, not one started out with a definite vision from the field to build a huge natural gas system on some definite scale, and do that all at one time, but they either got together a number of small companies and started with that as a nucleus, or else started on a small scale and then expanded as the business grew.

Q. Now, with regard to your exhibit No. 46, purporting to
2065 be "Map showing principal towns outside of West Virginia depending on West Virginia for their natural gas service," what was the theory upon which that map was made and that particular title selected?

A. Starting in with the Maryland group, every foot of gas used by every town in Maryland comes from West Virginia and can come from no other place. Going up into Pennsylvania and taking the Fayette County group, every foot of gas used by the domestic consumers on that property must come from West Virginia and can come from no other place. The company has a small local production, but it is so small as not to be of any consequence, and if the West Virginia gas were to be shut off, it would be the equivalent of shutting off all of those towns. Coming over to the next three groups, which include the main lines that run up in there, the percentage of gas coming in from West Virginia is so large that if that were shut off, the service would be paralyzed to the towns shown. This map, of course, does not show the towns in the northwestern part of Pennsylvania supplied by the Peoples Natural Gas Company in that part, the American Natural Gas Company, the T. W. Phillips Oil & Gas Company, the Pennsylvania Gas Company, the United Natural Gas Company, the Warren & Chautauqua Gas Com-
2066 pany, the Manufacturers Gas Company, and the Potter Gas Company. All of those that I have enumerated have their

own local Pennsylvania supplies and would not be affected by the shutting off of the West Virginia gas. Coming into Ohio, taking the group along the main lines of the East Ohio Gas Company, running from the river northward to Cleveland, the East Ohio Gas Company's production in Ohio is so small that the shutting off of West Virginia Gas at the river would simply paralyze the service of all of those towns. Coming over to the next large interstate connection——

Mr. Eagleson:

Q. That is, all of those towns in Ohio?

A. Yes; East Ohio Gas Company, as far as I know, does not have any property outside of the State of Ohio. Coming over then to the next large interstate connection, namely, that of the Connecting Gas Company, bringing gas from the Reserve Gas Company in West Virginia, to Sugar Grove, Ohio, there are some towns that are fed directly off of that line. The Connecting Company is merely a transporting—a transmitting company, taking the gas from West Virginia and carrying it over to Sugar Grove, Ohio; it has no production of its own. At Sugar Grove, Ohio, the gas that is trans-
2067 mitted through the Connecting Company's line is then transferred to the Logan Natural Gas & Fuel Company, and the Northwestern Ohio Natural Gas Company, which is one of the operating groups of the Ohio Fuel Supply Company. That West Virginia gas going to those two groups is the only gas that those groups of towns have. And that applies to the Northwestern lines going to Toledo and taking in the small towns en route, as well as the Logan Company lines going over through Ohio and into Indiana, supplying various towns en route.

Mr. Hoffheimer:

Q. I beg your pardon. I would like to hear this description to the end, but the question was as to the theory upon which that map was prepared, and not an intimate and detailed discussion of all of the features of the map. What you were trying to show was the location of the towns outside of West Virginia which you regarded as dependent upon West Virginia for natural Gas?

A. Precisely, as the title states.

Q. That is the answer to the question, is it?

A. Yes, sir; if you want it briefly.

2068 Q. And you included in the list of towns every city, town or village in Pennsylvania, Maryland, Ohio, Indiana and Kentucky, in so far as it was practicable to place them on the map——

A. No, sir.

Q. Just wait until I finish the question—which is supplied with natural gas by any company receiving gas from West Virginia?

A. Correct. Providing the town is so located that it could not easily be separated. Now, for instance, there would be an exception

to the broad statement in the case of the Peoples Natural Gas Company, where they have a line coming down toward Pittsburgh from the northern part of the state. That line is not shown on this map, and none of the towns located on that are shown, although the Peoples Natural Gas Company is a purchaser of West Virginia gas.

Q. But aside from some peculiar exception of that kind, the statement involved in my question is substantially correct?

A. Yes. In brief, it represents the towns where the service would either be very greatly curtailed or destroyed entirely, if the Act in question were to be enforced.

Q. Well, putting it in another way: They are all towns served by gas companies part of whose supply, or all of whose sup-
2069 ply, is West Virginia gas?

A. Correct.

Q. I wish to ask you this: Where is your map showing the principal towns in West Virginia depending on West Virginia for their natural gas service?

A. I have not prepared such a map.

Q. You were not asked to do so?

A. No, sir. Such a map, of course, has been prepared, but it was not prepared for this case.

Q. Is there, in fact, a considerable number of cities, towns and villages in West Virginia dependent on West Virginia for their natural gas service?

A. Oh, yes, quite a large number of towns in West Virginia, but not as many as in the states of Pennsylvania and Ohio. And in practically all cases, those are towns that are either adjacent or very close to main transmission lines.

Q. Of what companies?

A. Of the Eastern Oil Company, Hope Natural Gas Company, United Fuel Gas Company, the Philadelphia Company and the Manufacturers Light & Heat Company; then of course there are other companies like the Huntington Gas & Development Company, local, the Randall Gas Company, and the company that supplies Fairmont, and the Clarksburg Light & Heat Company, which
2070 is purely a local company.

Mr. Steptoe:

Q. You did not purposely omit the Reserve, did you?

A. On account—Mr. Hoffheimer asked about towns connected, towns of any size.

Mr. Hoffheimer:

Q. Now, you have told us several times that when the gas comes out of the well it starts on its journey, and by continuous travel, proceeds to the "many ultimate consumers in another state." You meant by that statement that when gas once starts out of a well it keeps on going until it gets to the ultimate consumer?

A. Correct.

Q. That would be true, whether the ultimate consumer was in West Virginia or in some other state?

A. That is true. State lines haven't anything to do with gas flow.

Q. That is, you don't mean to intimate that the propensity to travel to the ultimate consumer in another state is a peculiar property of natural gas, do you?

A. No, sir. State lines neither accelerate nor retard gas flow.

Q. Nor is that propensity to travel along on a continuous
2071 journey, as you put it, dependent in any degree in these days upon the existence of compressor stations?

A. When the pressure gets down to a point where it is no longer high enough to give a differential head to force the gas through, then, of course, the gas must be recompressed and the pressure increased, in order to permit it to travel on through.

Q. The fact is, in these days of compressor stations, the gas won't go very far by its "inherent tendency to expand through pipes to many ultimate consumers in another state," unless it is artificially compressed, will it?

A. Well, now, for instance, gas going to Cleveland, Ohio, is compressed at the Hastings station, and travels by its own inherent tendency to expand from Hastings, West Virginia, to Cleveland, Ohio. That is one of the longest gas hauls by single compression in the country. The gas, for instance, coming out of the Reserve line is first compressed at Wilsonburg and then at either Kennedy or Camden, and carried with that to Sugar Grove Ohio. It is there recompressed, and the gas that goes to Toledo is carried to another compressing station, shown as the Tonkin station, rather close to
North Baltimore, Ohio, where the gas is recompressed and
2072 then travels on to Toledo.

Q. Well, the fact about it is, whether in the case of the Reserve Gas Company, or any of the others, that the initial rock pressure is insufficient to carry the gas along to the ultimate consumers, but that in the course of its pilgrimate to reach the ultimate consumers, the rock pressure—the pressure is insufficient to compress or recompress as often as necessary?

A. Yes, sir,—the only feasible way to, first, get the gas out of the ground, and then, secondly, get it through the transmission lines to the ultimate consumer.

Q. In the case of a well feeding into a line, which line in turn carries gas partly to points of consumption in West Virginia, and partly to points of consumption in Pennsylvania and Ohio, does that gas have any label on it?

A. It does not. There is no original package, no identity, nothing to distinguish ownership, all intermingled.

Q. Well, how do you find out then where this gas is going when it comes out of the well and finds its way into a line?

A. Well, for any particular well in West Virginia, it might be very difficult—in many cases absolutely impossible—to tell, the way the well is connected to some of these large trunk lines,
2073 whether that gas is ultimately going to get to Pennsylvania, or Ohio, or, in other cases, whether it is going to get to Ohio or Indiana.

Q. In a company like the Hope Natural Gas Company, which is

supplying gas partly in West Virginia, and supplying it partly to companies which in turn supply the other states, can you tell when that gas starts on its continuous journey, as you call it, from the well, where that gas is going?

A. No, sir.

Q. Can anybody?

A. No, sir. That is, I mean, you could not state that this particular thousand feet of gas is going to be used in West Virginia, and this particular thousand feet of gas in the Hope property, will be used through the Peoples Company in Pennsylvania, and this one through the East Ohio Company in Ohio. The gas is all intermingled, without any chance for identity.

Q. And where does the opportunity first occur for identifying the gas which is going into Pennsylvania or Ohio or any other states?

A. There would be no chance for identifying the gas from particular individual wells. The only gas that you could identify
2074 would be the gas passing the measuring station at the state line, and that would be merely a total volume measurement giving you the total volume passing that point, without any relation as to whether it came from any particular well in West Virginia.

Q. Well, bearing in mind the red arrows on your maps and the general continuous flow of gas, as you stated, are you ever able to tell whether any particular 1,000 or 10,000 or 100,000 or 1,000,000 feet of gas is going to get out of West Virginia into another state, until it has passed the last lateral line serving consumers in West Virgnia?

A. You can't identify it as such. Gas merely starts in the field on its general journey and goes in the general direction shown by the red arrows, and of course if that is taken out within the state, never gets beyond the state line.

Q. But the point I am making is this: Not the gas that is consumed within the state never gets beyond the state line, but the point is that you cannot tell whether any gas, or what gas, is going to reach a point beyond the boundary of West Virginia, until you have passed the last lateral serving West Virginia?

A. That is, you can't identify any given 1,000 cubic feet.
2075 Of course, as a general operating condition, you know that with a certain pipe line pressure situation, a certain percentage of the gas that starts for the interstate boundary line will ultimately reach it and cross it, going into the other state.

Q. In other words, that some gas will reach the boundary line?

A. Yes.

Q. Do the gas companies have any means of directing the flow of gas in any particular direction, or through any particular pipe line?

A. Well, you can always control the flow in a given line, by controlling the pressure on that line, which means, of course, control gates.

The Commissioner:

Q. Gates?

A. Gates. The term "gates" as used herein is a trade term, which refers to gate valves.

Mr. Hoffheimer:

Q. And by closing those gates, taken in connection with the pressure, the particular pipe lines into which the gas is going can
2076 be regulated by the companies, and are so regulated in fact—Is that true?

A. Correct.

Q. So that the human element does enter into this transmission, "by inherent tendency to expand through pipes to many ultimate consumers in another state"?

A. The inherent tendency to expand is the potential feature of the situation. As to whether the gas will be permitted to expand depends on the physical condition of the line, which physical condition embraces not only the location of the line, but the openings of the various gate valves in the line.

Q. And those are controlled by the operator?

A. Entirely.

Q. Taking a company like the Hope, which is supplying gas both to Pennsylvania and Ohio, does it have any control over the proposition whether any particular volume of gas, or the output of any particular territory, or the gas carried by any particular pipe line, shall go to Pennsylvania, or, on the contrary, go to Ohio?

A. That question cannot be answered by yes or no. There are certain local conditions where wells are feeding into lines crossing the state boundary, and where the direction of flow under normal conditions must always be the same, where it would always
2077 be an absolute certainty that the gas from those wells would get into a certain line, crossing the state line at a certain definite boundary, and going to a certain definite group of towns; for the property as a whole, however, it would be impossible to tell ordinarily—and that is especially true with a large number of wells in the southern part of the field—whether the gas would go one way or another. It is, of course, relatively very easy to proportion the amount of gas going into Ohio, to the East Ohio Gas Company, or to the Peoples Gas Company, or to the Fayette County Gas Company, by mere change of position of gate valve, but that change in position of gate valve will determine the relative volume as a total that will pass, and will have no bearing and will give no information on identity from either individual wells or even local fields.

Q. But what I have in mind is this: If the Hope Natural Gas Company desires to deliver to the Peoples Natural Gas Company in Pennsylvania, 10,000,000 feet of gas, it can so arrange its gates and systems that the Peoples Natural Gas Company will get that 10,000,000 feet?

A. In general, that statement would be true. Of course,
2078 you must bear in mind that that 10,000,000 will not be available for either of the other two interstate lines. That is, it means it would divert 10,000,000 feet from either the East Ohio or the Fayette County Company, assuming that it would be physically possible to make the diversion.

Q. Take the Hastings compressing station of the Hope Natural

Gas Company, with which you are familiar. The trunk lines proceeding from that station go to both Pennsylvania and Ohio, do they not?

A. Yes.

Q. Now, it is not left to chance or to inherent tendencies of the gas going through that Hastings Station, to determine whether it shall go to Pennsylvania or whether it shall go to Ohio, is it?

A. It is not left to chance as to which path will be opened. After the path has been fixed, the gas flow is then by the inherent tendency to expand.

Q. That path is fixed——

A. By the position of the gate valve and the pipe.

Q. But the pipe is permanent and not subject to constant rearrangement, and the gate valves being subject to operation as the operator pleases, it is the operation of the gate valves which, in practical operation, determines whether that gas shall go to Pennsylvania or whether it shall go to Ohio, in fulfilment of some contract with one company or the other?

2079

A. Correct. But just to avoid any misunderstanding as far as you are concerned—Taking the illustration that you have cited on the map, by the control of the gate valves at the Hastings station, you could throw gas to any one of three general lines,—that is, to the two groups in Ohio, where the East Ohio are connected, or to the Peoples, but you could not throw gas to the Fayette County Company, because of position of line. In other words, you would get the situation which the West Virginia Commission developed when they ordered the physical connection between the two companies in West Virginia, and ordered it on such a line, so that not only would the local West Virginia Company not have gotten any gas, but the gas that was in that line would have been fed out and gone into the Hope line, due to the fact that the pressure in the Hope line was smaller than in the other.

Mr. Eagleson:

Q. Would the result of that be just the exact opposite of what the Commission had expected or anticipated?

A. Yes, sir. That is, instead of the Hope furnishing gas to the local West Virginia company, the local West Virginia company would have drained part of its gas into the Hope line.

2080

(Pennsylvania Exhibit No. 39-G shown witness.)

Mr. Hoffheimer:

Q. Calling your attention again to the map of the Carnegie Natural Gas Company, Pennsylvania Exhibit No. 39-G, you have indicated certain relatively small areas and natural gas fields?

A. Correct.

Q. Do you mean by that that the areas indicated as natural gas fields are the entire leased acreage of the Carnegie Natural Gas Company?

A. I meant to convey by that two things: First, to give, as ac-

curately as you can in any sketched outline like this, the general location of the principal wells; secondly, to bring out the fact that the Carnegie Natural Gas Company's policy for years has been not to carry a large acreage. They carry the smallest acreage of any natural gas company of its size operating in West Virginia. As the result, the regular public utilities companies which have carried large tracts of acreage, have had much of their gas drained
2081 out by the United States Steel Corporation, operating through the name of the Carnegie Natural Gas Company, because it has been a very common practice for the Carnegie Company to go in and drill in schoolhouse lots, graveyards, town lots—in any place large enough to locate a derrick—and let the regular utility companies carry all of the acreage surrounding. The United States Steel Corporation, by virtue of its large industrial use of gas, has done more injury to the West Virginia field in draining gas away from the large holdings of the large public utility companies than any other single operating factor in the field.

Q. But on this Exhibit 39-G, the map of the Carnegie Natural Gas Company lines, you did not mean to imply that the outlines of natural gas fields were the whole extent of the natural gas areas in that territory, or the surrounding territory?

A. Certainly not; merely to represent what the Carnegie Company was operating in.

Q. That is what I want to make clear. It represents active operations?

A. Very active, every hour of the day, every day of the year.

2082 Q. It is operated territory as distinguished from unoperated?

A. Yes, sir, and operated under the most intense conditions known in the field.

(Pennsylvania Exhibit No. 39-D shown witness.)

Q. Now, directing your attention to the map "Pennsylvania Exhibit No. 39-D," pertaining to the property of the United Fuel Gas Company, do the areas indicated as gas fields comprise all of the leased territory of the United Fuel Gas Company?

A. It comprised all of the leased territory at that time, but of course again we have the same situation that you had on the preceding map—that it is a map of a particular company and not a map of a state gas field. It represents the particular company's part in that state field.

Q. That is what I wanted to make clear. Now, I notice on this map of the United Fuel Gas Company—Pennsylvania Exhibit 39-D—the Boone gas field, which apparently has no pipe line connected with it. Is that in accord with the facts?

A. That was in accord with the facts on January 1, 1919.

Q. Is that in accord with the facts at the present time?

2083 A. I can't answer from first hand information.

Q. Is the Boone field territory in which gas is or was produced by any company?

A. Well, the Boone field at the time this map was made was a field made up of competing companies, and at that time no one had developed far enough to justify the installation of a pipe line. Now it is quite likely that since that time developments have been pushed far enough to justify the laying of a line into that field.

Q. And the same comment would apply as to the outlines of the gas fields on the map of the Philadelphia Company property, Pennsylvania Exhibit No. 39-F? That is to say, that the gas fields are intended to represent the location of the operations of the Philadelphia Company and not to outline the natural gas producing territory as a whole?

A. Correct.

(Pennsylvania Exhibits 40-A, 40-B, 40-C and 40-D shown witness.)

Q. I direct your attention to your Exhibits 40-A, 40-B, 40-C and 40-D, relating to daily actual and normal atmospheric temperatures at Parkersburg, West Virginia, during certain periods of 1916, '17, '18 and '19. I notice in a note at the top of each of
2084 these diagrams the statement that "the low points are the ones that create such abnormal demands for domestic natural gas service that necessitate the curtailing of industrial gas during such periods." What did you mean by that statement on those diagrams, with relation to the curtailment of industrial gas?

A. The natural gas service, as used for domestic purposes, has two clearly defined roots of uses. The first is for cooking, hot water heating and general laundry work, where the use is practically uniform each month out of the year—that is, for this service the consumption in July would be nearly the same as the consumption in January. However, in the second group of uses, namely, house heating, the demand will be proportional to the drop in temperature, as that drop falls below about 68 degrees Fahrenheit—that is, as soon as the ordinary room temperature gets below 68 or 67 degrees Fahrenheit, the average domestic consumer, if he has a gas stove in the house, will begin using gas. If the temperature drops very much below that, the use of gas will increase almost in a direct proportion to the drop in temperature. For instance, if you have a ten degree drop, you will have a certain consumption for a given residence.
2085 If you have a 30 degree drop, you would have more than three times the consumption for the same residence. For this reason, a drop in atmospheric temperature very greatly increases the demand for natural gas for heating; and, in fact, if you were to plot the temperature curve upside down—that is, with the zero at the top—and plot the volume demands on the same sheet, you would find the curves in practically all cases to be nearly parallel. When the temperature is cold—that is, when the air is cold—the demand is large, and when it is warm the demand is low. Now, the Exhibits 40-A, 40-B, 40-C and 40-D merely show exactly what happened at a typical Weather Bureau station in West Virginia, and the marked depressions under the normal temperature

line, represent the marked demands for domestic natural gas that would be created by the temperature deficiencies shown by the black areas. In fact, in checking back with the curtailment dates of some of the companies, it has been found that their curtailment dates agree remarkably accurately with the temperature conditions on this curve—for instance, a certain company may, by way of illustration, be able to carry its industrial load, until the atmospheric temperature gets down to 40 degrees. When it gets down to 38, part of that industrial load must be shut off, and as the temperature de-
2086 creases—and thereby increases the domestic demand—since no more gas is available—only a fixed amount being available—if the domestic consumer is to be given precedence in the matter of service, then the industrial gas must be shut off during that extreme cold period. Incidentally, the diagrams also bring out a feature not ordinarily appreciated, namely the impossibility of looking forward and figuring definitely as to exactly what is going to happen in any given month, in any given winter. For instance, the temperature conditions in January, 1916, were radically different from those in January, 1917, and the temperature conditions in December, 1916, were radically different from those in December, 1917; and the biggest difference of all was between December, 1918, and the Decembers of 1916, '17 and '19.

Q. What you are trying to prove that you cannot tell in advance what the weather is going to be?

A. You can't tell what the effect of the weather is going to be on your demands for gas.

Q. I know; but weather is not created with reference to natural gas or natural gas consumption, is it?

A. It is not. And the natural gas operating conditions, if you are going to give the domestic consumer precedence, must be subordinated at all times to the weather conditions. If you don't do that, you will simply have unbearable service.

2087 Q. What I am trying to find out from you is this: whether by your statement on these exhibits 40-A, 40-B, 40-C and 40-D, in which you refer to the necessity of curtailing industrial gas, you have in mind actual curtailment of companies involved, or whether you intend to express your opinion that industrial gas service ought to be curtailed during those periods?

A. I had in mind both. First, the industries in West Virginia and the other states have been shut off in the past during these very cold periods, and I believe as a matter of humanity, that the domestic consumer should continue to receive precedence in the matter of service.

Q. Well, as a matter of fact, during these periods which you have indicated on the exhibits mentioned, was the industrial supply shut off?

A. The industrial gas supply for a number of the companies was very greatly curtailed and in many instances shut off entirely. Of course, to be fair and equitable, that curtailment, from my viewpoint, ought to be made without any reference to state lines; that is, the consumers in Ohio should be shut off at the same time that the in-

dustrial consumers in West Virginia are shut off. In other
2088 words, you should not play one state against another. And this, of course, we know did happen. While I cannot give you the exact details now—it just comes back to me as a matter of memory—during the war certain industries in Indiana went on using West Virginia gas out of the main line, whereas certain industries competitive of those, in West Virginia were off——

Q. That is, their supply was shut off?

A. Yes. I can't verify the names or dates. That was a mere incident that came up during the war. We do know, as a matter of fact, to be very fair with you, that last winter in Columbus industries were on at times when no doubt industries were shut off in West Virginia. For instance, at the gates of Columbus, Ohio, in last January you had delivered there 50 per cent more gas that went into that town than any other town on the entire Ohio Fuel Supply Company system in the state. Yet we know, as a matter of fact, that we had the most acute suffering in Columbus, as far as the domestic consumers were concerned, that we have ever had, and that that suffering was due to the fact that the local gas company kept on a certain number of industrial consumers, and that those industrial consumers did use gas during that extremely cold weather period. And
2089 the local gas company has even gone so far as to refuse flatly to disclose who those consumers were, or what amounts they used, although the Chamber of Commerce has made a request for that information, and a local club organization has made a request. I am merely citing that as one glaring instance.

Mr. Eagleson: I would like to interject a question there:

Q. What is the fact, Mr. Wyer, as to whether or not, if there were industrial gas used last winter in Columbus, as you suggest, it was not used clandestinely and not in plain violation of the orders of the Public Utilities Commission of Ohio?

A. It was, and that, of course, is the reason why the local gas company has refused absolutely to play square with the public and give that information.

Mr. Hoffheimer:

Q. What was the name of the local gas company in question?

A. The Ohio Cities Gas Company is the owner of the two distributing plants in Columbus. They are locally operated under the names of the Federal Gas & Fuel Company and the Colum-
2090 bus Gas & Fuel Company.

Q. You are talking now about Columbus, in the State of Ohio?

A. Yes. I am merely mentioning that, because I happened to have first hand information there last winter.

Mr. Eagleson:

Q. What would you say as to whether or not it is not possible for a consumer, in the night season, for instance, being a commer-

ial or industrial consumer, when they are going along and presumably gas shut off to their plant or hotel building or office building by order of the Commission, to clandestinely open the gate and urn that gas on in the night season—or, more bluntly speaking, teal gas, until they are dug out and discovered, either by the company or by a representative of the Public Service Commission; and night that not have been probably prevalent to a certain extent in Columbus, instead of the wilful violation of those orders of the Commission and Council of Columbus.

A. Undoubtedly the situation that you describe prevailed, because we know positively that it did prevail in other instances.

Q. Your statements with reference to other violations of orders are based upon your examinations as a representative of the

091 Bureau of Mines?

A. Yes, sir.

Mr. Hoffheimer:

Q. I believe you stated in answer to the question before we drifted ff into this Columbus, Ohio, iniquity, that your reference to the urtailment of industrial gas on these Exhibits 40-A, 40-B, 40-C and 0-D, had reference not only to actual curtailment, but also your ersonal views that the industrial gas ought to be curtailed?

A. In accordance with what apparently is going to be the fixed olicy of the commissions, to give the domestic consumer precedence. That is the only humane way of conserving the gas.

Q. You mean by curtailment, merely diminishing the industrial upply?

A. During the peak load period, first the curtailment, so as to give he domestic consumer enough for adequate service, and if that curailment will not suffice, then the industrial should come off entirely, uring the peak load period. For instance, one thing that could be one without the slighest injury to anyone, would be for all the indow glass plants in West Virginia that are seasonal, operated just a few months out of the year, instead of operating during the

092 months of December and January, as they invariably do now, operate during the summer months and keep off of the peak ad entirely. They, of course, will come back and tell you that hey can't get their men to work under summer conditions. The emperatures, however, around a glass plant are no higher than round an open-hearth furnace, which runs every day in the week, nd one manufacturer at Mannington has actually accomplished it, nd by putting in an air-cooling system, has demonstrated that he an operate in the summer time, and his output in summer is just s large as his output in a cold winter month; and he expects to stay ff this winter during disturbed conditions.

Mr. Eagleson:

Q. Where is Mannington?

A. Rather close to Fairmont, fourteen or fifteen miles from Fairmont, West Virginia.

Mr. Hoffheimer:

Q. Well, I don't suppose that the rules of the Window Glass Workers' Union involve acting in harmony, so far as that is concerned. You happen to be one of the gentlemen who have been publicly advocating the abolition of all industrial gas consumption, have you not?

2093 A. Ultimately, yes. Immediate facing of the situation as it exists at the present time, with a view of ultimately, when the rate reorganization will permit it, getting rid of industrial gas. It is the only thing that will save the natural gas industry. If that is not done, and if it is not done within the very near future, the natural gas industry in the United States is doomed inside of five years.

Q. I was trying to get your idea of ultimacy. You say that the industrial gas consumption will have to be shut off ultimately or the natural gas industry is ruined. I am asking you now, right in connection with the suggestion of necessity of curtailment of industrial gas during particular months, are you not one of the gentlemen who have been publicly advocating the present or almost immediate elimination of natural gas for industrial purposes?

A. I have recommended publicly and privately, both by written and spoken word, that the natural gas companies of the United States should immediately carry out what is known as Recommendation No. 1 of the National Committee on Natural Gas Conservation, which recommendation merely provides for a study of their operating conditions, and that each company brief its own local situation,

2094 with a view of working out from each local company's viewpoint what re-arrangements in operating conditions would be necessary, both on the rate end and on the volume end, to permit such company to immediately curtail, with a view of ultimately eliminating, industrial gas.

Q. The point is that you have advocated the elimination of industrial consumption at the earliest possible moment?

A. I have always stood squarely on the big fundamental that the domestic consumer's service, for humane reasons, should be superior to the industrial use, and that the domestic consumer should be given precedence in the matter of shortage.

Q. I know, but I am trying to get at this: you have advocated, and are advocating at the present time, the elimination of all consumption of gas for industrial purposes?

A. I am not eliminating consumption of natural gas for all industrial purposes immediately. All of these industries—I will not say all, but practically all of these industries—have certain uses for a clean gas, such as natural gas, for which uses it is very desirable. Most of the natural gas used in industries is misused—that is, it is used where an ordinary solid or dirty fuel would answer just as well.

For instance, take the ordinary window glass process, the

2095 window glass manufacturers have lost a great deal of money in the last two years in trying to use producer gas made from West Virginia coal, without appreciating two very big fundamental features, namely, that West Virginia coal invariably carries sulphur.

lphur in coal means sulphur in the producer gas. Sulphur in the oducer gas means a lower grade of product or ware. Now, there e certain operations, for instance, in the heating of the tanks, ere dirty gas can be used. There are certain other operations, in e gloryholes, for instance, and in the annealing, where in furnaces, now constructed, the flame comes in contact with the ware, that a re gas is essential. The first step in the process of curtailment uld be to immediately cease the misuse of natural gas. For in-
ance, just as quickly as the industry could change over, I would ve them use cheaper and inferior fuels—I mean, cheaper as far as ality is concerned—for those operations where natural gas is not sential, where the quality of the natural gas can be made to count. ne thing that all of you people have lost sight of, that all of the gineers in the universe have never been able to even approximate
a manufactured gas that has either the heat value or the
096 purity of natural gas. All manufactured gas has certain impurities that will give trouble if not removed. The re-
oval of those impurities is always a serious problem. It seems to e there can be absolutely no justification for the burning gas in anufacturing paving brick and ordinary building brick in West irginia of the finest fuel that was ever made in the universe, pecially when that fuel is used crudely, as it is. The rational ew of getting at the problem would be to eliminate all of those dustries,—let the industries have natural gas for such purposes, here the quality of the gas will count, and let them continue to ave that for as long a period of time as the volume available will ermit. By so doing you would very greatly increase the value of as, and by raising the field level price, you would be able to get ery much more gas out of the ground, and would add from fifteen o twenty years to the life of natural gas for the United States gen-
rally. Of course, ultimately there will come a time when, if the umane viewpoint that I have advocated and always stood for is per-
nitted to stand, there will not be enough gas for both domestic and ndustrial consumers. Obviously then you will have no natural gas or general industrial work. That is not a hypothetical or theoret-
ical condition. For instance, Toledo, Ohio, where the in-
2097 dustrial consumption was very large at one time, is practically all on a straight domestic basis today. Cleveland, Ohio, is ractically on a domestic basis,—I mean, at the present moment. And there are any number of towns in Ohio where the industrial consumption is practically a thing of the past. For instance, you will have no industrial gas used in any of the towns of the Eastern Oil Company in West Virginia or Maryland. That, of course, is in accordance with an order of the Utilities Commission of your own state, where they have prohibited the use of industrial gas on that system merely to protect the service to the domestic consumer, on the theory that humanity requires that the industrial consumer should be given precedence.

Mr. Hoffheimer: I move to strike out the statement of the witness as to the order of what he calls the Public Utilities Commission—in fact, the Public Service Commission—of West Virginia, as not the

best evidence; and in so far as the answer relates to the motives or purposes of the Commission, because the witness's statement is a mere opinion or conclusion of his own.

The Commissioner: Note the motion.

2098 Mr. Hoffheimer:

Q. I think you went beyond my question. You elaborated on this theory of industrial gas curtailment and ultimate elimination. Take your idea as you have outlined it in your last answer, that the use of industrial gas should be limited to what you designate as the essential operations.

A. Yes, sir.

Q. And ultimately that industrial gas is to be eliminated?

A. Yes, sir. For instance——

Q. Now, wait, let me finish my question. How is that to be brought about?

A. The easiest way to bring it about will be to carry out the co operating scheme that has been put in operation between the five State Utility Commissions; that is, between the Utility Commission of West Virginia, Maryland, Pennsylvania, New York, Second District, and Ohio, where the fundamental object is to handle the situation of all five states as a unit, without preferential advantages to any state, merely a fair and equitable handling of a resource situation. It is not possible for certain companies to eliminate, as they are now operating, industrial gas, and live, under the present rate situation. The elimination of industrial gas in all cases will mean a complete reorganization of the rate fabric, and that re-
2099 organization must take place simultaneously with the curtailment of industrial gas—that is, as the industrial gas comes off, the domestic rate, or the only rate there would be, must go up, and those industries using natural gas for essential purposes should, of course, be required to pay the straight domestic rate. It is not something that can be done over night; it cannot be done in a year, but if the problem is faced fairly and squarely in the immediate future, in the next two or three years, an equitable solution can be worked out. But it can be worked out only as the rates are increased with the curtailment of sales. Incidentally you can easily show that the domestic consumer can pay the increased price per thousand, and by using conservative methods in the home, in the use of gas, not increase his annual bill one cent—that is, the increase in price per thousand will not mean any increase in annual revenue to the gas company, because it will get its annual revenue from a very much smaller sale of gas. The ordinary domestic consumer could easily have his consumption for the same service, and if conservative methods were applied, intensively, could make one foot of gas do the work of three. Now, that conservation program must be put in operation simultaneously with the plan to
2100 curtail natural gas for industrial use.

Q. You are talking about raising the price to domestic consumers, do you also involve the raising of price to the industrial consumers who are left on to use gas in essential operations?

A. Yes, sir.

Q. And yet you say that the aggregate amount of revenue received by the gas companies will not be increased?

A. It will remain substantially the same, because, while you will charge a higher price per thousand, you will sell a smaller number of thousand cubic feet,—in fact, it has been demonstrated time and again that it is immaterial as to whether the domestic rate, for instance, is 10 cents or 80 cents, the consumer's average annual bill will remain substantially the same.

Q. And the aggregate of all domestic bills will remain substantially the same?

A. Yes, sir.

Q. How about the industrial end of it?

A. The industrial consumption will be very greatly curtailed. Essential uses are a relatively small part of the total amount of gas now largely misused in industrial operations, and in all such cases the consumer can not only afford to pay the domestic price,
2101 but, at any domestic price that would be considered at the present time, natural gas for essential industries would be cheaper than any other fuel that the industries could get for strictly essential uses.

Q. Then taking into consideration the curtailment of industrial consumption, the aggregate revenue for industrial gas will be very materially decreased, will it not?

A. Well, you cannot make any general statement that would apply to all companies. There are some companies where a complete reorganization is possible with relatively very little change in the industrial situation, because the industrial situation is small. There are other companies where the industrial use of gas is large, where it will be much more difficult, and for that reason no general statement can be made. Neither can any uniform procedure be followed. Each gas company must have its own local problem worked out to meet its own local operating conditions.

Q. Well, what is going to happen to your gas price to domestic and industrial consumers?

A. The domestic gas price is going to go up.

Q. To what extent—give us some idea.

A. Communities inside of two years will be begging for
2102 the privilege of paying from 75 to 90 cents for natural gas. And it will be——

Q. It is not a question of what they will beg. I want to get your idea of where the curtailment and ultimate elimination of industrial gas is going to send the domestic price, and where it is going to send the industrial price as to the industries permitted to remain during the period of curtailment and in advance of absolute elimination of industrial consumption?

A. Speaking generally, the domestic rate within the next two years for many communities will be in the neighborhood of 75 cents per thousand cubic feet. For essential uses with the present prices of competing commodities, 75 cent natural gas would still be very much cheaper than any other fuel that an industrial consumer could

buy. For instance, at the present time, the only competitor th
you would have for natural gas for industrial uses would be oi
With fuel oil in the neighborhood of 12 to 15 cents per gallon, an
requiring from seven to eight gallons of oil to a thousand feet of ga
it becomes very obvious that a 75-cent price for natural gas fo
essential industries is cheaper than the oil. All of the now know
information regarding the petroleum industry in the Unite
2103 States indicates very clearly that we have gone over the cre
in our national production, and that oil will become scarc
in the future. Therefore, we may not look forward to marked d
creases in prices of fuel oil. There is no other fuel that the co
sumer—that is, the industrial consumer using the gas for essenti
purposes—could get that would do the work as easily and as sati
factorily as natural gas. For instance, just recently, the Mullins Bo
Manufacturing Company, at Salem, Ohio, bid one dollar a thousan
for the use of natural gas in their industrial plant. Potteries
Crooksville, Ohio, are today paying 60 cents a thousand for the u
of natural gas in ordinary pottery kilns. If those potteries
Crooksville, for instance, would put in the same type of kiln that
used in one town in West Virginia—that is, the tunnel type of kiln—
natural gas at $1.80 a thousand would be the same cost as far as th
per cent of total fuel cost is of total income received from th
public, because such a tunnel kiln would enable them to get the sam
output in ware as they now get with a very much larger volume
natural gas in the ordinary kiln. Incidentally, as a part of this i
creased retail price, you would ultimately raise the field level pric
and where you have six, eight and ten cent prices for gas i
2104 the field, if you had a 75 cent retail price, you would the
have field level prices in the neighborhood of 25 or 30. Th
increased field level price would do two things, both of which a
impossible at the present time—first, permit the very much long
operation of old wells, thereby getting out a large amount of th
residue gas that must now be left in the ground; and, secondly
permit the drilling of low volume—low pressure—wells in pra
tically proven territory, where the chance of getting a dry hole
small, but where it is a foregone conclusion that the volume of th
well and the rock pressure will be small, and where under existin
low price conditions it is not possible to operate such low volum
low pressure wells, but where they could be profitably operated unde
the higher price level. In conclusion, the only thing that will co
serve natural gas is an adequate price; that is, you must make natur
gas worth saving before it will be saved.

Q. Well, the fact is that you have advocated consistently the rai
ing of the price——

A. And persistently.

Q. —as a means of cutting down natural gas consumption an
reducing it or combatting it?

2105 A. Yes, sir, and thereby greatly prolong the period
time that natural gas will be available to the public.

Mr. Eagleson: I want to suggest that the plaintiff states — desir
to be forbearing to the maximum degree, but we do not want t

be understood as feeling that all of this somewhat wordy discussion —and sometimes far afield—is within the limits of cross-examination.

Mr. Hoffheimer: I wish to suggest, whether on the record or off it, that I have not given the answers to these questions. I agree in thinking that they could have been answered in very much less space on several occasions.

The Commissioner: Note counsel's statements and let the examination proceed.

Mr. Hoffheimer:

Q. Then, as a matter of fact, the program you are advocating by reducing the quantity of natural gas consumed in industries, and finally eliminating it, and the reduction of the amount of domestic consumption, will necessarily result in reducing the
2106 amount of gas transported from West Virginia to Pennsylvania, Ohio and Indiana—Is that correct?

A. Certainly. Nature is doing that for you now. There is only so much gas available, and it is becoming less each year.

Q. That is bound to happen as a natural consequence, regardless of legislation and regardless of acts of Public Service Commissions and public utilities?

A. And natural law entirely beyond the control of legislative action or human will.

Q. That is in accordance with your idea that natural gas is not capable of regeneration?

A. It is.

Q. It is recognized, I believe, that natural gas is exhaustible and being exhausted, and it has been exhausted for a few years past.

A. It is gone forever. The only thing that will supplement the supply is to find a new field to take the place of the one that is depleted.

Q. And you don't know where those new fields are in West Virginia, Pennsylvania, Ohio, Indiana or Kentucky, do you?

A. Nothing of sufficient magnitude to cope with the situa-
2107 tion now known to exist and known to continue for the next few years.

Q. Then the fact is, that you accept the theory that probably 75 per cent of the originally available West Virginia natural gas has already gone?

A. Yes, sir. Of course, there is one feature to this that will help prolong it, and that is, as you curtail waste in production and transmission, you will make more gas available, and that to be brought about will require the installation of measuring appliances to measure the gas into the lines and then out of the lines where it goes to the various distributing plants.

Q. I think we have an idea of that. But I want to direct your attention to your Exhibits Nos. 41, 42, 43, 44, and 45. Your number 41 is a map showing the volume of natural gas and per cent of State's total production exported from West Virginia. Where did you get the figures upon which that diagram is based?

A. Figures of the United States Geological Survey, and of course the term "production" as used in all Geological Survey statistics, does not mean the amount of gas coming out of the ground, but the amount of gas sold. The amount of gas coming out would always be very much greater by an amount equal to the loss
2108 between the gas sand and the meter measuring the gas to the ultimate consumer. I am using the term "production" on all of these diagrams in the sense that the word is used in all government statistics, but it must always be used in that sense, and not in the sense that it means volume out of the ground.

Q. Referring to Exhibit 41, you have taken, in the sense you have explained, the total of West Virginia gas exported to other states?

A. Yes, sir.

Q. From the reports of the United States Geological Survey?

A. Correct. Because those are the only data that are available. Of course, what we ought to have are gas measuring data back in the field, showing the amount of gas out of the well; but in the absence of that, I have used what was next best, and the only thing that is available.

Q. All right. Where did you get your data of the total production of gas in relation to which you found the percentage of the exported gas?

A. United States Geological Survey.

Q. What elements entered into the total gas production as you found it in the geological reports—what classes of gas?

A. All gas, where there is any definite basis of measure-
2109 ment or estimate.

Q. That included field gas?

A. Yes, sir.

Q. You mean by field gas the gas used by the gas companies themselves?

A. Yes, sir.

Q. And by drilling contractors in working the field, in drilling wells?

A. Yes, sir.

Q. That entered into the total gas production of West Virginia?

A. Yes, sir.

Q. How about the gas consumed by carbon black plants? Was that included?

A. Yes, sir.

Q. How about the gas lost by leakage in transportation? Was that included?

A. Not.

Q. How?

A. Not. That is what I tried to get clear before, that this represents gas delivered to the consumer. That is the sense in which the word "production" is always used by the United States Geological Survey, and does not include the enormous loss existing be-
2110 tween the point of delivery and the well where it is produced.

Q. Anyway, in getting at the total production, you include field gas and gas sold to consumers, either in this state or to other companies at the state line?

A. Certainly. That is the aggregate or total production.

Q. Then the gas delivered at the state line to other companies for transmission to other states is the amount of export?

A. Correct.

Q. And the rest is division?

A. Yes, sir.

Q. In reaching the percentage?

A. Correct; merely a matter of computing per cent with those two fundamental data available; that is, the total production and the amount exported, then finding what per cent that amount exported is of the total.

Q. Has any calculation been made, to your knowledge, as to the proportion of natural gas production used in field operations for drilling wells and other like operations by the gas companies and their contractors?

A. Yes; but I can't give you the figures from memory?

Q. Can you approximate them?

2111 A. I can't give you the field alone. (Referring to note-book.) I have an estimate here of field and main line, and that at the time of this publication represented seven per cent of the total production.

Q. Seven per cent was the field operation?

A. At that time.

Q. That was 1917?

A. Correct.

Q. And does that represent a fair average which might be taken for previous and subsequent years?

A. It would not be very far from that, although I think we can safely count that as far as volume is concerned, that will be materially decreased in the future.

Q. In that seven per cent is the gas for operation of gas compressors included?

A. Yes.

Q. How about the free gas to lessors under the leases?

A. It was.

Q. That is also included?

A. Yes; and includes where they happen to have a special right of way contract, and there was free gas to a man who doesn't have a well but has a main line or lateral line crossing his farm.

(Pennsylvania Exhibit No. 42 shown witness.)

2112 Q. Will you look at your diagram, Exhibit No. 42, "Billion Cubic Feet of Natural Gas Consumed per Million Population in West Virginia, Ohio and Pennsylvania." As I understand, that diagram was gotten up in this way: You took the total gas consumed in each of the three states, and divided it in each instance by the population in millions of the state affected, and the result was the figures contained on this diagram, Exhibit No. 42?

A. Correct.

Q. I wish you would give us the figures in respect to each of the three states, upon which you have based this diagram, including for each year covered the population in millions, the billions of cubic gas consumed, and the billions of cubic feet of gas per million population, as you have figured the same?

A. The data you ask for are as follows:

2113

West Virginia.

Year.	Population in millions.	Billion cu. ft. gas consumed.	Billion cu. ft. gas per million population.
1900	.95	....	..
1906	1.11*	58.4	52
1910	1.22	77.0	63
1911	1.25	80.8	64
1912	1.27	95.4	75
1913	1.30	96.6	74
1914	1.33	95.1	71
1915	1.35	94.9	70
1916	1.38	105.1	76
1917	1.41	115.4	81
1918	1.44*	108.6	75

Ohio.

1900	4.15	....	..
1906	4.46*	74.8	17
1910	4.77	108.0	22
1911	4.84	112.1	23
1912	4.90	126.8	26
1913	4.96	128.2	26
1914	4.02	138.3	27
1915	5.08	146.7	29
1916	5.15	169.4	32
1917	5.21	165.7	32
1918	5.27	143.	27

*The population data for 1906 were interpolated from the Survey's figures, and for 1918 the increase was estimated the same as the average increase for the preceding year.

114

Pennsylvania.

Year.	Population in millions.	Billion cu. ft. gas consumed.	Billion cu. ft. gas per million population.
1900	6.30	....	..
1906	7.13*	162.0	22
1910	7.69	168.8	22
1911	7.83	154.4	20
1912	7.96	173.6	22
1913	8.10	177.4	22
1914	8.24	164.8	20
1915	8.38	176.3	21
1916	8.52	201.4	23
1917	8.66	202.2	23
1918	8.80	177.1	20

Q. Now, in making that computation, you have charged against the population of each of the three states, not only domestic and industrial gas, but also field gas and any other classes of consumption?

A. All gas used within the state, as shown by the United

2115 States Geological Survey figures.

Q. Did you arrive at any computation as to the population of West Virginia, Ohio and Pennsylvania actually consuming natural gas for each of the years affected?

A. I can furnish you that information. It would be on a basis of five for each domestic consumer shown by the Geological Survey records.

Q. Well, Mr. Anderson gave us a statement to the effect that there were approximately 130,000 consumers in West Virginia, which multiplied by five would make 650,000 population dependent, as he says, on natural gas. In the same way, he gave us a population dependent upon natural gas in Pennsylvania, of approximately 2,000,000 people. For Ohio he did not give us the figures.

A. I have all the figures before me. If you want them in the record, I can give them to you.

Q. You have available figures for 1917 showing the number of consumers in Pennsylvania, Ohio and West Virginia?

A. Correct.

Q. But not for 1918?

A. I can give them to you if you want them.

Q. Well, what are your figures for 1917 for the three

2116 states? I simply want the number of consumers.

A. In Ohio, 872,000; Pennsylvania, 480,500; West Virginia, 129,297.

Q. And in order to get the actual gas consuming population, you

* The population data for 1906 were interpolated from the Survey's figures, and for 1918 the increase was estimated the same as the average increase for the preceding year.

would multiply those figures by five, the average number of members in a family?

A. Yes, sir.

Q. Now, I take it that your diagram, Pennsylvania Exhibit 43, being "Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania," has been drawn up by taking the total gas consumption of each of the three states——

A. And dividing by the number of domestic consumers for the respective years.

Q. And that gas consumption which you divided by the number of domestic consumers was the gas consumption for all purposes in the three states, respectively?

A. Well, there were three comparisons made——

Q. I am speaking about Exhibit No. 43.

A. Correct.

Q. You took domestic, industrial and field gas and all and divided it by the number of domestic consumers?

A. Yes, sir.

2117 Q. Now, on your Exhibit No. 44, "Industrial Natural Gas Consumed Annually per Domestic Consumer, in West Virginia, Ohio and Pennsylvania," you took the total amount of gas consumed for industrial purposes in each of the three states, respectively?

A. Correct.

Q. As to each state, dividing the amount of industrial consumption by the number of domestic consumers?

A. Correct.

Q. That I suppose was intended to show how much gas each domestic consumer would have had if there had been no industrial gas consumed?

A. No, not at all. One of your complaints is that West Virginia has been discriminated against; that is, that you have not had your fair share of gas. Exhibits 42, 43, 44 and 45 were prepared to show that on any one of four definite bases of comparison, West Virginia has always had more gas—has had more gas for use within the state than either the States of Pennsylvania or Ohio. There is a certain relationship, as far as communities as a whole are concerned, between industrial gas and a number of domestic consumers,—not very accurate, it is true, but for a given industrial center, a certain number of domestic consumers in that center, working in industries,

2118 would be working in industries that would require a certain amount of gas, and the four exhibits in question merely show that, contrary to all of your statements, the facts are that West Virginia has always had more gas, on any one of the four bases of comparison, than either Pennsylvania or Ohio.

Q. You are talking now about relative amounts or absolute amounts of gas?

A. Why, absolute amounts of gas for different purposes—that is, the amount of gas available for domestic consumption, and the amount of gas available for industrial consumption.

Q. What do you mean by that?

A. In the sense in which the Geological Survey uses the term "industrial," it means practically all uses other than domestic.

Q. What you are getting at is this: If West Virginia had used this industrial gas for domestic purposes, which it was free to do, it would have had more domestic gas than anybody else. Is that it?

A. That would have been a conclusion from that situation, but that is not what I meant to convey. What I meant to convey was to give a complete answer to the claim made by the State of
2119 West Virginia that they have not had their fair share of the distribution of this resource, and the four exhibits in question were prepared to show that, contrary to all statements made by the State of West Virginia in their complaint regarding this unfair distribution, the facts are squarely against the allegations and show conclusively that more gas has been available either per domestic consumer, or industrial gas per domestic consumer, or per million population, or total gas per domestic consumer.

Q. All right. Now you come right back to my proposition that you are talking about proportions and comparisons and not absolute amounts of gas.

A. The number of consumers is, of course, different in the different states. Very obviously a state with a large number of domestic consumers will use, all other things being equal, a larger total volume of gas than a state with a much smaller number of domestic consumers.

Q. Then the fact is that during all of the years covered by these diagrams, in fact, more gas,—more West Virginia gas—had gone out of the state and been consumed out of the state than was consumed in the state. Now, isn't that a fact?

2120 A. Yes, sir.

Q. Is that——

A. As shown on Exhibit 41, which shows the per cent of the state's total production that was exported.

Q. So that all these totals are based upon a comparison of relative amounts?

A. Yes, sir; as to what each state would be entitled to in a rational administration of a limited national resource.

Q. Without discussing that with you, on this diagram, Exhibit No. 44, what gas was included in industrial gas as a basis of that exhibit?

A. All gas other than domestic, as I stated in answer to a preceding question. That is the basis universally used by the Geographical Survey.

Q. That included not only gas used in manufacturing but field gas, in the sense in which you have designated it?

A. Yes; providing the field gas was not used for domestic purposes. There are two classes of field gas service,—an industrial use and a domestic use. For instance, a farmhouse using gas in the field would be a domestic use. A steam boiler at a well drilling using gas in the field would be an industrial use.

Q. How have you separated that?

2121 A. The Geological Survey keep those features separate as closely as they can with the limited data available.

Q. Anyway, you have included in the industrial natural gas, in Exhibit No. 44, that field gas which was used for drilling wells and operating compressors?

A. Yes, sir.

Q. And operations of that kind?

A. Yes, sir.

Q. And cleaning out wells?

A. Yes, sir.

Q. Now, on your Exhibit No. 45, "Domestic Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania." That was arrived at by dividing the amount of domestic consumption by the number of domestic consumers?

A. Correct.

Q. I believe you undertook to explain the figures—the excessive figures—of West Virginia domestic consumption, upon the theory that there was a great deal of waste in West Virginia domestic consumption. Is that right?

A. That is true.

Q. And your idea of the waste in domestic consumption in West Virginia was that it is caused by an insufficient price for domestic gas. Is that right?

2122 A. Correct.

Q. Your idea in making this diagram, and at the present time, is that if the price is increased, that waste will be eliminated?

A. It will be curtailed. Ultimately the waste by the domestic consumer, as the price in West Virginia will go up, will come down to the same level as it is in Ohio.

Q. Is there any waste of gas in Ohio and Pennsylvania?

A. There has been a very great waste of gas in all gas-using states.

Q. Is there any waste going on at the present time in Pennsylvania and Ohio?

A. There is a very great waste.

Q. Waste in domestic consumption?

A. There is.

Q. Are you one of the gentlemen who has calculated it mathematically that in all domestic consumption there is a waste of something like 80 per cent?

A. I am.

Q. And your cure for that is to raise prices?

A. So that the consumer will put in efficient appliances and use the gas correctly.

Q. Is that true in Pennsylvania and Ohio as well as in West Virginia?

2123 A. It is. It is true in all natural gas using states where the prices are low. For instance, it would not be true in Kansas City, Missouri, at the present time.

Q. That is going a little bit out of our bailiwick.

A. For the reason that the price for the first thousand feet in Kansas City, Missouri, is $1.30.

Q. For natural gas?

A. Yes, sir.

Q. That is your idea of what it ought to be?

A. No, I don't say it ought to be $1.30 for the first thousand feet in Ohio, or Pennsylvania, or West Virginia. It ought to be much higher than it is, and ultimately will have to go up to a figure in that neighborhood.

Q. To $1.30?

A. Yes, sir; that is, the equivalent of that. The price of gas is 50 cents per thousand in Kansas City, Missouri, and added to that there is a readiness-to-serve charge, which, of course, does not include any gas at all, of 50 cents, making the first thousand feet cost $1.30.

Q. While we are talking about this question of waste—Is there any other waste in West Virginia, Pennsylvania and Ohio, except waste by domestic consumers?

A. Very large waste in transmission of the gas along the main lines.

2124 Q. Whose waste is that, the gas companies' or the consumers'?

A. The gas companies'. And invariably the gas companies have fought very bitterly the program that would have resulted in the installation of measuring devices in the field—not at individual wells, but at groups of wells—so as to give a definite basis of measurement where the gas is delivered into the lines, and then install measuring devices again, where the gas is taken out of those lines. At the present time, answering your question fully, the loss, on an average, in the United States, between the well in the field and the ultimate consumer's meter is somewhere between 30 and 35 pr cent of the gas that starts out for transmission. A very large part of that could be eliminated by careful attention to main line conditions. To give you a concrete illustration, one large company in Ohio that fought against the installation of measuring devices for four years and finally gave in, put in a complete measuring system for measuring gas from the field into the lines, and out at the various distributing plants, found that in the first year the unaccounted for gas was 43 per cent—that is, the loss between the well and the ultimate consumer was 43 per cent. In three years' time that same com-

2125 pany has cut down that loss from 43 per cent to 13 per cent, by means of the measuring data which has given them—which first gave them the magnitude of the loss, and secondly, showed them in which part of the system the losses were located. The general uses of measuring devices are fundamental and necessary, if you want to get efficient transmission conditions in the field.

Q. What other waste is there on the part of the gas company besides the loss in transmission such as you have described?

A. There is enormous waste in the field in connection with well drilling operations: first, in the use of high-pressure gas under boilers—that is, in using gas under pressures so high that the gas is not properly mixed under the boiler, and using very much more gas than is necessary; secondly, there is a great deal of gas lost when wells are brought in, in not having proper casing or tubing equipment, including the packer and gate valves, available to immediately

shut off the supply as soon as the hole has been completed. The most fortunate thing that could happen, not only to the State of West Virginia, but to all of the natural gas states, would be—if your state would immediately get back behind all of the recom-
2126 mendations for field operations made by the National Committee for Natural Gas Conservation—getting behind those recommendations and seeing that they are carried out would add very materially to the time that you will have natural gas in West Virginia.

Q. Where else is there waste in the field?

A. Well, there is a great deal of gas wasted in improper casing. There is a great deal of gas wasted in allowing it to blow in the air from oil wells.

Q. In blowing off drips?

A. Yes, sir. That of course is the only reason why all drips should be trapped, and why, in all places where it is expedient, drying plants should be installed, so as to remove the gasoline vapor in the field, before the gas is put into the main transmission lines.

Q. Those are all operations of the gas producing companies themselves?

A. Yes, sir.

Q. Where were these industries in West Virginia, where you found gas being consumed for industrial purposes with inefficient appliances, and what were the particular industries?

A. Do you want them all? At Follansbee Bros. Company's tin plant, Follansbee, West Virginia. The gas is used——

2127 Q. I am simply asking you the names. If you are going into details, we are going to branch off into something—Give us the names and dates, if you have them.

A. The Jefferson Glass Company, Follansbee, West Virginia——

Q. Have you the dates at the same time?

A. These were all in August.

Q. 1920?

A. Yes, sir.

Crescent Glass Company, Wellsburg, West Virginia; Eagle Manufacturing Company, Wellsburg, West Virginia; Boch & Metsch, Plant No. 2, Newell; Homer Laughlin China Company, Newell; Kenilworth Tile Company, Newell; Edwin N. Knowles China Company, Plant No. 1, Chester; Edwin N. Knowles China Company, Plant No. 2, Newell; Specialty Porcelain Works, Newell; Taylor, Smith & Taylor Company, Chester; United Zinc Smeltering Corporation, Moundsville; Fostoria Glass Company, Moundsville; United States Stamping Company, Moundsville; Phelps Can Company, Weirton—They have an installation where the gas is used under especially favorable combustion conditions, having found the best conditions in this plant of any inspected in West Virginia. They have done all that can be done to bring about efficient and correct use of natural gas. Weirton Steel Company, Weirton;
2128 Chelsea China Company, New Cumberland; New Cumberland Glass Company, New Cumberland; Erskine Glass Manufacturing Company, Wellsburg; Hazel-Atlas Glass Company,

heeling; La Belle Iron Company, Wheeling; H. Northwood Company, Wheeling; Standard Parts Company, Wheeling; Warwood ina Company, Wheeling; Warwood Tool Company, Wheeling; heeling Steel Casting Company, Warwood; Wheeling Steel & on Company, Benwood; Wheeling Tile Company, Wheeling; owers Pottery Company, Mannington; Marion Window Glass ompany, Mannington—This industrial consumer making window ass has installed additional air-cooling equipment, and is opering during the summer months, in order to keep the plant closed own during the peak load period in winter time, when the gas rvice would be unsatisfactory. He has found that by using this r-cooling equipment, he can get the same output from his plant nd labor in July that he could formerly get with the ordinary air uipment in winter. Colfax Brick Company, Colfax; Owens Bottle achine Company, Fairmont; Hammond Fire Brick Company, rafton; Thornton Fire Brick Company, Thornton; Tygart Valley lass Company, Grafton; Royal Window Glass Company, Grafton;
Carr China Company, Grafton; Hazel-Atlas Company,
2129 Grafton; Seneca Glass Company, Plant "A", Morgantown;
Seneca Glass Company, Plant "B", Morgantown; United tates Window Glass Company, Plant No. 1, Morgantown; Athens lass Company, Morgantown; Beaumont Company, Seneca Plant, lorgantown; Beaumont Company, No. 2 Plant, Morgantown; conomy Tumbler Company, Morgantown; Star Glass Company, tar City; Weston Glass Company, Weston; Penn Window Glass ompany, Pennsboro; Premier Window Glass Company, Pennsoro; Racoon—the Salem Co-operative Window Glass Company, at alem. This plant was shut down at the time I was there, but there as no provision for either checking combustion products or roperly mixing gas.—The Modern Window Glass Company, Salem.

Q. Is that the end of the list?

A. Yes, sir. There are a few more whose names I have misplaced—probably half a dozen more that I haven't read.

Q. Now, as I understand, the trouble in all these plants, except he Phelps Can Company, was that either no mixers or inefficient nixers were employed?

A. Yes, and no check on the combustion products, so there was no way of telling whether they had burned the gas or not. In other words, they had the old impractical gas users, with the mistaken
idea that as long as you do not get visible smoke from the
2130 stack furnace, you have perfect combustion, not appreciating the fact that you can burn gas only half way to carbon monoxide and make an absolutely smokeless flame, and yet waste a large amount of fuel by so doing.

Q. All right. One more point: How many plants have you inspected in Pennsylvania and Ohio?

A. None.

Q. Are you prepared to say, as a matter of fact, that the conditions which you say you found in the West Virginia industrial plants you have named are not duplicated in industrial consumption in Pennsylvania, Ohio and Indiana?

A. As far as glass plants and pottery plants are concerned, my own observation in all of the gas using states is that you would find substantially the same wasteful conditions. In other words, the wasteful condition is not a matter of state lines, but is a plain, unvarnished economic crime that has been going on, and been going on so long, that it has become the almost universal custom of those two groups of gas users. As far as the steel plants are concerned, you would usually find more careful use in a steel plant than you will in the pottery and glass plants.

Q. And yet that use in the steel plants is one which could
2131 easily be replaced by other fuel?

A. Yes. On the same basis, of course, practically all of these others. You can use other fuel in every plant in West Virginia. The reason they are not being used is because natural gas is cheaper and more convenient.

Q. And so in Pennsylvania?

A. Yes, sir.

Q. And Ohio?

A. Yes, sir.

Mr. Price: I should like to ask one question of the witness.

Mr. Price:

Q. Mr. Wyer, you have said considerable concerning the waste on the part of consumers and on the part of gas companies, and I want to ask you this: Whether or not you consider that waste to have been a wilful waste, or a waste growing out of the lack of appreciation of what might be accomplished by the use of more modern and more practical equipment?

A. I think in all cases it is a matter of ignorance.

Q. Ignorance, and not a wilful waste?

A. No.

A recess was here taken until 1:30 o'clock, P. M.

2132 Wednesday Afternoon Session.

And now, the hour of 1:30 o'clock having arrived, parties met, pursuant to adjournment.

SAMUEL S. WYER resumed the stand and his cross-examination continued by Mr. Hoffheimer.

Q. You told us something of a visitation to Weston when you observed a certain number of denizens of that community, engaged in the month of May in burning gas with their windows open. When was that?

A. Several years ago; I can't verify the date. It was the same year that the appraisal of the Weston plant was made—probably three or four years ago.

Q. What were they,—dwelling houses?
A. Yes.
Q. Can you locate the houses any more definitely than you have done?
A. No; I was just merely going through the town in order to get an idea of the structural conditions applying to the plant, and observed this.

2133 Q. Was it located in any one district?
A. No, as I recall they were located over the town.
Q. What was the gas being burned for,—heating purposes?
A. Heating rooms or non-used cooking stoves.
Q. What was the temperature outside?
A. Well, it — warm enough so that the doors and windows were open. I can't give the temperature.
Q. Who was furnishing the gas supply at Weston at that time?
A. Keener Oil and Gas Company, I believe was the name of the company.
Q. Did you report that condition to any one connected with the Keener Oil and Gas Company?
A. I mentioned it to their local superintendent.
Q. Who was he?
A. I don't recall his name now.
Q. When did you make that observation?
A. I can't give you the exact year from memory, but it was the same year the appraisal of the plant was made. The date of that appraisal would fix the day, because it was the May of that year.

2134 Q. When did you make that trip to Cumberland, when you observed the outside street lights burning?
A. August of this year.
Q. Where did you observe that?
A. I drove through New Cumberland, West Virginia, on the Panhandle.
Q. I want to find the location of those lights you saw burning.
A. The lights were the street lights in New Cumberland, West Virginia.
Q. What time of day was it?
A. About noon.
Q. Were they Welsbach burners?
A. Well, they were incandescent mantles; I couldn't tell whether they were Welsbach or not.
Q. They were mantles of that type?
A. Yes, they were mantles of that type.
Q. Who was furnishing the gas supply at that time?
A. Manufacturers Light and Heat.
Q. Did you complain of that fact to the Manufacturers Light and Heat Company?
A. I did.

2135 Q. You had something to say about the molecular constitution of natural gas and its character as a seething mass. Is that inherent only in natural gas?

A. It is not. That is true of all gas. It was merely stated to give an idea of gas pressure or flow.

Q. Do you mean to imply that gas or natural gas is the only matter made up of molecules?

A. No, sir.

Q. Or that gas was the only matter in which the molecules were in constant motion?

A. Gas is the only fluid in which the molecules are in constant motion, using the term "gas" in its generic sense, without regard to whether it is natural gas or a single element.

Q. Isn't it a fact that the modern theory is that all matter is made up of molecules and that the molecules are in motion?

A. Relatively that is true; but if you were to put into this record Einstein's modern theory of relativity, you would get a very clear expression of your idea. But since it is a matter of relativity, the range of motion is so much greater in gases than it is in the so called solids, as to put the gases in a class by themselves.

Q. When you referred to gas as being never at rest and
2136 being constantly in motion, you had in mind that molecular motion.

A. Certainly.

Q. Which applies as well to all gases?

A. It applies as well to all gases and is the basic reason for gas pressure and gas flow.

Q. Did I correctly understand you to say that if you had a given quantity of gas passing through a pipe line and part of that gas was required to be diverted to use in West Virginia, it would affect not only the volume but also the pressure of the gas going into Pennsylvania, using that as an illustrative destination?

A. Yes, sir, assuming that the volume diverted was of enough magnitude to be perceptible.

Q. You could very easily reverse that statement and say that if you had a given volume of gas going through a pipe line and a perceptible quantity of it were set apart or destined for transportation to another state, it would affect not only the volume but the pressure of the gas supply in West Virginia from that same pipe line?

A. Certainly; you cannot remove natural gas from a transmission line without disturbing the pressure conditions in the entire
2137 line, assuming, of course, that the amount removed is a substantial amount.

Q. You had something to say about carbon black plants, which as I gathered it from your testimony in chief, you regard as an unmitigated evil and waste of gas; is that right?

A. Generally, yes, because they are practically all located where that gas could be used for industries and where they could make much better use out of the gas. I do not mean to take the position that there are not some places in the gas fields in the United States where it may be justified to burn natural gas for the purpose of making carbon black. Those places, however, would have to be located so that it would be out of the question to carry the gas to normal markets.

Q. Is not this the fact: That in some places in West Virginia where carbon black is produced, those plants are so located that the gas companies, because of lack of transportation facilities, or because of lack of pressure, are not able to make the gas available for use elsewhere?

A. That is true, under present conditions.

2138 Q. Is it also true that there is a difference in opinion between you and some other people who have made a study of gas conditions as to the economic wastefulness of the carbon black industry?

A. That is true, there is such difference of opinion.

Q. Speaking of the carbon black industry, other engineers maintain that it is an economical and proper use of gas?

A. Yes, but in view of the fact that over seventy per cent of the gas is wasted, I think the preponderance of the evidence is on my side, rather than on the side of the fellow using two or three per cent of the gas that he has available for the manufacture of carbon black.

Q. Does carbon black supply a useful element in industries in this country?

A. Certainly; it is used in printers' ink, paints, and rubber industries.

Q. Hasn't it been estimated that carbon black causes a great saving and is of great advantage in the durability of rubber tires and articles of that character?

2139 A. It is not a matter of saving; it is used as a filler because carbon black is cheaper than rubber. Practically all the black tires you see have had carbon black mixed in to increase the volume. Zinc oxide can be used for the same purpose.

Q. At any rate, its use runs into millions of dollars a year?

A. No, I wouldn't say its use runs into millions of dollars a year.

Q. Would you say eight million dollars a year, as has been estimated?

A. The entire carbon black output wouldn't run into so many million dollars a year.

Q. I am talking about the saving in the rubber industry?

A. I think those statements of savings were made, probably, by the same attorney who, if I remember correctly, appeared before the conservation committee and spoke about natural gas containing carbohydrates and protein.

Q. As a matter of fact, in West Virginia there has been, within the last year or two, a very considerable abandonment of carbon black manufacture in favor of the use of gas for ordinary consumption?

2140 A. Yes, and as time goes on that will increase. The only reason that these people that have these wells are making carbon black is that under the best marketing conditions for natural gas, they could make more money out of the carbon black than they could by going into the public utility business, and that is why I have repeatedly made the statement that no legislation is necessary to wipe out the carbon black industry in West Virginia,

insofar as it is competitive to public utilities. The public utility commissions in West Virginia, Ohio and Pennsylvania have every power now to wipe out every plant that is competitive and all they need to do is raise the price of gas, and assuming that the carbon black plant owner will make more money by selling his gas as a public utility, the carbon black plant will be shut down.

Q. Was there ever a carbon black plant in Pennsylvania?

A. There have been.

Q. Is there to-day?

A. I can't answer that.

Q. You had something to say about large quantities of
2141 residuum gas left in the ground in West Virginia. Would that statement apply equally to Pennsylvania and Ohio?

A. It applies, but with lesser degree. The rock pressures in Ohio and Pennsylvania have been lower and the relative amount of gas left in has been less and the relative amount that could be developed by continued operation under low pressure conditions is less in Ohio than it would be in West Virginia.

Q. Why?

A. Because of the difference in rock pressure conditions. As an average, the rock pressure conditions in West Virginia are higher than they are in Pennsylvania or Ohio.

Q. Are, at the present time, or were at the beginning?

A. Were at the beginning. Wells that are abandoned in West Virginia usually have a higher rock pressure than those that are abandoned in Ohio.

Q. So you charge that to the difference in rock pressure?

A. Well, the difference in residual gas is brought about merely by the fact that you start out with the hundred per cent of gas that is in the ground. If you go down more nearly to atmospheric pressure in one case than in another, in the case you go down
2142 closer to atmospheric pressure, you take out the most gas and leave the least in as residue gas, and the general practice in West Virginia has been due solely to low price conditions and wells were abandoned at a lower level than in Pennsylvania and Ohio; but in most cases, there has been an enormous amount of gas wasted by pulling wells. That would not have been the case had there been a higher price asked for the gas.

Q. And it is due to what you have told me, in explanation of this residue of gas, that the prices in Ohio and Pennsylvania are, and always have been, higher than in West Virginia?

A. Generally speaking, yes, for the last ten or twelve or probably fifteen years.

Q. That is true of industrial consumption as well as domestic consumption of natural gas?

A. Yes, for that same period of time.

Q. Tell me this: If the leaving of this residue gas in the ground has been due to low prices, has it been low prices in West Virginia or low prices in Pennsylvania and Ohio?

A. The three combined. Low prices in Pennsylvania and Ohio have made low prices in West Virginia. In other words, the utility

commissions of Ohio and Pennsylvania could, if they faced
43 the economic facts fairly and squarely, enable the Ohio and Pennsylvania companies to outbid, in the matter of market-
g, the West Virginia companies.
Q. But I gathered from your direct examination yesterday, that
u were charging the leaving of residue gas in the ground in West
rginia to low prices in West Virginia?
A. Low prices have prevailed in West Virginia and as a result
that low price situation, there has been a great deal of residue
s left in the ground. Had higher prices prevailed, the wells
ould have been operated for a longer period of time. For in-
ance, the best illustration you can have of that is Pennsylvania
ude oil. The quality of that has always been superior to other
l. There has been invariably a differential in price in favor of
ennsylvania crude oil. As a result, there are many oil wells in
ennsylvania that have been operated for twenty-five or thirty years,
erely taking oil out at the bucketful, because at the market price,
has been good business to do so. Had the same principle been
llowed in West Virginia, with regard to West Virginia natural
as, it being superior to any other natural gas in the United States
in heating value and quality, and had that quality been
144 recognized and price levels been higher, the wells would have been operated for a much longer period of time and very
uch more gas would have been removed.
Q. What I want to direct your mind to is this: If the price is low
n West Virginia and the prices were higher in Pennsylvania and
hio, then when the principal companies with which we are con-
erned in this present discussion were engaged in the business of
ansporting gas out of West Virginia into Pennsylvania and Ohio,
hy didn't they take that gas out of the higher priced states?
A. Because the relative difference was very small. While the
rices in Pennsylvania and Ohio have been higher than in West Vir-
inia, they have been so very little higher that it doesn't make much
ifference.
Q. Then you are wrong in blaming the low priced gas on West
irginia prices alone?
A. I did not mean to intimate that West Virginia was responsible
or fixing the field level prices. The four states that are dependent
irectly upon West Virginia for natural gas are all jointly respon-
ible for the present economic situation.
Q. If you are going to take your gas out at the lower pressure, so
as to leave less of this residue gas, it would be necessary to put
145 suction pumps on the wells, would it not?
A. Not necessarily suction pumps; it would be necessary to
uild more small compressing stations back of the larger stations now
n use. Personaliy, I believe that the time will come when there
ill be developed an individual compressor unit that can be made
ntirely automatic and placed, in many cases, on each well, actually
lacing a vacuum on the well and literally sucking the gas out of
he gas sand.
Q. Nobody has made that yet?

A. Not yet, but it is an engineering possibility.

Q. At what pressure do you think that gas should be or can be taken out to get this residue gas?

A. No definite statement can be made as to that. It is solely a question of the cost of getting it. If the cost of getting residue gas is more than you can get out of it, it would not be good conservation to go after it. If the cost is less, it would be good business to go after it, and I believe that the time will come, not only in West Virginia, but in other states, when many of the wells will be placed under a vacuum and the gas sucked out of the gas sand. Under those conditions, it will come out slowly but continuously for a rela-
2146 tively long period of time.

Q. You told us something yesterday of the cost to these ultimate domestic consumers in the way of reconstruction of their dwelling houses and buildings when West Virginia gas was diverted from Pennsylvania and Ohio. Does it occur to you that the same relative cost would be incurred by West Virginia consumers in case they get an insufficient gas supply from their own state?

A. That would be true; but the facts are that the West Virginia consumers have always had more gas per domestic consumer than Pennsylvania and Ohio.

Q. The question I asked you was whether in case they have an inadequate service, they would incur a like cost and expense in the matter of reconstruction?

A. Of course, that is true.

Q. That necessity for a reconstruction or conversion, if West Virginia gas were cut off, either from Pennsylvania or Ohio or West Virginia domestic consumers, would manifest itself how—in the buying of new heating appliances?

A. New heating appliances for all of the towns, speaking generally. For the smaller towns, new cooking appliances, new lighting appliances and heating appliances, because in the smaller towns, it will not be feasible to operate manufactured gas plants. In the larger towns, like Columbus, Akron and Cleveland, those
2147 towns would get a manufactured gas, if natural gas were shut off; but for the smaller towns, along the main transmission lines, it would not be feasible to operate a manufactured gas plant in those towns and therefore, they would have to salvage all their gas using equipment.

Q. Take the larger towns. There the cost would be in providing furnaces for burning coal or other fuel and reconstructing their chimneys and flues?

A. Yes, sir.

Q. Anything else?

A. It would vary with different individual instances. There are certain places where it would be necessary to build entire new chimneys, because the present chimneys are not large enough to handle the solid fuel.

Q. Let me ask you this: Are you the same gentleman who has publicly advocated the confining of natural gas consumption for domestic purposes to cooking, lighting and hot water heating, upon

he theory that that consumption is necessary, and the elimination
f the heating of houses on the ground that that was a luxury?
A. I have never claimed that the heating of houses should be
liminated in the present condition of the industry. The cooking
nd hot water heating is of much more importance than the general
house heating, but there is still enough gas available to per-
2148 mit those consumers that have efficient gas heating equip-
ment that they could use gas for heating purposes for a long
eriod of time. The thing I have tried to drive home is that the
se of all gas in the home should be limited to its use in efficient ap-
liances; that is, no coal burning appliances should be permitted
o burn natural gas, because of the gross waste.
Q. It is a fact that you have undertaken to classify domestic con-
umption and to place in the category of necessities cooking, light-
ng and hot water heating, and to classify as luxuries the consump-
ion of gas for heating houses?
A. I have never used the term "luxury" in that sense, because
nder the circumstances, that is relatively a misleading term.
Q. But you have advocated, have you not, in the continued decline
f the production of natural gas, that the order of elimination would
e the cutting off of natural gas for house heating first?
A. I have recognized that the decline of natural gas was inevitable.
I have not advocated that. I have advocated that the order of pro-
cedure should be, in cutting off the supply first of industrial
2149 consumers, then secondly, industrial uses for those purposes
where natural gas is especially well adapted in the industry;
hird, all house heating in coal burning appliances, and the next in
the order of elimination would be, if the situation became so acute
as to require that, all house heating; the cooking, hot water heating
and incidental heating would be the last to remain.
Q. That is sure to take place in the course of natural decline and
the inevitable exhaustion of natural gas, whether we have legislation
or whether we don't have legislation, the only difference being the
question of time?
A. Correctly stated. It is not debatable that it is going to happen.
The only debatable feature is when. My point is that we can delay
that for fifteen or twenty years.
Q. Will it occur then, when we get to the point where we have to
cut off the consumption of gas in house heating furnaces or for
house heating, that this same conversion and re-construction of
houses will take place?
A. Yes, sir, ultimately every natural gas consumer now enjoying
natural gas as a luxury will be without gas or will be using an in-
ferior manufactured gas for which he will pay a much higher
2150 price and which will cost him very much more. As to ex-
actly when that will occur will of course vary largely for dif-
ferent communities.
Q. But it is sure to occur, regardless of legislation?
A. It will. The smaller towns will be without gas and the larger
towns will be reduced to a high priced manufactured gas.
Q. Well, in your series of gradations of elimination, you finally

get to the point where you have nothing left except gas for cooking, lighting and hot water heating?

A. Yes.

Q. That is the last step?

A. That is the last step and when you reach that you are then in what in the gas man's parlance is known as the manufactured gas basis. That is, you have gotten your volume down and instead of selling 157,000 cubic feet of natural gas in West Virginia, under that service, you will sell about twenty-five or thirty thousand feet of gas per consumer per annum at a very much higher price, but because of the more efficient utilization, at practically the same annual cost to the customer. You will get the condition that
2151 you now have with manufactured gas. For instance, the average consumption of manufactured gas for the entire United States is about 26,000 feet of gas per domestic consumer per annum. The average annual bill for that manufactured gas is in the neighborhood of $31.00. The average annual bill for natural gas with an average consumption of over a hundred thousand feet per domestic consumer per annum is within a dollar of the same amount. It is a peculiar feature, but nevertheless a fact, that always exists, that speaking in averages, the average annual family expenditure for gas service will remain the same whether they are using the low priced natural gas or the high priced manufactured gas. But when you have reached the exact position that you have outlined in your question, if you have an adequate price and if you have satisfactory operating conditions for the same companies, they can then operate for a relatively long period of time, taking out the residue gas in the ground and delay very materially the time when the public must go back to the inferior and higher priced manufactured gas. The point that I hope to drive home is that when you have reached the stage of merely a cooking, hot water heating and incidental heating volume, that you do not necessarily need to dispense with natural gas. If you will have an adequate price
2152 at that time, you can still continue to operate and under those conditions one dollar for natural gas would be only forty per cent as expensive to the ultimate consumer as the current price of manufactured gas.

Q. Or one dollar and thirty cents as in Kansas City?

A. The dollar and thirty cents in Kansas City is for the first thousand feet. The second thousand feet would cost you eighty cents, or the first two thousand feet in Kansas City would cost one a dollar and five cents, which is the average.

Q. I think you are one of the gentlemen who is advocating the so-called "step-up" or rising scale?

A. Yes, sir, I recommended that originally in Kansas in 1912.

Q. Then that is a method of inducing economy in natural gas by increasing prices?

A. Primarily and fundamentally.

Q. That question can be answered yes or no.

A. A yes or no answer would be misleading. I will answer the question, yes, and then explain that the primary object of the sliding

scale upward is not conservation but a more equitable distribution of gas and rendering of service to the different consumers. The sliding scale upward makes the large user pay at least the increased
2153 cost of the service that he is receiving; therefore the primary object is equitable distribution of cost and not conservation per se.

Q. Let's get back to the time when the gas is reduced in the natural course of events to cooking, lighting and hot water heating. When you have reached that stage and time passes, as it will, you are going to have an insufficient amount of gas to take care of cooking, lighting and hot water heating in Ohio, Pennsylvania and West Virginia?

A. Yes, sir.

Q. Then what?

A. Manufactured gas for the larger towns; no gas service for the smaller ones.

Q. Before you get to that point of zero in gas production and consumption, you are going to have an intermediate stage where you have some gas but still not enough to furnish those facilities of cooking, lighting and hot water heating in the gas consuming areas of the three states?

A. Yes, sir.

Q. Then what will you do?

A. The effect in that intervening stage will be that you will make manufactured gas and use natural gas for enriching the manufactured gas, instead of using oil. You will utilize the natural
2154 gas for enriching the manufactured gas, rather than degrading the natural gas by mixing manufactured gas with it.

Q. Does it strike you that it will be a probable course and a sensible one to contract the territory in which natural gas is supplied for those purposes?

A. Ultimately the territory must be contracted. The only debatable feature is when and where.

Q. At what stage will that come?

A. When the gas gets down to practically a cooking basis and there is no longer enough to render adequate service for that, then the public will not tolerate continued interruptions of service for that, and it will be necessary to do one of two things: either contract in territory or put in manufactured gas plants and use natural gas for enriching.

Q. The contraction of territory is one of the measures you already have advocated, is it not?

A. Yes, to a certain extent. However, I have also very strongly recommended the shutting down of at least one manufactured gas plant and using natural gas in lieu of it.

Q. Where was that?

A. In Buffalo.

2155 Q. You have, in your own mind, seen the necessity, where a given gas company had an insufficient supply to take care of its entire territory or all of its consumers, of contracting its territory by shutting off some particular town or locality and so give an

adequate service to the territory left rather than to spread an insufficient gas supply over the full territory and give nobody a sufficient amount?

A. That is my theory.

Q. And you praise the New York Public Service Commission for taking that attitude?

A. Yes, sir; but that time does not come as between any two communities, until both communities are using natural gas on an efficient basis and the more remote community does not get sufficient gas. There is absolutely no justification in shutting off Athens, Ohio, from a line coming out of West Virginia and letting Dayton, Ohio, on. There is no justification in shutting off Alliance, Ohio, and letting Canton, Ohio, in the same county, continue to use gas in a grossly wasteful manner. If all of your communities will put the gas on a conservation basis, use it carefully and eliminate waste, then the time will come when the more remote communities must come off in order to render a safe and adequate service to all. That same doctrine will have to be applied in the matter of ex-

2156 tensions and the courts and public utility commissions will have to appreciate that practical operating condition that for a given community to compel a gas company to take on a lot of outlying additions, that those outlying additions will be in all probability the last straw to break the camel's back and it is better for the consumer in smaller numbers to have an adequate supply than for a larger number of consumers to have an inadequate supply and trouble at all times.

Q. Suppose you reach that Arcadian stage—that ideal existence, where everybody who is using gas and producing it is doing so economically and then it becomes necessary that, because of insufficient gas to supply the whole territory, the area of service must be contracted, is anybody going to suffer any inconvenience or loss?

A. Those that are deprived of gas service at that time will, of course, suffer the same inconvenience and loss as if they were deprived of it tomorrow. It is merely a matter of delay in the time.

Q. How about the gas company which through that result is compelled to abandon some of its lines?

2157 A. It, of course, must salvage its equipment, but if that salvaging must take place within the next two or three years, the financial loss will be very much greater than if they are permitted to operate for the next fifteen or twenty years.

Q. In other words, it is just a question of the length of time over which you spread your depreciation?

A. That expresses it exactly.

Q. Now, in going into the particular evils and public inconveniences which will follow from the enforcement of the West Virginia Statute, which is involved in this litigation, you had it in mind that every person in West Virginia desiring to consume gas either for domestic purposes or industrial purposes, would be entitled to, and would require, all of the natural gas that he desired or all he could burn, as long as there was any natural gas produced in West Virginia?

A. What I had in mind was the inevitable effect of the operation of the statute in question, however reasonably interpreted or considerately enforced,—that you would get at least six distinct conditions: First, that the wells where the natural gas is severed from the soil and brought under control and made ready for marketing, under the universal custom of a leasing contract, where such contractual relationships have always resulted in the gas after severance from the soil becoming personal property just like any other mineral removed from West Virginia soil, that the effect would be to destroy that property right; Second, where gas, after severance is delivered to the lines in West Virginia, where such lines deliver gas to lines in other states, the diversion of from those interstate lines in West Virginia would result in the inevitable voiding of contractual relationships and destroy many property rights, because of the inability of such West Virginia interstate lines, on account of such diversion, to meet their contractual obligations at the state lines, where the gas is delivered to lines in the other states; Third, that the gas lines in Maryland, Pennsylvania, Ohio, Indiana and Kentucky, receiving their supply from West Virginia, would have such supply destroyed during critical periods, would result in the destruction of natural gas service in those cities to more than six hundred and fifty towns, more than one million natural gas consumers, representing more than five million people in the states of Maryland, Pennsylvania, Ohio, Indiana and Kentucky: Fourth, That since much of the food and much of the raw material used in West Virginia is imported from other states, the application of this principle of interstate relationship will produce an acute condition that would relegate the states back to feudal detached principalities where property rights will be insecure and interstate problems subject to legislation by bureaucratic experts: Fifth, By greatly increasing the use of natural gas for industrial purposes in West Virginia, the enforcement of this act will have the immediate effect of increasing the now deplorable wasteful situation and violate every recognized canon of gas service and economy; Sixth, The enforcement of the act would place a premium on improvident operation, because the ones that would most directly be benefited are the ones that would in the past not have made provision for the future in the way of carrying reserve acreage or reserve lines or looking after reserve capacity features for the future, but have built only for the immediate present, and the enforcement of the act would require those who have gone into West Virginia on the faith that their property rights would not be disturbed and have invested large sums, first in the acquisition, and second, in the carrying of large amounts of reserve territory for future operation, to surrender such territory reserved originally for interstate purposes solely to intrastate use.

Q. Now, you answered my question so satisfactorily that I want to ask another. In answering the questions on direct exxamination, in regard to the effect of the enforcement of the West Virginia act, with which we are concerned in this case, did you have in mind that under the operation of that statute, every person in West

Virginia who desired to consume natural gas for domestic or industrial purposes, would be entitled to, and would, in fact, demand and consume all of the natural gas which he desired as long as there was any natural gas produced in the state?

A. The enforcement of the act in question would immediately bring about a condition where, in the immediate future, the demand solely within the state of West Virginia for natural gas would be greater than the available supply, and there would
2161 be no gas left for interstate transportation through the main lines now going out of the state.

(Question read, at the request of Mr. Hoffheimer.)

A. I think that is a complete answer to the question. If you want it stated in other words, it simply means this: the domestic consumers then would represent an insignificant part of the total gas used in West Virginia. The major part of your gas would go to the industries. The industries that are now connected to the various utility lines and those that would be connected, would make such demand, entirely in the State of West Virginia, that no gas would be available for transportation from the state. In brief, the enforcement of the act will paralyze practically every interstate line going out of West Virginia.

Q. The question is, did you, in answering your questions on direct examination, as to the effect of the enforcement of that statute, have in mind any such condition or construction as I outlined in my question?

A. I had, because that represents precisely what would happen.

2162 Q. That is, the conditions which were outlined in my question?

A. Yes, sir; in fact, within two years, in West Virginia, you would have the immediate problem of beginning to curtail on some of the people that came on, because your own supplies for industrial use would not be equal to the demands that would be made and somebody would have to get off within West Virginia.

Q. That is, you would expect every man, whether a domestic or industrial consumer, to ask and receive and be entitled to, under that statute, all of the gas that he desired?

A. He would.

Q. And that is the construction you had in mind in answering the questions?

A. Certainly.

Q. Have you [illegible]ed or formed any estimate in figures of the amount of increa[illegible] demand from the Hope Natural Gas Company under this statute for domestic uses or industrial uses and by reason of physical connection of local Gas Companies?

A. The increased demand for domestic gas in West Virginia would be negligible. Practically all of the gas would be used in in-
2163 dustries; that is, the gas that now goes out of the state, if you were to hold that within the state, there would be very little difference in the amount of that that would go to the domestic con-

umer. You are now using very much above the average per do-
estic consumer and practically all of the gas that now goes to ex-
ort would be used by industries within the state.

Q. I know; but I wish you would give me your figures upon which
ou base the statement that all of the gas taken from West Virginia
y the Hope Natural Gas Company would be demanded and con-
umed by industries within the state, and I am going to ask you as
o individual industries and localities.

A. I have made no attempt to allocate particular volumes of gas
o any particular community or any particular industry in any com-
unity. I am giving you my best idea, based on the industries in
Vest Virginia. The industries in West Virginia have been largely
urtailed. Those supplied by the Manufacturers Light and Heat
ompany for days at a time have been without light and heat. I
m sure that the amount of gas that would be sold to the industries
that are now connected by service lines to existing distribut-
164 ing plants and the industries that would clamor to get on—
because natural gas would be cheaper than any other fuel—
hat the industries now operating in West Virginia and burning solid
uel or oil would, if connected, absorb the entire production of the
tate. That is, with a distinct appreciation of the fact that the
tate's production is on a rapid decline.

Q. How much gas have you figured and in what localities and by
hat industries have you figured, would be the additional consump-
on for domestic, for industrial and for physical connection with
ocal utilities on the lines of the reserve gas company after the en-
orcement of this statute?

A. I have made no computations attempting to allocate any vol-
me of gas to any particular industry or to any particular com-
unity. I am basing my opinion solely on my general knowledge
f the West Virginia situation. No figures could be produced that
ould be at all accurate, as far as any individual company is con-
erned, without a detailed investigation and without knowing the
onsumer's local situation.

Q. In order to avoid traveling over the entire lines of the larger
ompanies, your statement as to lack of figures and to the effect that
you are testifying from opinion applies to all companies?

165 A. Yes, sir; the intention was that I should go to every in-
dustry using gas in West Virginia, but because of lack of
me, I was unable to complete that and I am giving you of the facts
s I found them.

Q. My question involved the following companies: The Hope
atural Gas Company, the Reserve Gas Company, The Manufac-
rers Light and Heat Company, the Pittsburgh and West Virginia
as Company or the Philadelphia Company, the United Fuel Gas
ompany, the Carnegie Natural Gas Company, the Eastern Oil Com-
any, the West Virginia Central Gas Company—as to none of them
o you have any figures?

A. The investigation was made solely on the Philadelphia Com-
any, the Randall Gas Company, the Manufacturers Light and Heat
ompany, and on a part of the Hope Natural Gas Company prop-
rty.

Q. I mean that you have no figures as to added or increased consumption by reason of the enforcement of this statute, by any of these companies?

A. I have not made any attempt to allocate any particular amount of gas to any consumer.

Q. I believe that you eliminated any appreciable added consumption by domestic consumers in case of the enforcement of this
2166 statute?

A. Yes, because generally speaking the domestic consumers in West Virginia have not been short. There are, of course, a number of communities where the shortage has been acute, but that represents a very small part of the total. You would, of course, merely have this: assuming that you were permitted to enforce the statute, you would all have one glorious gas spree for about two years; most of the gas would be gone at the end of that time and then you would be in—as far as the domestic consumers are concerned—practically the same condition as some of the other states are.

Q. Now, will you answer my question, whether you are of the opinion that there would be any increased domestic consumption in West Virginia, by reason of the enforcement of this statute?

A. Not perceptibly. The domestic consumer now is using fifty per cent more gas in West Virginia than the average. Any increase in that group would have a very small effect on the total gas. Domestic consumption as a whole, within the state, is a very small part of the state's total production.

Q. I suppose that in forming an opinion of prophesying
2167 as to the effect of the enforcement of this statute, you have not attempted to give any separate figures with regard to industrial consumption and added consumption by reason of the addition of local utilities?

A. It is impossible to make any accurate figures on that because you don't know where the connections would be made.

Q. It is, however, your idea, regardless of the class of consumption that, to the extent of the increase of every thousand feet of consumption in West Virginia, there would be a corresponding diminution of supply in the other states?

A. If the act in question were enforced, there would be no supply in the other states coming from West Virginia.

Q. Suppose we forget about the act and answer the question in the light of the fact that you have declared it unconstitutional?

A. In the light of administering the natural resources, without regard to state lines, the effect in the very near future, will be that the amount of the natural gas consumed per domestic consumer, by all consumers in all states, would very materially decrease. Furthermore, in the very near future, for the ordinary gross uses of natural gas, for most purposes, would be discontinued and the use of industrial natural gas would be limited to those industrial operations where the quality of natural gas, because of its purity, would be a factor. That would be considered and that limited restricted
2168 industrial use would, of course, also ultimately disappear, but generally, there will be less gas used by each consumer each year on an average, because less gas will be available.

Q. Putting the thing in this way: suppose that for some unknown ason a resident and citizen of Massachusetts moves to Clarksburg, est Virginia, with his family, and by reason of the added popula- on, theoretically assumed to be five, you have one more gas con- mer and a matter of consumption of 5,000 cubic feet of gas a onth. Would the effect of that added 5,000 cubic feet of consump- on be to diminish the supply in Pennsylvania and Ohio and that gardless of this statute?

A. It would not affect the supply in Pennsylvania or Ohio, but would reduce the amount of gas that could be transported out of e state by the amount that would be used in West Virginia. Your ankee, however, coming from Massachusetts, if he came from a anufactured gas locality, would bring his manufactured gas stove ith him and would not use 5,000 feet a month.

Q. Put it at 1,000 instead of 5,000. There would be in principle nd in effect a corresponding diminution and increase?

A. Yes, an increased demand which must, of course, be
169 met from the local gas supply. I think you misunderstood my former answer. The thing I wanted to drive home was at the consumption per domestic consumer would not be very reatly increased unless there were a very radical reduction in prices om the conditions you have now.

Q. You would expect to cut down the domestic consumption by ising the price?

A. A raise in price will cut it down. The increased price is the nly thing that will adequately conserve natural gas.

Mr. Hoffheimer: In connection with the examination of Mr. larry Wallace of the United Fuel Gas Company, the production of rtain contracts was called for. It has been arranged between ounsel for the State of West Virginia and Mr. Wallace that these ntracts or copies thereof shall be produced, but the copies are not our hands, so that the formal offer of them in evidence may be eferred until the opening of the defendant's case. This statement merely made for the purpose of preserving the continuity of the record and as an indication that the request for the production
170 of these contracts has not been abandoned.

By the Commissioner: Note counsel's statement.

Mr. Weil:

Q. I show you a paper, marked for identification, "Pennsylvania xhibit 47-Wyer", and I ask you if that is a copy of Ohio Exhibit o. 1, being a map of the main lines of the East Ohio Gas Company, ffered in evidence in this case?

A. It is.

Q. Wherein does it differ from the original, Exhibit 1?

A. Merely in the scale. This is on a small scale, so as to permit the reproduction of the map in smaller space limits.

Q. In all other respects, it is an exact copy?

A. It is.

Q. I now show you a paper marked for identification, "Pennsylvania Exhibit 48-Wyer", and I ask you if that is a copy of the Pennsylvania Exhibit 15, heretofore offered in evidence in this case as a map of the main lines of the Hope Natural Gas Company and the Reserve Gas Company in West Virginia and the Peoples Natural Gas Company in Pennsylvania?

2171 A. It is.

Q. Wherein does it differ from the original exhibit?

A. Only in the scale. This is reproduced on a smaller scale, so as to permit of the reproduction of the entire map within smaller space limits.

Q. I now show you a paper, marked for identification, "Pennsylvania Exhibit 49-Wyer", and ask you if that is a copy of the map heretofore offered in evidence, being Ohio Fuel Supply Company map and Ohio Exhibit No. 2?

A. It is.

Q. Wherein does that differ from the original exhibit?

A. This is on a smaller scale, so as to permit reproduction of the entire map within smaller space limits.

Q. Does it differ in any other particular?

A. It does not.

Mr. Weil: I offer in evidence Exhibits 47, 48 and 49, so that the same may be subsequently substituted for the original exhibits and found for the convenience of the Court.

2172 Mr. Hoffheimer: All objections to the original maps heretofore stated are reserved as to the copies.

By the Commissioner: Let the exhibits be considered in evidence subject to the statement of counsel.

The hearing now stands adjourned, by consent of counsel for all parties. Counsel for the Commonwealth of Pennsylvania and for the State of Ohio will, if so advised, give notice of at least one day to counsel for the State of West Virginia of the resumption of the hearing on the part of the Commonwealth of Pennsylvania and the State of Ohio as of Tuesday, September 28th, 1920, at 11 o'clock A. M., at the office of the Philadelphia Company, Pittsburgh Pennsylvania, at Room 405. In the absence of such notice

2173 by counsel for the Commonwealth of Pennsylvania or the State of Ohio, the case in chief of the complainants will be considered as closed as of October 1st, 1920. All other and further notice of adjourned hearing is waived.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1919.

ORIGINAL, #20 & #21.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Proceedings of December 15-18, 1920.

DEFENDANT'S TESTIMONY.

Afternoon Session, Wednesday, December 15, 1920.

2175 Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.

On behalf of the State of Ohio, Freeman T. Eagleson, Esq., and R. G. Altizer, Esq.

On behalf of the State of West Virginia, Attorney General E. T. England, Fred O. Blue, Esq., Philip P. Steptoe, Esq., W. S. John, Esq.

Charleston, West Virginia, Wednesday, Dec. 15, 1920.

Pursuant to notice, the Commissioner and counsel met at the court room of the U. S. District Court for the Southern District of West Virginia. And thereupon, pursuant to the order of the Court governing the taking of testimony, the State of West Virginia opened its testimony in chief in defence.

2176 H. E. NEASE, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. State your age and place of residence.

A. Charleston, West Virginia. 34 years of age.

Q. What connection, if any, have you at the present time with the Public Service Commission of West Virginia?

A. I am the Chief Statistician of the Public Service Commission of West Virginia.

Q. How long have you occupied that position?

A. Seven years.

Q. Prior to that time, did you have any official connection with any of the executive departments of the State of West Virginia?

A. For 8 years I was connected with the office of the State Tax Commissioner.

Q. That makes a total of 15 years, in which you have been connected with the executive departments of the State of West Virginia, either the Board of Public Works or the Public Service Commission?

A. The office of the State Tax Commissioner and the Public Service Commission.

Q. What were your duties when you were connected with the State Tax Commissioner's office?

A. Well, naturally my duties were somewhat varied.

2177 Q. Well, what connection, if any, did you have with the reports made by the public utilities of the State for tax purposes?

A. I was in charge of that work.

Q. Are all public utilities required to report to the Board of Public Works under the laws of West Virginia?

A. They are.

Q. In connection with the Public Service Commission and as statistician, what services do you perform?

A. I am in charge of the Commission's Department of statistics and accounts, and the work for that department is somewhat varied also.

Q. Well, does your position require you to make reports on any of the public utilities?

A. I am very frequently called on in an official capacity to make investigations in connection with the rates and service of public service corporations.

Q. What does that investigation involve?

A. Well, ordinarily, an investigation of the books and records of the utilities with respect to their financial operations. I have made some investigations that reach to the question of service.

Q. Does that involve the financial history and development of the companies?

A. It does.

178 Q. Are you connected with, or do you perform any services in connection with rate hearings and other hearings before he Public Service Commission?

A. Yes, I am very frequently, in rate hearings in cases, in making eports to the Commission covering the investigations which I have reviously referred to.

Q. Do the reports made by the various public utilities for the oard of Public Works and other reports, required under the law, isclose the counties in which natural gas is produced in West Virnia?

A. They do.

Q. Can you give us a list; that is, simply read into the record the umber of gas producing counties in West Virginia, and the names those counties?

A. I can.

Mr. Weil: Before you proceed with the examination of the witness to any other facts, we desire to cross-examine the witness as to his ualifications as an expert.

Mr. Steptoe: We agree that counsel may, at this time, cross-xamine as he requests, with the understanding, that it shall not be precedent for future cross-examinations in the course of the direct.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Nease, I believe you stated you were with the Public Service Commission 5 years?

179 A. Yes, sir.

Q. And with the State Tax Commissioner 8 years?

A. No, I said, I think, I was with the Public Service Commission years, did I not?

Q. I am not sure.

A. I should have said seven.

Q. And that would make 7 years with the Public Service Commission, and 8 years with the Tax Commission?

A. Yes, sir.

Q. And prior to that time, what was your business?

A. Well, I was connected with lumber manufacturing operation mediately prior to that time.

Q. As bookkeeper or what?

A. That was a part of my duties, yes, as bookkeeper and sort of sistant manager.

Q. And prior to that time, what was your business?

A. Well, prior to that time, I was school teacher, I believe—immeately prior.

Q. And your previous experience then was that of school teacher, d in connection with some lumbering enterprise?

A. No, it would not be confined to that. My father was a large tail merchant and I was, in a way, associated with him in that siness, all my life up to the time I have related.

Q. Did you—then you had no experience, no practical experience in the oil and gas business?

2180 A. No, not except what I have related.

Q. Your duties, in connection with your employment with the Tax Commission of the State of West Virginia, if I understood you correctly, were to prepare, were to review and look over and to analyze the statements that were filed with the Tax Commission by the different parties who were subject to the tax?

A. That partly was true. I had other duties in addition to those enumerated by you.

Q. What were those duties so far as they were connected with oil or gas companies?

A. Well, all such companies are assessed by the Board of Public Works and throughout the entire 15 years I have sat with the Board of Public Works in an advisory capacity.

Q. Well, the Board of Public Works would take the statements or returns that had been made by these respective companies to the Tax Commissioner or to the Public Service Commission, and it was part of your duty to analyze and to look over and advise with reference to those statements? I assume that that is a fact?

A. Yes, looking to the valuation of the properties.

Q. Yes, sir, that was particularly true, I suppose, with reference to the Tax Commission. The question of the valuations of the respective properties was the principal question before the Tax Commissioner, was it not?

2181 A. I don't think I just understood the purport of that question.

Q. Well, the principal question always before the Tax Commissioner was whether or not the returns made by these respective companies were true and correct returns?

A. As far as the Tax Commissioner was concerned that was his principal duty.

Q. The same is true, is it not, with the Public Service Commission, the returns that are made there or applications that are made there to the Public Service Commission by one or another company, it became your duty to examine whatever facts were set forth?

A. Yes, but further than that, and I might say prior to that, I had charge of the preparation of the forms upon which these tax reports were made by the various utilities, and in the preparation of these forms I naturally had in mind that they should show everything that would relate to the various utilities which would be considered, or should be considered by the Board in arriving at the value of the properties of such utilities.

Q. And the information which you obtained and possess was obtained, was it not, from these reports?

A. Not exclusively. I have used such reports to some extent.

Q. Well, what other source of information did you have?

2182 A. Well, I have used monthly reports that are made to the Public Service Commission by the various utilities for some of the data which I have prepared.

Q. And what other source of information did you have?

A. From personal investigations that I have made of various utilities.

Q. And what were those personal investigations, of what character?

A. They were made in connection with rate cases and were principally of a financial nature, or covering the financial operations and properties of the companies, sometimes, however, extending, as I have said before, to the question of service.

Q. And in those cases you would examine the books of such companies as were under investigation to ascertain their capitalization, their financial condition, and the valuation of their properties as carried upon their books, and of what their properties consisted? That is correct?

A. The books and records and any other information that I might be able to get from any source that I thought was material.

Q. Did you, in connection with your position with the Public Service Commission, make any independent examination or investigation in regard to natural gas companies in the State as a whole, or only with reference to those particular companies about which there was some controversy or question before the Commission?

2183 A. You mean personal investigations?

Q. Yes.

A. No, I have not made any personal investigations of gas companies except those that had rate cases pending. I might qualify that by stating that in cases of appeals from the assessments by the Board of Public Works I have had occasion to make some further investigations.

Q. But any other kind of a question they had pending before the Commission relating to a particular case, that question, I suppose, might be referred to you for investigation.

A. I might state, I have made no investigation of such utilities outside of my official capacity.

Q. Now, this question that has been asked of you with reference to the counties, in which gas is being produced in the State of West Virginia, from what sources would you obtain that information?

A. That could be obtained from, and was obtained from reports made for taxation purposes to the Board of Public Works through the office of the State Tax Commissioner. That would be the primary source, I might say, from which that information would be obtained. I might state, however, Mr. Weil, that I know as a matter of general knowledge, practically all the gas producing counties of the State. I could have, even without referring to those reports, could have made a list which would show every gas producing county of the State of West Virginia.

Q. How do you get that general knowledge?

2184 A. From my close connection with the natural gas industry during my 15 years I have mentioned.

Q. As an advisor of the Tax Commissioner or of the Public Service Commission?

A. Yes, and by outside studies, and you might say, conversations

and in various general ways that a man would naturally acquire such knowledge.

Q. Did anything, in connection with your advisory position, require you to go to these respective counties and districts in which gas was being produced to make any personal investigation upon the ground?

A. No, I don't think so, not as it would relate to the production of natural gas.

Q. You have never been required, have you, to make any general reports on that subject, either to the Tax Commissioner or to the Public Service Commission?

A. On the production of natural gas?

Q. Yes.

A. Oh, yes, I have done that ever since I have been with the Public Service Commission.

Q. I mean throughout the State as a whole?

A. Yes, covered the entire state, I have collected such data.

Q. And where are those reports?

A. They are on file in the office of the Public Service Commission and various other places.

2185 Q. And how were those reports prepared, from what sources did you get your information for those reports?

A. Well, those reports were prepared from the various sources which have been mentioned heretofore, and also from the Geological Survey reports, the United States Geological Survey reports, and probably, from some other sources, primarily I would say, from the reports made to the State Tax Commissioner, and to the Public Service Commission, and from the information gathered from the United States Geological Survey reports.

Mr. Weil: Counsel for Pennsylvania objects to the question last propounded to the witness by the counsel for West Virginia as incompetent, and to the witness as incompetent to testify to the facts sought to be elicited by the question.

The Commissioner: Let the objection be noted and let the witness proceed.

Direct examination.

(Question read.)

A. Barbour, Boone, Braxton, Brooke, Cabell, Calhoun, Clay, Doddridge, Gilmer, Hancock, Harrison, Jackson, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Monongalia, Mingo, Ohio, Pleasants, Putnam, Ritchie, Roane, Taylor, Tyler, Upshur, Wetzel, Wirt, Wood and Wayne.

Q. Is there any production in Fayette County, West Virginia.

A. There is a little production in the—close to the edge of Fayette and Nicholas counties, as to which county that production is

2186 in, I am not in a position to state, there is one very small gas company, there is production from one well that I know of.

Q. Are any oil and gas lines leased in that County?

A. There are.
Q. How about Mason County?
A. Mason County has no production, but it also has leased territory.
Q. How about Nicholas County?
A. Nicholas County has no production unless, as I have just explained, in connection with the Fayette County situation.
Q. Are there any lines held under lease for oil and gas purposes?
A. There are.
Q. How about Webster County?
A. Webster County has no production to my knowledge, but there is a great deal of leased territory in Webster County.
Q. How about Raleigh County?
A. Raleigh County has no production, but there is some territory leased.
Q. What about Wirt County?
A. Wirt County has production.
Q. Are there many persons, firms or corporations engaged in the business of producing natural gas in the State of West Virginia?
A. There are a great many.
2187 Q. Are there many that are engaged in serving that natural gas to the public?
A. Yes, quite a good many.
Q. Do all of those who are engaged in producing and serving gas to the public make reports to the Board of Public Works?
A. Those that are engaged, both in producing and serving, would make reports.
Q. In other words, it is those who are serving the public who are required to report to the Board of Public Works, as you have testified?
A. Yes, there might be some few exceptions to that. In case of a producer that was just incidentally furnishing a little public service, of so little importance that the company so producing would not be considered a public utility, or in the public service business, such a producer would not make a return to the Board of Public Works.
Q. Has your office a record of all those utilities who do report?
A. It has.
Q. Have you, at our request, made a list of all the public utilities engaged in furnishing gas to the public in the State of West Virginia?
A. I have prepared such a list.
Q. Now, with the list before you, please tell us how many there are?
A. The list shows 67.
2188 Q. From what data did you make off that report?
A. This was gathered from the records of the Public Service Commission and the Board of Public Works.
Q. I observe on the list No. 44, Ohio Fuel Oil Company. Is that Company generally engaged in the business of supplying gas to the public?
A. It is not.

Q. What does it do?

A. Primarily, it is an oil-producing company.

Q. And about what is the extent of its public service?

A. It has practically no public service, it supplies to a very limited extent, a few field consumers—consumers along its lines in the field.

Q. What about the South Penn Oil Company, No. 57?

A. The South Penn Oil Company, primarily, is an oil-producing company.

Q. And is engaged in public service, incidentally, with reference to a few consumers?

A. Yes.

Q. You have No. 17, Columbian Carbon Company, and No. 37, Monarch Carbon Company, to what extent are those two companies engaged in serving the public?

A. To a very small extent. Their public service business is wholly incidental.

Q. Furnishing to their own employees, practically?

A. Primarily, and a little outside service.

2189 Q. I wish you would now read into the record, the statement you have prepared, showing the number and names of the natural gas utilities operating in the State of West Virginia.

Mr. Weil: That is objected to as incompetent, irrelevant, and immaterial, and particularly objected to because by the testimony of the witness, some of the parties listed are not public utilities.

The Commissioner: Let the matter be placed upon the record and the objection noted.

2190 Answer.—

Statement Showing Natural Gas Utilities Operating within the State of West Virginia December 31, 1919.

1. Aizpuru Oil and Gas Company.
2. Allen, Virgil I.
3. Bailey Gas Company.
4. Berea Heat and Light Company.
5. Bridgeport Natural Gas and Oil Company.
6. Bristol Oil and Gas Company.
7. Buckhannon Fuel Company.
8. Cabot, Godfrey L.
9. Cameron Heat and Light Company, The.
10. Carnegie Natural Gas Company.
11. Cather Gas Company, J. B.
12. Centerville Pipe Line and Gas Company.
13. Charleston-Dunbar Natural Gas Company.
14. City and Suburban Gas Company.
15. Clarksburg Light and Heat Company.
16. Columbia Gas and Electric Company.
17. Columbian Carbon Company.
18. Comet Oil and Gas Company, The.

19. Dickinson, Jno. Q.
20. Empire Petroleum Company.
21. Fay Company.
22. Federal Coal Company.
23. Gassaway Gas Company.
24. Gilmore, B. F.
25. Glenville Natural Gas Company.
26. Harshbarger Oil and Gas Company.
27. Home Petroleum and Natural Gas Company.
28. Hope Natural Gas Company.
29. Huntington Development and Gas Company.
30. Imperial Oil and Gas Products Company.
31. Jane Lew Light and Heat Company.
32. Keener's Oil, Natural Gas and Fuel Company.
33. Light, Fuel and Power Company of West Virginia.
34. Lumberport Gas Company.
35. Manufacturers Gas and Electric Light Company.
36. Manufacturers Light and Heat Company.
37. Monarch Carbon Company.
38. Monongahela Valley Traction Company.
39. Montgomery Gas Company, The.
40. Moore, Herman.
41. Mountain State Gas Company.
42. Natural Gas Company of West Virginia.
43. Northern Natural Gas Company.
44. Ohio Fuel Oil Company.
45. Owens Bottle Machine Company.
46. Pittsburgh and West Virginia Gas Company.
91 47. Pt. Pleasant Natural Gas Company.
48. Raccoon Gas Company.
49. Randall Gas Company.
50. Reno Gas Company.
51. Reserve Gas Company.
52. Richter Oil Company.
53. Rosedale Fuel and Water Company.
54. Salem Natural Gas Company.
55. Shield's Oil and Gas Company.
56. Shinnston Gas Company.
57. South Penn Oil Company.
58. Southern West Va. Oil & Gas Corporation
59. Travis, G. B.
60. Troy Oil and Gas Company.
61. United Fuel Gas Company.
62. West Union Gas Company.
63. West Va. Central Gas Company.
64. West Va. Heat and Light Company.
65. West Va. and Maryland Gas Company
66. West Va. Traction and Electric Co.
67. Wetzel Natural Gas Company.

2192 Q. You have referred to the reports required of the various public utilities made to the Board of Public Works, let me ask you if these reports are made out by the chief officials of the gas company reporting and under them?

A. They are.

Q. Do they disclose the territory held, location and nature of all of its property, generally, the production of gas, the sales of gas, the purchases of gas, and matters of that sort?

A. They do.

Q. You also refer to another source of information; namely, monthly reports made by the gas utilities to the Public Service Commission. In a general way, what do those monthly reports cover?

A. They cover the production and distribution of natural gas.

Q. Made by each gas utility, severally?

A. Yes.

Q. Do those monthly reports disclose the character of the various consumers, domestic, industrial or out in the field?

Mr. Weil: Just a minute, the previous question in this line of investigation is objected to as incompetent, the reports themselves being the only evidence admissible of their contents. Counsel, however, do not desire to burden the record, but do insist upon this objection unless one of those reports, let it be a blank form, for example, as they are printed reports, is here present, so that we may have the evidence of what is required in those reports. From the only competent evidence that would be admissible as showing
2193 what those reports require; in other words, I do not desire to burden the record with having all of these reports, but just one of the blank forms so that it will show exactly what the reports require.

Mr. Steptoe: In reply to the objection we propose to put the copy in the record, and would have done so sooner if opportunity had been given.

Q. Have you a form of the monthly report just referred to?

A. I have.

Q. Are there more than one of these forms for monthly report?

A. There are two of them.

Mr. Stepton: I wish you would produce a blank of each form and file the forms as West Virginia Exhibit No. 7, and Exhibit No. 8, respectively, monthly reports to the Public Service Commission.

Q. Now, if I understand you, these reports are returned monthly by each of the gas utilities?

A. They are.

Q. Have you, at our request, obtained certified copies of the last annual report of the Hope Natural Gas Company, Reserve Natural Gas Company, Manufacturers Light and Heat Company, Carnegie Natural Gas Company, Pittsburgh & West Virginia Gas Company, Columbia Gas & Electric Company, and United Fuel Company, and have you those copies present?

A. I did not secure certified copies of those reports.

2194 Q. (Producing the certified copies in question.) Well, do you have certified copies of those reports present now as made to the Board of Public Works?

A. I do.

Q. Are those very voluminous?

A. They are.

Q. Examine the report of the Hope Natural Gas Company and give us in a general way an idea of the extent of the report and its bulk?

A. The Hope Company consists of 137 pages. The greater part of it is typewritten, single-spaced.

Q. Do those reports undertake to segregate the property of the Company according to counties and districts, a detailed list in each?

A. The reports disclose the information in that manner.

Q. Are the other seven reports in the same way?

A. As to size?

Q. Made out in the same way as to details?

A. They are.

Q. Are the other reports also more or less bulky?

A. They are.

Q. Are those reports made, or any part of them, on our printed form, or is the form of that return to the Board of Public Works prescribed?

A. It is, it is a printed form.

2195 Q. How many pages are taken up by the printed form, or prescribed form?

A. Well, all the pages in the report are on the prescribed form. It is true that it is necessary for some of the pages to be duplicated in giving the detail, but——

Q. Outside of the detail, how much?

A. Including the oath, it would be ten pages—eleven pages.

Q. By whom is that form prescribed?

A. By the State Tax Commissioner.

Q. Do you have anything to do with the making up of that form?

A. I prepared it.

Q. When you were connected with that office?

A. Yes, sir.

Q. While you were with the State Tax Commissioner's office, did you personally overlook these reports and supervise them?

A. I did.

Q. And did you examine them, or confer with the Board of Public Works on them?

A. I did.

Q. While you were connected with the Commissioner's office did you make any summary of detail to be taken from these various returns and reports at the end of the year?

A. I did.

2196 Q. State what you did in that connection?

A. After the collection of the returns, and making a proper

analysis, to see whether they were correctly and fully made, I would collect the data or information contained within them which I thought would be material to the Board of Public Works in arriving at the value of the properties, and also enable me to make estimates as to the value of properties to submit to the Board of Public Works. I would gather that data for each company and submit it to the Board.

Q. Well, was that in the form of statistics?

A. It was, it would be a comparative statement and show, as I stated, all the gas companies. I would put as many companies as I could get on a sheet, grading them according to rank, size, and in other ways that would be helpful to the Board in arriving at the value of the properties.

Q. Have you, at our request, prepared copies of these reports for the seven companies I have just named, with the exception of the details as to each county and district, and in place of the details for those counties, made summaries?

A. I have, I think that answers the question.

Q. Have you here before you a certified copy of the full report made by the Hope Natural Gas Company for the year 1919, subject to the inspection of opposing counsel?

A. I do have such report.

Q. I wish you would now produce the shortened and summarized statement, and tell us in what respect it differs from the full report for that Company?

2197 Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, and especially objected to for the reason that the witness testifying was not employed by, or an officer of, or connected with the Board of Public Works at the time referred to, but was then an officer of or employed by the Public Service Commission, and therefore, this copy or paper prepared by him is not prepared as an official of the Board of Public Works to whom the reports were submitted.

The Commissioner: Note the objection.

Questions asked by Mr. Blue:

Q. These reports to the Board of Public Works, such as the one that you have just produced, and which has been submitted to counsel for the States of Pennsylvania and Ohio, while made to the Board of Public Works, are prescribed by the State Tax Commissioner and are sent to him by the companies making the reports?

A. That is true.

Q. And in the analysis of this report, as well as reports of a like kind, your duties, while with the State Tax Commissioner, as well as since, your duties with the Public Service Commission, have required you to analyze this report as well as reports of like kind, and to submit the result of your analysis to the Board of Public Works. Is that right?

A. Yes. I might state, that I have at this time the same con-

ection with the office of State Tax Commissioner that I had during
ie previous 8 years mentioned.
Q. As to a report of this kind, and reports of like kind particularly?
198 A. Yes, in connection with the work of gathering these tax reports and presenting them to the Board.
Q. And this has been your work for approximately 15 years, both s to prescribing, receiving and analyzing these reports?
A. Yes, for fifteen years.
Q. And these original reports, as made out by the Hope and other tility companies, are placed in your hands for that purpose, and ave been during the time you have been with the Public Service ommission?
A. Yes, I have personal charge of the gathering of these reports.

Mr. Steptoe:

Q. Answer my question with reference to what difference or differnces there are between the full report for the Hope Natural Gas ompany, for the year 1919, and the condensed report thereof, just eferred to.
A. There would be no change, there is no change in the first ten ages of the report, which deal with the capitalization and financial perations of the company set out in the summary, leases and sales, nd matters of that nature. The change that has been made is in he detail of the property reported, on the prescribed form No. 8-U nd 8-U continued. In the original reports that is set out in very reat detail. As an illustration, in reporting pipe line, the numer of miles of pipe line would be given of the various sizes for each axing district within the state, within which the particular utility operated.
199 Q. That is, for each taxing district of each County?
A. Yes, for each taxing district of each county, including, f course, magisterial districts, school districts, municipalities, and hatever might be termed a taxing district. Now in making the ummary, I have shown for each taxing district the acreage of terriory, the number of gas wells, the miles of pipe line, and the total alue returned by the company on such property—and the total alue returned by the company on all of its property within the axing districts, and I have also shown in addition to that, the assessment totals for each taxing district, the value fixed by the Board f Public Works.
Q. Explain how the assessment is fixed by the Board of Public Vorks, is that done for each company, in connection with each reort as passed upon by the Board?
A. Oh, yes, certainly. Each company is assessed by the Board.
Q. Then your condensed statement simply makes that change and ummarizes the items with respect to each taxing district of each ounty in the original report?
A. Yes. Instead of giving the number of miles of each size of

pipe, I have given the total number of miles of all the pipe. I have carried that on through as to the acreage and leases or wells.

Q. And to further illustrate, instead of itemizing the number of meters or regulators, amount of copper wire, or the drilling, or cleaning-out tools, matters of that sort, you simply con-
2200 densed that under the total valuation of property?

A. Yes.

Mr. Steptoe: In order to avoid cumbering the record with a large amount of useless detail, we now offer in evidence this condensed report of the Hope Natural Gas Company covering the calendar year 1919, returnable to the Board of Public Works, and will ask that the same be filed as West Virginia Exhibit No. 9.

We have present the certified copy of the full return and a comparison and test of the accuracy of the condensation is invited.

2201 Q. Have you a like condensed statement for the calendar year 1919 for each of the following companies: Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company?

A. I have.

Q. Is the explanation and statement you made in reference to the condensation of the Hope Natural Gas Company's report substantially the same with reference to the condensing of these named six reports?

A. It is, with the exception of the Columbia Gas and Electric Company report. The Columbia report was copied in full. It was made in a little different form and was copied in full because, further, it was not very voluminous.

Mr. Steptoe: We now offer in evidence these condensed statements on behalf of the last named six companies, to be marked for identification West Virginia Exhibits Nos. 10 to 15, inclusive.

Q. How many years back have these reports been made to the Board of Public Works?

A. For 15 years. I helped prepare the first one, the first form.

Q. Do the records, the public records at Charleston, in the Public Service Commission and with the Board of Public Works disclose data from which the total gas production of the State can be ascertained?

2202 A. Such information is available from various sources.

Q. Have you access to and have you read the United States Geological Reports touching gas supply and gas conditions generally?

A. I have and I also have copies of such reports back to 1907 or 1908.

Q. Information of that sort on records of that kind are before the Public Service Commission and the Board of Public Works at Charleston, are they?

A. Yes.
Q. Have you had occasion in connection with the duties of your sition to ascertain and report with respect to the gas production the State?
A. I have.
Q. What data do you use or did you use in arriving at the extent the production?
A. I used the geological survey reports up until 1917. Since at time I used the reports which are made to the state officials and ate departments.
Q. Have you made up a statement for us with respect to the total oduction of gas in the State, and the amount used in field opera- on and other headings?
A. I have.
Q. I wish you would produce that statement.

(The witness does as requested.)

Q. The statement you give me has a heading "Statement
203 Showing Production of Natural Gas in West Virginia and the Total Net Public Supply Thereof for the Years 1910 to 919 inclusive." Take the heading "Total Production" on that atement and tell us how you arrive at the figure there for the year 919. What is the amount and how did you ascertain it?
A. The amount is 219,053,658 thousand cubic feet. May be I ad better express it the other way. Expressed in M. cubic feet 19,053,658 M. cubic feet. This information was gathered from the eports which were submitted to the Public Service Commission by ie operating companies operating in the State.
Q. That is, the Public Utilities?
A. Yes.
Q. Was there no other gas produced besides that of the public tilities?
A. Yes. There was quite a considerable quantity produced by ndependent producers.
Q. How much did you assign or how — out of that figure did ou get from the reports of the public utilities, how much did you ssign to independent production? In other words, I want to know ow you made up your figures 219,053,658 M. cubic feet.
A. Well, all the gas or the product of the gas in the State is andled through the utilities, and by eliminating interchanges and sts we were able to get the total production in the State from the data reported by the utilities.
204 Q. Explain the other headings as they come on your state- ment; "Used and Sold in Field Operations," next.
A. That represents the quantity of gas that was used and sold n the field operations; that is, in the production of gas primarily nd used in and around the pump stations.
Q. You mean in the drilling of wells and in the running of pump ations?
A. Yes, sir.

Q. Where did you get those figures?

A. Those figures are gotten from the reports that are made by various public utilities.

Q. The next heading says, "Total Production Less Consump in Field Operations." How is that figure arrived at?

A. Just by deducting the quantity used and sold in the field op tions from the total production.

Q. The next heading is, "Quantity used or Marketed by Pri Persons or Enterprises." What about that figure?

A. That is primarily and almost wholly natural gas used in manufacture of carbon black.

Q. Where did you get your figure on that?

A. That information is furnished the Public Service Commis in monthly reports.

Q. And your next heading is, "Net Public Supply." Exp what you mean by that and how you arrive at the figures.

A. That is the quantity of gas that was available for public se or for sale to the public, in the ordinary use of the term, and it arrived at by deducting from the total production less
2205 sumption in field operation, the quantity that was used private persons and, as I have stated, primarily in the m facture of carbon black.

Q. In other words, you have deducted from the total produc the amount used in field operations in getting at this and also amount used by individuals or private enterprises, and the mainder is available for marketing to the general public?

A. Yes.

Q. Referring again to the amount used by private persons, amount seems to be estimated on your statement from the 1910 to 1917 inclusive; for the year 1918 it is approximated, the last year given exactly. Explain that.

A. Well, the figures for 1919 are exact, as shown by the re from such companies. The figures for 1918 are approximately rect, known to be approximately correct, also from such report

(Mr. Blue:)

Q. You mean the fourth column?

A. Yes, sir. The figures marked "estimated" are figures b on the best knowledge we were able to get with best information might state that the United States Geological Survey also made estimate for the previous years. There is no definite informa gathered as to that used for those earlier years; but, as I stated the years 1918 and 1919 the figures are correct.

Q. As I understand you, the figures you have given for the ea years are on estimation and approximation and are figures he fore gathered by the Public Service Commission in
2206 nection with date there?

A. As to the figures of 1918 and 1919, I believe you s

Q. No, of all the years.

A. These figures were not prepared for the purposes of this

but have reference to the Public Service Reports showing them from year to year.

Q. With respect to the figures in the other columns of your statement and relating to the total production and the amount used in field operations to the total production, less amount consumed in field operations and the net public supply, are those figures based on reports that you have referred to filed before the Board of Public Works and made to the Commission and other data made to the Commission?

A. They are as to 1918 and 1919. As I have said before, the information as to production for those earlier years was gotten primarily from the United States Geological Survey Reports. The figures for the gas used in field operation for those previous years and for the years prior to 1918 are estimates also. That information was not available prior to the year 1918. In order to arrive at the figures used prior to 1918, the same percentage of total production was applied as was actually used for such purposes during the years 1918 and 1919, so that the quantities of gas shown as used and sold in field operations in the second column are estimates arrived at in such a manner.

(Mr. Blue:)

2207 Q. Based upon the actual figures for 1918 and 1919?

A. Based on the actual figures for 1918 and 1919, yes.

Q. Will you now read into the record the statement as to which you have just testified, marked "Statement Showing Total Production within West Virginia and the Total Net Public Supply thereof 1910-1919."

2208 Answer—

Statement Showing Total Production of Natural Gas within West Virginia and the Total Net Public Supply Thereof.

1910-1919.

	Total production.	Used and sold in field operations.	Total production less consumption in field operations.	Used or marketed by private persons or enterprises.	Net public supply.
	M cu. ft.	*M cu. ft.*	*M c. ft.*	*M cu. ft.*	*M cu. ft.*
1919.....	219,053,658	14,567,068	204,486,590	20,799,543	183,687,047
1918.....	280,289,044	18,639,221	261,649,823	Ap. 34,000,000	227,649,823
1917.....	289,898,967	19,278,281	270,620,686	Est. 25,000,000	245,620,686
1916.....	299,318,907	19,904,707	279,414,200	Est. 20,000,000	259,414,200
1915.....	244,004,159	16,226,277	227,777,882	Est. 20,000,000	207,777,882
1914.....	236,489,175	15,726,530	220,762,645	Est. 20,000,000	200,762,645
1913.....	245,453,985	16,322,690	229,131,295	Est. 20,000,000	209,131,295
1912.....	239,006,682	15,893,944	223,112,738	Est. 20,000,000	203,112,738
1911.....	206,890,576	13,758,223	193,132,353	Est. 20,000,000	173,132,353
1910.....	190,705,869	12,681,940	178,023,929	Est. 20,000,000	158,023,929

2209 Q. Do you know from your connection with the Commission whether or not any of the public utilities in the gas business are selling gas to the carbon companies?

A. I do not think they are, only to a very limited extent. The United Fuel Gas Company, I believe, is using a very small quantity of gas for such purposes.

Q. Do you mean it has a carbon plant?

A. Yes, sir.

Q. There are one or two carbon companies, as you testified a while ago, who also have consumers. Are they using gas for the manufacture of carbon?

A. They are.

Q. Their service to the consumers is merely to their employes and incidental?

A. It is incidental to their general business.

Q. Do you know whether there has been any decrease in the amount of gas used in the manufacture of carbon black in the last few years?

A. There has been a considerable decrease. There was in 1919 from 1918.

Q. Do you know how to account for that?

A. Well, gas is worth more for other purposes, is the primary reason for it. They could not afford to use it for the manufacture of carbon black.

Q. Does the Public Service Commission have any rates or regulations with respect to the supply of natural gas to carbon companies?

2210 A. They do not.

Q. Do you know of any regulation ever made for or by a carbon company for the service of gas from any of the public utilities?

A. No, the manufacture of carbon black is not considered public service business.

Q. The Commission has never taken any jurisdiction over it?

A. It has not.

Q. Now, with respect to the reports you have filed for the seven companies, that is, the Hope Natural Gas Company and others referred to a few moments ago, let me ask you if the Hope Natural Gas Company in its return for the year 1919 claims any connection with the East Ohio Gas Company?

A. It sells gas to the East Ohio. I do not know as there is any reference to it in any other way.

Q. What I want to bring out is whether the Hope Company reports as an independent company, whether or not its rates are based on its own return?

A. It reports as an independent company.

Q. Its return has no affiliation with the East Ohio or the Peoples Natural Gas Company?

A. No.

Q. And are those gas rates fixed on the business it does itself?

A. Yes.

2211 Q. Referring to the report—see what statement, if any is contained in the report about doing business out of the State of West Virginia?

A. The business of the Hope is confined to the State of West Virginia.

Q. Well, what statement does it make in its return on that subject?

A. Well, it shows in various ways that its property is confined to the State, its properties and business. Page 2 would indicate clearly it had no property outside the State. Pages 6 and 7 would show very clearly also that its operations and properties are confined to the State.

Q. Is the same thing true with reference to the report of the Pittsburgh and Western Gas Company and Reserve Gas Company?

A. Yes.

2212 Q. Now, then, are you able to give us a statement of the amounts of natural gas produced in West Virginia, and the amount that is produced by the Hope Natural Gas Company, the Pittsburgh and West Virginia Gas Company, the Reserve Gas Company, the Carnegie Natural Gas Company and the Columbia Gas & Electric Company and the Manufacturers Light & Heat Company?

A. I am.

Q. In this statement you have given me, you show for the years 1911 to 1919, separately, the supply of natural gas produced and acquired in West Virginia by the seven companies just mentioned, do you not?

A. Yes.

Q. How is that supply made up? Is it entirely production?

A. From the gas produced by the seven companies and the gas purchased by them from other producers and operators.

Q. Is the production shown in one column and the purchases in the second column?

A. Yes.

Q. And the third column shows the gross supply; is that correct of the first two?

A. That is correct of the first two.

Q. The fourth column shows the interchanges spoken of?

A. That is sales between the seven companies. That is eliminated in order not to duplicate.

2213 Q. The fifth column shows the quantities used or sold for field purposes. Is that the same figure you have heretofore spoken of as what is used for field purposes?

A. Yes, that is the explanation I have given before, which would apply here.

Q. What is the last column?

A. The net supply for public service of the seven companies.

Q. How did you arrive at that figure?

A. That is the gross sales of the seven companies after deducting the interchanges between and among the seven companies and the gas used by the seven companies for field purposes. In other words,

that is the supply which the seven companies have to offer to the public.

Q. That sheet is a summary, is it not, covering the seven companies altogether?

A. Yes, sir.

Q. For the calendar year?

A. Yes. It shows the totals for each year for the seven companies.

Q. Have you, in attached sheets, shown these same figures with reference to each of the seven companies, for each year, 1911 to 1919, inclusive?

A. Yes, I have.

Q. Are your figures and statistics there based upon the
2214 same sources of information and knowledge that you have already testified about?

A. They are.

Mr. Steptoe: We now offer in evidence the statements referred to by the witness in the following order: first, the summary for the years 1911 to 1919, with the heading "Statement showing supply of natural gas produced and acquired within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, combined for the seven companies." This statement is to be filed as West Virginia Exhibit No. 16. Then, in the order following, the statements separated for each of the seven companies, one for each year, 1919 back to 1911, inclusive, to be marked, in order, West Virginia Exhibits Nos. 16-*a*, 16-*b*, 16-*c*, 16-*d*, 16-*e*, 16-*f*, 16-*g*, 16-*h*, and 16-*i*.

Q. Are you able to give us the figures as to what percentage of the total net supply for public service of West Virginia gas is controlled by these seven companies?

A. I am.

Q. Are your figures in that regard based upon the information and knowledge you have testified about previously?

A. They are.

Q. Will you give us in the record the total net supply for public service of all gas produced in West Virginia and then the net supply for the seven companies; then the percentage of the total net supply which is controlled by the seven companies for the years 1911 to 1919, inclusive?

2215 Answer.—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and the Total thereof of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company Combined for the Seven Companies.

1911-1919.

	Total net supply for public service.	Net supply of the seven companies.	Percentage of the net supply of the seven companies to the total net supply.
	M cu. ft.	*M cu. ft.*	
1919.....	183,687,047	164,426,341	89.5%
1918.....	227,649,823	201,685,702	88.6%
1917.....	245,620,686	223,517,777	91.0%
1916.....	259,414,200	200,892,583	85.1%
1915.....	207,777,882	170,694,495	82.1%
1914.....	200,762,645	166,625,730	83.0%
1913.....	209,131,295	167,897,746	80.3%
1912.....	203,112,738	172,050,962	84.7%
1911.....	173,132,353	147,431,246	85.1%

2216 Q. Are you able to give us a statement which will show the amount of gas produced in West Virginia which is used by the West Virginia consumers, and the percentage thereof with reference to the total net supply of such gas?

A. I have such a statement.

Q. Please put it in the record.

2217 Answer.—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and Total Thereof Furnished to West Virginia Consumers.

1911-1919.

	Total net supply for public service.	Sales to West Va. consumers.	Percentage of the total net supply sold to West Va. consumers.
	M cu. ft.	*M cu. ft.*	
1919.....	183,687,047	46,654,098	25.4%
1918.....	227,649,823	52,985,173	23.3%
1917.....	245,620,686	48,942,388	19.9%
1916.....	259,414,200	59,409,460	22.9%
1915.....	207,777,882	53,147,718	25.6%
1914.....	200,762,645	50,600,709	25.2%
1913.....	209,131,295	53,629,419	25.6%
1912.....	203,112,738	51,968,488	25.6%
1911.....	173,132,353	40,265,294	23.3%

18 Q. The column on that statement just given, and under the heading "Total net supply for public service" is the total net blic supply for the state, is it not?
A. It is of all gas produced within the state.
Q. Now, under the next heading, "Sales to West Va. consumers," re you embraced all of the consumers in West Virginia?
A. That is consumption that was used in public service or de-ered to the public.
Q. And the third heading is the percentage which the amount so d in West Virginia bears to the total public supply?
A. Yes.
Q. Can you give us a statement of the percentage of the total pub-supply of each of the seven companies which is marketed to West rginia consumers?
A. I can.
Q. Please give that statement into the record.
19 Answer.—

tement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufac-turers Light and Heat Company and the Total Thereof Furnished by the said Seven Companies to West Virginia Consumers.

1911-1919.

	Total net supply of the seven companies.	Sales to West Virginia consumers.	Percentage of total supply of seven companies sold to West Virginia consumers.
	M cu. ft.	*M cu. ft.*	
19.....	164,426,341	29,360,811	17.9%
18.....	201,685,702	30,120,273	14.9%
17.....	223,517,777	26,889,876	12.0%
16.....	220,892,583	24,526,859	11.1%
15.....	170,694,495	18,860,867	11.0%
14.....	166,625,730	20,612,599	12.4%
13.....	167,897,746	22,297,677	13.3%
12.....	172,050,962	21,101,443	12.3%
11.....	147,431,246	17,200,747	11.7%

20 Q. Have you, at our request, prepared a statement showing the total acreage of gas territory held by these seven mpanies in the State of West Virginia for the years 1910 to 1919, lusive, together with a separate sheet for each year, 1919 back to 11, both inclusive, giving the acreage separately of each of the en companies?
A. I have prepared such a statement.

Q. Is that statement taken from the returns of the seven companies sworn to and filed before the Board of Public Works which you have testified to?

A. It is.

Q. With respect to the Manufacturers Light and Heat Company, I will ask you if, by that company, you mean the Manufacturers Light and Heat Company of Pennsylvania, a Pennsylvania corporation?

A. Yes, I mean the Pennsylvania corporation. I do not understand that that is a part of the title of the company, however.

Q. You mean that you think the name is the Manufacturers Heat and Light Company?

A. Yes, sir.

Q. Has that company always reported to the Board of Public Works from the year 1910 to date or has it reported through subsidiaries?

A. Yes, it has; either under its name or through its subsidiaries.

2221 Q. How did you ascertain the acreage of that company as given in this statement?

A. Well, for the early years, when it reported through it subsidiary companies in the state, I took the totals reported of the subsidiary companies and for the later years I took it from the company itself.

Q. How long has it been reporting direct to you?

A. For seven or eight years.

Mr. Steptoe: We now offer in evidence the statement, and its subdivisions, just referred to by the witness, to be marked as exhibits, in the order mentioned, West Virginia Exhibit No. 17, which will be the summary, and West Virginia Exhibits Nos. 17-*a* to 17-*k*, inclusive, covering the subdivisions of the statement in the order named.

Q. In connection with this last filed exhibit, we ask you if much acreage is held by some of the larger oil companies that are operating in West Virginia?

A. Yes, there is a very large acreage held by some few of the oil companies.

Q. Is any part of their acreage gas territory?

A. They hold some.

Q. Do they produce gas?

A. To a limited extent.

Q. Are there any of those companies that are allied with one or more of the large gas companies, the seven companies you have referred to?

A. Yes, some of the larger oil companies are.

2222 Q. Mention some of them.

A. The South Penn Oil Company is closely allied with the Hope Natural Gas Company and the Reserve Gas Company. The Ohio Fuel Oil Company is a large producing company. I do not know just how closely allied it is but in the earlier years it was

losely allied to the United Fuel Gas Company. I am not informed s to the relationship at this time.

Q. What about the Carter Oil Company?

A. The Carter Oil Company is closely allied to the Hope and the Reserve. Those are all Standard Oil companies.

Q. Do you mean to include the Ohio Fuel Oil Company with the Standard?

A. No, I do not but I do the others. Then the Philadelphia Oil Company is a large producer of oil. It is allied with the Pittsburgh and West Virginia Gas Company. It, however, has no natural gas production that I know of.

Q. What becomes of the gas of those large oil companies? To whom do they market when they strike gas with their oil operations?

A. Speaking of the Hope and the South Penn, it has long been a sort of understanding that natural gas production developed by the South Penn would be turned over to the Hope. The oil production, I think, of the Hope would be turned over to the South Penn.

Q. That condition does not maintain right now, does it?

A. I do not think it does. At any rate, I know in recent
2223 years the South Penn has held considerable of its gas production and the Hope Company has produced considerable oil.

Q. I meant to bring out whether these affiliated oil companies market their gas to the kindred gas companies.

A. Yes. The Ohio Fuel Oil Company sells practically all gas that it produces to the United Fuel Gas Company. The South Penn sells practically all of the oil that it produces (or did until recently) to the Fayette County Gas Company, which is closely allied, as I understand, with the Hope Company.

(Mr. Blue:)

Q. You said "Sold all of its oil": Did you mean oil or gas?

A. Gas.

Q. In your computation of the gas territory held by the larger companies have you included any of the territory held under lease by the oil companies that market to them?

A. No.

Q. And you have not, of course, included any of the acreage of any of the independent producers who sell their gas to the seven companies?

A. No.

Q. It is simply the territory actually held under lease directly by the seven companies as disclosed in their reports to the Board of Public Works?

A. Yes.

Q. Do the United States Geological Reports disclose the
2224 total acreage held under lease for gas purposes in West Virginia, Ohio and Pennsylvania?

A. They do, as well as all other states of the Union.

Q. I wish you would give us, as far as available from those re-

ports, the acreage so held in those three states, separately, and the total.

2225 Answer.—

Statement Showing Acreage Controlled by Natural Gas Producers in West Virginia, Ohio, and Pennsylvania.

	West Virginia.	Ohio.	Pennsylvania.	Total.
1918.....	3,318,896	2,561,423	2,410,310	8,290,630
1917.....	3,787,185	2,260,028	2,436,029	8,483,242
1916.....	3,866,373	1,558,231	2,398,118	7,822,722
1915.....	3,184,245	1,519,229	2,174,403	6,877,878
1914.....	3,091,506	1,361,778	2,153,119	6,606,403
1913.....	3,155,751	1,515,562	2,211,440	6,882,753
1912.....	3,019,316	1,756,167	2,187,388	6,962,873
1911.....	3,399,213	1,643,228	2,032,772	6,075,213
1910.....	3,348,286	1,423,351	1,949,733	6,721,370

2226 Q. I observe that the last year is 1918.

A. Yes.

Q. Why have you not given 1919 or later?

A. The 1919 report is not yet available. It is not ready for distribution.

Q. Can you give us the total acreage, developed and undeveloped, and the total of both kinds of gas territory, held by each and every of the gas utilities doing business in the State of West Virginia?

A. I can.

Q. Please give us that statement in the record.

2227 **Answer.—**

Statement Showing Acreage Held in West Virginia by Natural Gas Utilities December 31, 1919.

	Undeveloped.	Developed.	Total.
Aizpuru Oil and Gas Company	17	149	166
Allen, Virgil I	.....	64	64
Bailey Gas Company	135	1,500	1,635
Berea Heat and Light Company	.....	6	6
Bridgeport Natural Gas and Oil Company	105	468	573
Bristol Oil and Gas Company	.....	227	227
Buckhannon Fuel Company	.....	239	239
Cameron Heat and Light Company, The	.....	211	211
Cather Gas Company, J. B	350	150	500
Centerville Pipe Line and Gas Company	.....	.....	.....
Charleston-Dunbar National Gas Company	25,787	1,612	27,399
City and Suburban Gas Company	207	1,761	1,968
Clarksburg Light and Heat Company	3,683	8,483	12,166
Comet Oil and Gas Company, The	3,085	1,800	4,885
Fay Company	450	.....	450
Gassaway Gas Company	.....	.....	.....
Glenville Natural Gas Company	.....	200	200
Harshbarger Oil and Gas Company	1,050	1,000	2,050
Home Petroleum and Natural Gas Company, The	.....	251	251
Huntington Development and Gas Company	3,393	1,491	4,884
Imperial Oil and Gas Products Company	7,172	3,331	10,503
Jane Lew Light and Heat Company, The	2	40	42
Keener's Oil, Natural Gas and Fuel Company	.....	.....	.....

Statement Showing Acreage Held in West Virginia by Natural Gas Utilities December 31, 1919.—Cont'd.

	Undeveloped.	Developed.	Total.
Light, Fuel and Power Company of West Va.	.....	.....	.....
Lumberport Gas Company	51	.....	51
Manufacturers Gas and Electric Light Co.	11	126	137
Monongahela Valley Traction Company	14,620	5,047	19,667
Montgomery Gas Company, The	1,180	373	1,553
Moore, Herman	.....	35	35
Mountain State Gas Company	.....	.....	.....
Natural Gas Company of West Virginia	12,276	.....	12,276
Northern Natural Gas Company, The	.....	.....	.....
Point Pleasant Natural Gas Company	.....	.....	.....
Raccoon Gas Company	525	378	903
Randall Gas Company	2,067	1,611	3,678
Reno Gas Company	.....	.....	.....
Salem Natural Gas Company	.....	386	386
Shields Oil and Gas Company, The	150	1,710	1,860
Shinnston Gas Company	.....	4	4
Southern West Va. Oil and Gas Corporation	11,187	1,035	12,222
2228 Travis, G. B.	460	8	468
Troy Oil and Gas Company	.....	66	66
West Union Gas Company	212	155	367
West Virginia Central Gas Company	24,703	9,364	34,067
West Virginia Heat and Light Company	218	436	654
West Virginia and Maryland Gas Company	.....	.....	.....
West Virginia Traction and Electric Co.	6,770	6,117	12,887
Wetzel Natural Gas Company	28	45	73
Totals	112,824	42,879	182,773

Hope Natural Gas Company	690,094	338,776	1,028,870
Pittsburgh and West Virginia Gas Company	209,128	108,198	317,326
United Fuel Gas Company	653,699	62,337	716,036
Reserve Gas Company	4,664	51,556	56,220
Carnegie Natural Gas Company	33,921	43,171	77,092
Columbia Gas and Electric Company	180,933	28,737	209,670
Manufacturers Light and Heat Company	94,281	56,530	150,811
Totals (seven companies)	1,866,720	689,305	2,556,025
Grand total	1,986,614	739,184	2,725,798
Percentage of grand total held by seven companies	93.9%	93.2%	93.8%

2229 Q. Have you included, among the natural gas utilities, on this list, all of the utilities enumerated in your list previously given of the natural gas utilities doing business in West Virginia? I call your special attention to the Ohio Fuel Oil Company, which is not given in your last statement.

A. Yes. That is not included for the reason that it does practically no public service business. As I have stated before, while it produces some natural gas, it sells almost its entire product to the United Fuel Gas Company. It is primarily an oil producing company.

Q. Have you left any other companies out of this list that were on your former list and, if so, why?

A. I do not believe any others were left out, except some companies that, as I said before, were just incidentally in the natural gas business and supplied a very small service to the public.

Q. That is to say, a few carbon companies that supply their own employees?

A. Yes; use their own consumption.

Q. With respect to the Gassaway Gas Company you give no acreage of any kind. Explain that.

A. They have none.

Q. What is the explanation?

A. They get their supply of gas from the Light, Fuel & Power Company; indirectly from the Hope Natural Gas Company.

Q. And has no territory or production of its own?

A. No, it has no territory or production.

2230 Q. On that list you have given appears the Mountain State Gas Company. Where does that company do business?

A. In Kanawha and Boone Counties.

Q. Do you happen to know whether or not it has any connection with the company that used to do business in Parkersburg and the northern part of West Virginia called the Mountain State Gas Company?

A. It has no connection with that company.

Q. Are you able to state whether or not the Home Petroleum and Natural Gas Company and Shinnston Gas Company, given in your statement, are yet in business?

A. The Shinnston Gas Company has gone to pieces. This statement was made as of December 31st, 1919, you will notice. Since that date I have some advices that the Home Petroleum and Natural Gas Company has discontinued its business.

Q. You do not know of your own personal knowledge?

A. No, I do not know of my own personal knowledge.

Q. Do the records of the Public Service Commission and the Board of Public Works disclose the incorporated cities and towns of West Virginia that are supplied with natural gas?

A. They do.

Q. Please give us a list of those incorporated towns and cities and while you are doing so, give us the population for the years 1900, 1910 and 1920 of each city or town.

Statement Showing Incorporated Cities and Towns of West Virginia Supplied with Natural Gas, and the Population Thereof, 1900, 1910, and 1920.

	Population. 1920.	Population. 1910.	Population. 1900.
Belington, Barbour County	1,766	1,481	430
Junior, " "	593	435	338
Philippi, " "	1,543	1,038	665
Burnsville, Braxton County	1,088	770	...
Flatwoods, " "	300	234	...
Gassaway, " "	1,518	1,086	...
Sutton, " "	1,500	1,121	864
Danville, Boone County	327	.....	...
Madison, " "	604	295	...
Bethany, Brooke County	400	433	245
Follansbee, " "	3,135	2,031	...
Wellsburg, " "	4,918	4,189	2,588
Barboursville, Cabell County	974	907	429
Huntington, " "	50,177	31,161	11,923
Milton, " "	1,023	837	582
Grantsville, Calhoun County	450	282	225
West Union, Doddridge "	1,270	779	623
Montgomery, Fayette "	2,130	1,888	1,594
Glenville, Gilmer "	327	336	398
Layopolis, " "	175	156	...
Troy, " "	113	144	148
Bayard, Grant "	1,074	417	540
Chester, Hancock County	3,283	3,184	...

Statement Showing Incorporated Cities and Towns of West Virginia Supplied with Natural Gas.—Cont'd.

	Population, 1920.	Population, 1910.	Population, 1900.
Holidays Cove, " "	1,213	.....	...
New Cumberland, " "	1,816	1,807	2,198
Bridgeport, Harrison "	1,346	577	464
Clarksburg, " "	27,869	9,201	4,050
Lumberport, " "	900	656	...
Salem, " "	2,920	2,169	746
Shinnston, " "	1,679	1,224	535
Ravenswood, Jackson "	1,284	1,081	1,074
Ripley, " "	580	591	579
Cedar Grove, Kanawha "	918	679	...
Charleston, " "	39,608	22,996	11,099
Clendenin, " "	1,263	815	...
East Bank, " "	586	551	468
Eskdale, " "	1,161	...	...
Pratt, " "	315	306	...
South Charleston, " "	3,650	...	...
St. Albans, " "	2,825	1,209	816
Union Mines, " "	291	...	...
Jane Lew, Lewis "	560	327	...
Weston, " "	5,701	2,213	2,560

2232

Hamlin, Lincoln County	516	.....	.....
Logan, Logan "	2,998	1,640	444
Fairmont, Marion "	17,851	9,711	5,655

Fairview, " "	827	782	.....
Farmington, " "	679	519	.....
Mannington, " "	3,673	2,672	1,681
Monongah, " "	2,031	2,084	1,786
Rivesville, " "	1,061	190	164
Worthington, " "	381	292	.....
Benwood, Marshall "	4,773	4,976	4,511
Cameron, " "	2,404	1,660	964
McMechen, " "	3,356	2,921	1,465
Moundsville, " "	10,669	8,918	5,362
Point Pleasant, Mason County	3,059	2,045	1,934
Elk Garden, Mineral "	422	438	581
Keyser, " "	6,003	3,705	2,536
Piedmont, " "	2,835	2,054	2,115
Kermit, Mingo "	636	.....	.....
Williamson, " "	6,819	3,561	.....
Blacksville, Monongalia "	218	204	180
Morgantown, " "	12,117	9,150	1,895
Star City, " "	1,202	318	.....
Triadelphia, Ohio County	299	261	287
Wheeling, " "	54,322	41,641	38,878
St. Marys, Pleasants County	1,648	1,358	825
Kingswood, Preston "	1,417	800	700
Tunnelton, " "	703	792	479
Albright, " "	262	.....	.....
Terra Alta, " "	1,261	1,126	616
Rowlesburg, " "	862	936	652
Hurricane, Putnam "	666	422	240
Beverly, Randolph "	212	438	464
Elkins, " "	6,788	5,260	2,016

Statement Showing Incorporated Cities and Towns of West Virginia Supplied with Natural Gas.—Cont'd.

	Population, 1920.	Population, 1910.	Population, 1900.
Huttonsville, " "	265	251	.....
Mill Creek, " "	762	740	.....
Montrose, " "	129	112	.....
Cairo, Ritchie "	662	668	653
Ellenboro, " "	286	204	.....
Harrisville, " "	1,036	608	472
Pennsboro, " "	1,654	930	738
Alvord, Roane "	285	229	.....
Reedy, " "	373	313	300
Spencer, " "	1,765	1,224	737
Grafton, Taylor "	8,517	7,563	5,650
Davis, Tucker "	2,491	2,615	2,391
Hambleton, " "	488	1,300	.....
Hendricks, " "	622	640	317
Parsons, " "	2,001	1,780	618
St. George, " "	150	245	152
Thomas, " "	2,099	2,354	2,126
2233			
Centreville, Tyler County	155	113	156
Friendly " "	173	217	253
Middlebourne, " "	929	546	403
Paden City, " " (part of)	215	.....	.....
Sistersville, " "	3,238	2,684	2,979
Buckhannon, Upshur "	3,785	2,225	1,589
Ceredo, Wayne "	1,119	1,215	1,279

Fort Gay, "	"		617	.....	.....
Kenova, "	"		2,162	992	863
Wayne, "	"		981	.....	.....
Brooklyn,	Wetzel	"	724	627	632
Hundred, "	"		710	557	261
Littleton, "	"		660	712	509
New Martinsville, "	"		2,341	2,176	1,089
Paden City, "	"	(part of)	1,490	.....	.....
Pine Grove, "	"		797	474	.....
Smithfield, "	"		774	765	.....
Elizabeth, Wirt		"	681	674	657
Parkersburg, Wood		"	20,050	17,842	11,703
Williamstown, "	"		1,793	1,139	.....
Totals			395,113	265,506	159,435

2234 Q. Where did you get your figures on population?

A. I got them from the census department at Washington by special request.

Q. At an earlier stage of the testimony you gave us the names of the gas producing counties. I wish you would now tell us the population of each such county, the number of these seven companies which is operated within each county, the number of municipalities served and the population of each such municipality in each county.

A. The statement I have prepared would show those figures for the counties in which there is production, also the counties of Mason, Nicholas, Raleigh and Webster, and the counties in which one or more of the seven companies were operated within in some manner but counties in which there is no gas being produced.

Q. You mean to say that in Fayette, Nicholas, Raleigh, Mason and Webster there is no production?

A. That is true as to Mason, Nicholas, Raleigh and Webster and, with my qualified statement as to Fayette and Nicholas.

Q. In all those the seven companies either produce, have pipe lines and serve the public?

A. Yes.

Q. I wish you would now give us that statement.

Statement Showing Counties in West Virginia Operated within and Municipalities Served by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company and the Population of Such Counties and Municipalities as of December 31, 1919.

Counties.	Population, 1920.	Number of companies operating within.	No. of municipalities served & population thereof.	
			No. served.	Population.
Barbour	18,028	2	..	....
Boone	15,319	1	..	....
Braxton	23,973	33	..	....
Brooks	16,527	2	4	8,667
Cabell	65,746	2	2	51,151
Calhoun	10,268	3	..	....
Clay	11,486	2	..	....
Doddridge	11,976	5	..	....
Fayette	60,377	1	..	....
Gilmer	10,668	4	..	....
Hancock	19,975	1	3	6,312
Harrison	74,793	5	..	....
Jackson	18,658	1	2	1,864
Kanawha	119,650	3	4	45,107
Lewis	20,455	4	..	....
Lincoln	10,378	2	..	....
Logan	41,006	2	1	2,998
Mason	21,459	1	..	....
Marion	54,571	4	3	4,881

Statement Showing Counties in West Virginia Operated within and Municipalities Served.—Continued

Counties.	Population, 1920.	Number of companies operating within.	No. of municipalities served & population thereof.	
			No. served.	Population.
Marshall	33,681	4	3	18,798
Mingo	26,364	2	2	7,455
Monongalia	33,608	4	1	218
Nicholas	20,717	1	..	....
Ohio	61,006	1	..	....
Pleasants	7,379	3	1	1,648
Putnam	17,531	2	1	666
Raleigh	42,482	2	..	....
Ritchie	16,506	4	..	....
Roane	20,129	1	3	2,423
Taylor	18,742	2	1	8,517
Tyler	14,186	4	4	4,555
Upshur	17,851	2	..	....
2236				
Webster	11,562	1	..	....
Wetzel	23,069	4	7	7,496
Wirt	77,536	1	..	....
Wood	42,306	2	2	21,843
Wayne	26,012	2	5	4,870
Totals	1,065,980	..	49	199,469

237 Q. In that connection, I believe you have heretofore testified that there is leasehold territory held by the seven companies, or by one or more of them, in the counties of Fayette, Nicholas, Mason, Raleigh and Webster?

A. Yes.

Q. And with those exceptions, as I now understand you, one or more of the seven companies produces gas, has pipe lines and is serving the public in all the other counties?

A. Yes.

Q. Have you at our request, prepared a statement showing the number of consumers within West Virginia supplied with natural gas by the seven companies for the year 1919 back to 1910, inclusive?

A. I have.

Q. And including also the local utilities to which the seven companies sell in the State of West Virginia?

A. I have.

Q. From what source or sources did you gather that data?

A. From public records in the State departments.

Q. But primarily from the returns of these companies?

A. The monthly reports. I might state also, as to the Hope Natural Gas Company, from personal investigation of the books and records of the Hope Company.

Q. In connection with that statement, covering the calendar years, for all seven companies combined, have you likewise prepared a statement showing the same matters with respect to each of

238 the seven companies in each year separately?

A. I have.

Q. Under the heading "Industrial Consumers" whom have you included?

A. I have included such consumers as have been classified by the companies as industrial consumers, excluding, however, well drillers and field consumers of that class.

Q. Are such sales in the field for the drilling of wells and contracting of pump stations classified under the heading of "Industrial consumption?"

A. They are excluded from these figures.

Q. And excluded by the Public Service Commission?

A. They are. In the reports made by the companies they classify them as industrial consumers.

Q. All the companies do so?

A. I think so. I think may be one or two companies may make separation.

Q. But they are all complete and show whether the service is in the field or to the ordinary industrial consumer?

A. They show that.

Q. I call your attention to the fact, in the return for the year 1919 heretofore exhibited, the Hope Natural Gas Company shows that it sells gas to 745 industrial consumers, while you give the number for the corresponding year in your present exhibit at 131. Will you explain that discrepancy?

A. I have excluded field consumers; that is, in the nature of drillers.

2239 Q. How does the number you have given in the present exhibit for the Pittsburgh and West Virginia Gas Company tally with the return to the Board of Public Works for that Company?

A. The figures submitted in the report to the Board of Public Works and those used by me are the same.

Q. That is 86?

A. 86.

Q. How about the United Fuel Gas Company?

A. The report made to the Board of Public Works shows 169, which also is the same as shown in the statement I have prepared.

Q. And your figures in your present exhibit for the Manufacturers Light and Oil Heat Company correspond precisely with the return of that company to the Board of Public Works for the year 1919.

A. Yes, sir.

Q. Both your figures in the present exhibit and the return of the Columbia Gas and Electric Company shown no industrial consumers for that company in the year 1919, is that correct?

A. My figures show one.

Q. You have this company with one industrial consumer and its report shows none?

A. Yes.

Q. How do your present figures tally with respect to the Carnegie Company?

A. The report made to the Board of Public Works shows

2240 6 manufacturers and 12 contractors. The report prepared by me shows none.

Q. You have, however, taken your figures from the monthly report returned by this Carnegie Company?

A. Yes.

Q. That would indicate an abandonment of that service, would it, if they furnished six manufacturers at all in West Virginia?

A. Well, I would not be in a position to answer that.

Q. With regard to Reserve Gas Company, your present figures show no industrial consumers and its report for the year 1919 to the Board of Public Works shows how many?

A. 53.

Q. Did you ascertain from the monthly reports of that company the character of that industrial service?

A. The monthly reports indicated that they did not supply any industrials.

Q. But did supply in the field?

A. Yes.

Q. Then, it would appear that the Hope Company and the Reserve Company in their annual reports have included field service for the drilling of wells and running of pump stations as industrial consumption where the other companies have not?

A. Except the Carnegie Natural Gas. It appears that possibly

hey have included in their report to the Board of Public Works field consumers.

2241 Q. What is included by the Hope Company in its number of sales in the field?

A. Well, it is almost wholly made up of drilling and pumping sales.

Q. Does it include therein drilling as well as sales to contractors and others?

A. Yes, it does.

Q. Explain that more fully, and what would be an industrial consumer of the Hope Company? Would it charge as an industrial consumer wherever it supplies gas for a well drilled by it? Would each drilling operation be a consumer?

A. Yes, they would consider that a consumer.

Q. How long does the ordinary drilling operation take to drill in a well?

A. That depends on weather conditions. I expect the average time—I am not able to speak to that.

Q. You know it would not be over 60 days with good luck.

A. The average time I would say would be 60 days.

Mr. Steptoe: We now offer in evidence the statement with reference to consumption in West Virginia furnished by the seven companies above referred to, with the summary to be marked West Virginia Exhibit No. 18, and the separate statements for the years 1919 back to 1910 to be marked West Virginia Exhibits Nos. 18-*a* to 18-*j* in the order named.

Q. In your exhibit under the heading "Local Utilities Service by these seven companies," have you included local utilities

2242 which were furnished with emergency service or casual service?

A. Yes.

Q. Your list there of utilities served does not mean there is a regular service for the year around?

A. Not necessarily in all cases.

Q. With the character of the service, the amount to be supplied and under what terms and conditions, I presume you have no knowledge?

A. No.

Q. Can you give us the mileage of pipe lines of the seven companies in the State of West Virginia.

A. I can.

Q. Can you give that so as to show the amount of the pipe lines in size two inches up to 10 inches and then separately, the pipe lines 10 inches and over, with totals?

A. I can.

Q. And as of December 31, 1919?

A. Yes.

Q. Please give us that statement now.

2243 Answer.—

Statement Showing Miles of Pipe Line in Use within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company December 31, 1919.

	2 to 10 inches.	10 inches and over.	Total.
1. Hope Natural Gas Company	2,525	751	3,276
2. Pittsburgh and West Virginia Gas Company	757	454	1,211
3. United Fuel Gas Company	754	368	1,122
4. Reserve Gas Company	306	220	526
5. Carnegie Natural Gas Company	330	181	511
6. Columbia Gas and Electric Company	134	49	183
7. Manufacturers Light and Heat Company	532	257	789
Totals	5,338	2,280	7,618

2244 Q. You have lived all of your life in West Virginia, have you not?

A. Except one year.

Q. You have some familiarity with local matters as a matter of common knowledge and observation, have you not?

A. I hope so.

Q. Do you know about whether any of these pipe lines use the roads of the State in crossing or running along them?

A. They do.

Q. Is that more or less common?

A. It is.

Q. How do they get the right to run these lines along in the roads and across them?

A. The right is granted by the county courts.

Q. Do the companies have telephone and telegraph lines of their own, the larger ones?

A. They do.

Q. Where do they run those?

A. Very frequently along the public rights-of-way.

Q. Under like franchises?

A. Yes.

Q. You gave us a while ago a long list of incorporated towns and villages of the State of West Virginia being served by natural gas utilities. A number of those towns are served by the seven companies themselves, are they not?

A. Yes.

Q. Where that is done, do they furnish them under
2245 franchises?

A. As a rule.

Q. And where there is no incorporated town or village, or com-

nity, from what source do they get the right to serve those lages?

A. Well, the only authority would be the county court, I think, t I do not know if it is necessary to get the right in cases of that id.

Q. Ordinarily their rights-of-way for pipe lines include the rights telephone and telegraph lines, do they not?

A. Well, I am not sure as to that. I know they have the right both classes of service. I am not sure as to what is the common tom, however.

Q. As to the form of contract generally used you are not familiar h it?

A. No.

Q. Are you able to give us the figures touching distribution by the en companies of their net supply for public service?

An adjournment was here taken until Thursday, December 16, 20, at ten o'clock a. m.

16 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant.

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Morning Session, Thursday, December 16, 1920.

17 Thursday Morning, December 16, 1920.

And now, the hour of 10:00, a. m., having arrived, hearing was umed pursuant to adjournment.

H. E. NEASE resumes the stand.

Direct examination (continued).

(By Mr. Steptoe:)

Q. At our adjournment yesterday afternoon, I started to ask you tive to the distribution of their net supply by the seven com- ies. Have you a statement predicated upon the records of the blic Service Commission and other records which you have re-

ferred to which will show the distribution within West Virginia by these 7 companies and the amounts exported?

A. I have.

Q. The statement which you now hand me is, if I correctly understand it, a summary showing the distribution of their net supply of West Virginia natural gas by these 7 companies combined, for the years 1919 back to 1911, inclusive, followed by separate statements showing such distribution separately for each year from 1919 back to 1911, inclusive for each of the 7 companies. Is that correct?

A. It is.

Q. You show under the general heading of amounts furnished to West Virginia consumers four separate headings giving the amount of domestic service, amount furnished for industrial service,
2248 the amount sold to local utilities, and the fouth heading giving a total of those three?

A. Yes.

Q. And then under another heading you show the amount transported or sold for transportation to other states?

A. Yes, sir.

Q. That is on the summary, is it not?

A. It is.

Q. And then as to the annual statements, 1919 back to 1911, you show those same headings for each of the 7 companies separately?

A. Yes.

Mr. Steptoe: Will you now file this statement, marking the same West Virginia Exhibit No. 19, and the following statements for the several years as West Virginia Exhibits Nos. 19-A to 19-I.

Q. In a former exhibit filed by you, West Virginia Exhibit No. 16, you ascertained the net supply for public service of each of the 7 companies and in the exhibit you had a heading of "interchanges." Will you now explain a little more fully than you did at that time, just what you put under the heading of interchanges?

A. I deducted from the gross amount of gas handled by each of the respective companies the sales to one or more of the 7 companies.

Q. I will illustrate by a specific example, the United Fuel Gas Company's total production and purchases is, as I recall, approximately 51,000,000,000 Cu. Ft. It has sales to a number of
2249 companies, including among others, the Columbia Gas & Electric Company. Would the amount sold to the Columbia Gas & Electric Company be put under the heading of "interchanges"?

A. It would be.

Q. And then it would be deducted from the net public supply or net supply for public service of the United Fuel Company?

A. No. I would deduct it from the total gas handled by the United Fuel Company to get the total net supply of the United Fuel Company.

Q. I want to know where the amount sold to the Columbia Company would appear, would it be under the net supply of the United Fuel Company or the Columbia Gas & Electric Company?

A. The Columbia Gas & Electric Company.

Q. So that on your exhibit, West Virginia Exhibit No. 16, in as-

ertaining the net supply for public service of the United Fuel & Gas Company at 29,330,325 in cu. ft., you have taken off the mount sold to the Columbia Gas & Electric and to the other 7 companies by the United Fuel?

A. Yes.

Q. And the amounts so sold by the United Fuel to the others of he 7 companies, appear in the net supply for public service of the purchasing companies?

A. Yes.

2250 Q. Does the total sold thus by one of the 7 companies to the others appear in the net supply for public service; for example, where the Hope Company sells to the Manufacturers Light & Heat Company, does the total amount of that sale appear in the Manufacturers Company's net supply for public service?

A. Well, in a way. It becomes a part of the total general supply of the Manufacturers Light & Heat. Of course, naturally, some part becomes a part of the available supply for pipe use.

Q. Well, it is a part of their supply acquired in West Virginia by purchase or production and shown in their net public supply?

A. Yes.

Q. What I am trying to elicit and trying to show about your exhibit is that where one of the 7 companies has sold to the other, the amount of that sale appears in the net supply for public service of the purchasing company instead of the selling company.

A. Yes, that is right.

Q. On yesterday afternoon you stated that the South Penn Oil Company was selling a part of its gas production to the Fayette County Gas Company. Do you desire to make any correction in that statement?

A. Yes, I was in error in that statement.

Q. What are the facts about the South Penn Company's production?

2251 A. The South Penn Company sells no gas to the Fayette County Gas Company. It sells practically all of its gas production to the Hope Gas Company and the United Fuel Gas Company.

Q. In what section does it sell to the Hope and in what section to the United Fuel, if there is any distinction?

A. It sells to the United Fuel Company in what might be termed the southern gas fields, the gas fields of southern West Virginia, where the two companies operate in the same vicinities, and the same would be true as to the Hope where the Hope operates; that is, in the northern section, the north central section of the state.

Q. Do the records available to you, and the Public Service Commission disclose the number of independent producers who sell their supply or part of their supply to the 7 companies?

A. They do.

Q. Can you give us a statement of how many independent producers are selling gas to the 7 companies?

A. The records for December, 1919, disclose that 212 such producers were selling to the 7 companies.

Q. Do the same records disclose where and when the 7 companies

purchased wells outright, the number of wells bought by them I do not mean for you to give the exact figure, Mr. Nease, but state whether or not wells are sold to the said companies by independent producers, to any extent?

A. The statements do not disclose that information; that
2252 the monthly statement. But the annual statements submitted to the Board of Public Works would show the total number of wells purchased from all sources.

Q. Are there many wells purchased by the 7 companies as disclosed by those reports?

A. Well, purchased and transferred together, there would be a good many.

Q. Now with reference to the independent producers, as a general rule, do they have pipe lines for the transportation of their gas to market, or do they have a market?

A. They do not have, as a general rule, either markets or pipe lines to markets, except such market as they have with the gas utilities to whom they sell.

Q. Connections with them?

A. Yes.

Q. What knowledge have you as to the financial condition of the general run of local utilities?

A. Well, naturally, from my studies of the respective utilities during the 15 years about which I have before testified, I have been very closely identified with the natural gas industry, and have been in very close touch with such utilities and it has been my observation that the local utilities have not been successful financially.

Q. Have they a large capitalization, or large financial resources at their command?

A. They have not.

Q. Generally, local capital and local enterprise?

A. Almost always.

2253 Q. Have any of them failed or gone out of business?

A. Yes, quite a good many during the last 15 years.

Q. Do their reports, as made to the Board of Public Works, and other reports made, disclose any great amount of territory?

A. No, they do not have any great amount of territory. The great majority of them have very little territory, a great many of them no territory.

Q. Have many of them pipe lines or pump stations?

A. No.

Q. How is their gas marketed or transmitted to marketing lines?

A. I expect I should call for that statement. You mean when you speak of pipe lines, main pipe lines from gas fields? Of course they have developed systems.

Q. I refer to main lines extending out into the fields.

A. No, very few of them have such lines.

Q. And how about pump stations?

A. They do not have pump stations except in a very few cases.

Q. How is their gas distributed, by what power?

A. The natural rock pressure of the gas wells.

Q. Do any of the 7 companies transport gas for others?

A. They do not.

Q. Do their returns disclose that fact?

A. They do, and as a matter of common knowledge I know that too.

2254 Q. How do they exchange gas? I mean by that, do any of the companies take gas out in the field from an owner and deliver to that owner at a different point along the lines of the company an amount in exchange?

A. They do not except to a very limited extent. Some of the larger companies follow that practice.

Q. Explain what you mean by some of the larger companies following that practice?

A. Well, the Reserve Gas Company handles through its lines some gas for the Hope Gas Company and there is now an arrangement between the Pittsburgh & West Virginia Gas Company and the Eastern Oil Company group, by which the Pittsburgh & West Virginia exchanges some gas in the territory where the Eastern Oil Company group companies are operating for some isolated production that the Eastern Oil Company group has from one well in Gilmer County, that is a new arrangement. They are now building a pipe line to that well of the Eastern Oil Company in Gilmer County. That is the only case that I know of in which such practices are had.

Q. Are you able to give us a statement of all the wells producing gas in the State of West Virginia?

A. I can furnish such a statement.

Q. Can you give us the number owned by the 7 companies and the percentage of the 7 companies with reference to all of the wells?

A. I can.

Q. Will you give us that statement?

2255 Answer.—

Statement Showing Productive Gas Wells within West Virginia, 1910-1918.

Dec. 31—	Total all producers.	Hope Nat. Gas Co., Pgh. & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Co., Car. Nat. Gas Co., Col. Gas & El. Co., Mfg. L. & H. Co.	Percentage of total owned by the seven companies.
1918	9,687	7,086	73.2%
1917	9,329	6,763	72.5%
1916	8,542	6,161	72.1%
1915	7,718	5,458	70.7%
1914	7,194	5,037	70.0%
1913	6,534	4,578	70.1%
1912	5,604	3,897	69.6%
1911	4,790	3,354	70.0%
1910	4,052	2,890	71.3%

2256 Q. You show as of December 31st, in each year, 1918, back to, and including 1910, under separate headings, the total of wells by all producers, the total by the 7 companies and the percentage of total owned by the 7 companies. From what sources did you ascertain the total number of wells by all producers?

A. From the United States Geological Survey Reports.

Q. Why have you not included the year 1919?

A. For the reason that such reports were not available.

Q. From what sources have you ascertained the number of wells of the 7 companies?

A. From the reports made to the various State Departments by the companies.

Q. The percentage, of course, is your own work?

A. A matter of computation.

Q. For the year 1918 you give the total for all producers as 9,687 wells, the total of the 7 companies as 7,086 wells. Please state whether or not the figure 7,086 includes any wells owned by other producers, from which the 7 companies purchased gas?

A. It does not.

Q. Does it include only the wells drilled by the 7 companies?

A. Only the wells owned or drilled by the 7 companies themselves, it might include wells they had purchased.

Q. It would include wells they had purchased?

A. Yes.

2257 Q. It includes, however, only such wells as they own outright?

A. Yes.

Q. Are you able to give us a statement that will show for the years 1919 back to 1910, inclusive, the number of productive gas wells in the State of West Virginia drilled or purchased by the 7 companies, and showing also the dry holes drilled and the number of wells abandoned?

A. I can give you such information.

Q. Please now, give us that statement in the record.

2258 **Answer.—**

Summary of Natural Gas Wells Drilled within West Virginia by th Hope Natural Gas Company, United Fuel Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company.

1910-1919.

	Productive Jan. 1st.	Gas.	Dry.	Total.	Abandoned.	Purchased less sold and transferred.	Productive Dec. 31.
1919.....	7,086	390	97	487	257	1	7,219
1918.....	6,763	481	112	593	183	24	7,086
1917.....	6,161	719	123	842	200	83	6,763
1916.....	5,458	708	107	815	106	101	6,161
1915.....	5,038	495	53	548	145	70	5,458
1914.....	4,581	572	82	654	154	39	5,038
1913.....	3,899	684	68	752	48	46	4,581
1912.....	3,361	554	79	633	73	57	3,899
1911.....	2,890	457	56	513	68	82	3,361
1910.....	2,219	807	42	849	136	...	2,890

2259 Q. In your statement you show the total number of productive as of January 1st, 1919, 7,086 and the number of productive December 31st, as 7,219 wells?

A. Yes.

Q. As I understand that variation, it is the number drilled during the year, less dry holes and abandoned wells and plus those purchased?

A. There should be taken into consideration also the gas wells sold and transferred.

Q. But the number 7,219 wells shows the net number owned by the 7 companies productive as of December 31st, 1919?

A. Yes. The difference between those held January 1st and December 31st, would be the net gain in wells for the year.

Q. Under the heading "Gas" you have for the year 1919, the number 390, what do you mean by the heading "Gas"?

A. That is the total number of productive gas wells the 7 companies drilled during the year.

Q. As distinguished from the following heading "Dry" wells?

A. Yes.

Q. And the heading "Total" shows the entire number of wells drilled and embraces the 390 productive wells, plus the 97 dry wells?

A. Yes, that would be the total number of wells drilled productive and dry.

2260 Q. That same explanation goes through each year back to 1910?

A. Yes.

Q. What do the returns of the 7 companies show with respect to gas imported into the State? Do any of the companies report gas imported?

A. In the latter part of 1919, the last four months of the year, the Hope Natural Gas Company showed importations, with that exception no other companies showed importation.

Q. What does the Manufacturers Light & Heat Company report show on the subject of imports?

A. Well, they don't show any importations in their reports.

Q. Do they give any explanation in that connection?

A. Yes, they do explain that they do bring some gas into the State, but are unable to show the quantity and for that reason make no attempt to show it.

Q. You mean they make no effort to show the quantity imported?

A. Yes.

Q. What explanation is there, if any, as to the one occasion when the Hope Natural Gas Company reported imports?

A. That was due to the development in the McKeesport district field. The Peoples' Natural Gas Company's lines pushed the gas back into the Hope lines, into West Virginia during those four months because of greater pressure in the Peoples lines.

2261 Q. Is that the explanation given by the Hope Natural Gas Company, or is that a matter of your own knowledge?

A. Well, I got that information from the Chief Inspector of the

blic Service Commission. I am not advised as to whether or not Hope Company officially reported that, except the Chief Inspector stated.

Q. Is that the only occasion on which the Hope Natural Gas Company has reported any imports during the time it has made its returns the Board of Public Works?

A. Yes.

Q. Is there a requirement by the Public Service Commission, or the Board of Public Works in their prescribed forms, or by either them, that these public utility companies shall report the amount gas imported?

A. Yes.

Q. And if I correctly understand you, on all former occasions and subsequent occasions, except the instance you have given, the pe Natural Gas Company has reported no imports?

A. Yes.

Q. Now, how about the Carnegie Natural Gas Company? Has it r reported any gas imported into the State?

A. It has not.

Q. How about the Reserve Gas Company?

A. It has not.

Q. How about the Pittsburgh & West Virginia Gas Company?

2 A. It has not.

Q. How about the United Fuel Gas Company and Colum- Gas & Electric?

A. The Columbia Gas & Electric Company has never reported imports. In former years the United Fuel reported that they have imported a small quantity into the State.

Q. Did it report the amounts?

A. Well, they would give the approximate amounts but it was so all as to be negligible.

Q. Do I understand that the United Fuel has not reported any orts in the last few years?

A. They have not.

Q. In all of those returns they report none as imported in the ances you have mentioned? What I mean to elicit, Mr. Nease, whether they simply make no return or whether they state that e are, or have been, no imports in the instances you have tioned?

A. I would have to refer, I expect, to the report to answer that stion. In some instances, some statements would be left a blank. not just recall as to that particular question in the reports.

Q. Ordinarily, they do report "None"?

A. Ordinarily, they would make no explanation; ordinarily, of se, they would say none; and that is the situation, I am sure, as ractically all the companies mentioned.

Q. With the exception of the Manufacturers Light & Heat?

3 A. Yes, I explained that.

Q. On the list which you have heretofore given us of the rporated cities and towns in West Virginia that are being served

with natural gas you included all of the towns served whether by 7 companies or local utilities?

A. Yes.

Q. Are there many of the larger cities in West Virginia that served by local utilities?

A. Yes, quite a good many of them.

Q. Can you mention some of the more important ones?

A. Morgantown, Grafton—no, not Grafton except to a small tent; Fairmont, Clarksburg, Weston. Those would be the princ cities in the State that are served by local utilities.

Q. How about Shinnston, Lumberport and Bridgeport in Harri County?

A. They are served by local utilities.

Q. And Salem also?

A. Salem is served by a local utility.

Q. How about Pennsboro, Harrisville and Cairo?

A. They are all served by local utilities and there are a g many cities and towns of that class that are served by local utili even in the southern section of the State which I did not enume in giving the principal cities.

Q. In what county are located Clarksburg, Shinnston, Lum port, Bridgeport and Salem?

A. Harrison County.

2264 Q. None of those towns are served by any of the 7 c panies?

A. No.

Q. Can you tell us how many of the 7 companies are engaged that county and have production and pipe lines?

A. Five of the 7 companies operate in that county.

Q. What companies are those?

A. Hope Natural Gas Company, Reserve Gas Company, Carn Natural Gas Company, Manufacturers Light & Heat Company Pittsburgh & West Virginia Gas Company.

Q. Can you give me the total acreage of that county?

A. I can, the total acreage is 266,240 acres.

Q. What is the total acreage of gas territory held by thos companies in Harrison County?

A. 171,996.

Q. What is the total number of gas wells producing gas in t county and owned by those 5 companies you have mentioned?

A. 1674.

Q. Can you give me the number of independent producers of in that county who are selling their production to those 5 c panies and the number of wells from which those producers are selling?

A. There were 57 independent producers owning 161 we selling to the 5 companies mentioned.

Q. What is the total number of miles of pipe line located in t county and owned and operated by those 5 companies?

2265 A. 1,157 miles.

Q. What is the size of that?

A. Two inches and larger.

Q. Are any of those 5 companies selling gas to any of the local utilities furnishing the towns of Clarksburg, Salem, Lumberport, Bridgeport and Shinnston, which you have mentioned?

A. Some of the Companies furnish gas to local utilities supplying some of the towns mentioned.

Q. Well, be more specific, what company, if any, is selling gas to the local utility supplying Clarksburg?

A. The Hope Natural Gas Company.

Q. Do you know under what contract or arrangements?

A. No, I don't.

Q. Is any one of those 5 companies selling to the local utility supplying Bridgeport?

A. To the best of my knowledge, no.

Q. How about Salem?

A. I don't think any of the local utilities in Harrison County are served by any of the 7 companies.

Q. What is the total number of domestic consumers in Harrison County served by those 5 companies?

A. Between 800 and 900.

Q. About what amount?

A. Of gas is served to such domestic consumers?

Q. Yes, I mean now furnished directly?

A. A little more than 100,000 in cubic feet per year.

2266 Q. Do you know of any industries in Harrison County being supplied with natural gas by those 5 companies?

A. I do not.

Q. Do their reports disclose any?

A. They do not.

Q. Is not the Pittsburgh and West Virginia Gas Company in the town of Shinnston?

A. It is to a limited extent.

Q. Do you know about how many consumers it supplies there?

A. Under a hundred.

Q. The other consumers, domestic and industrial, in that town are served by local utilities?

A. Yes.

Q. How about Lewis County? How many of the 7 companies, and which ones, are producing and have pipe lines in that county?

A. The following 4 companies: Hope Natural Gas Company, Reserve Gas Company, Carnegie Natural Gas Company and Pittsburgh and West Virginia Gas Company.

Q. Can you give us the area of Lewis County in acres?

A. Yes, 251,520 acres.

Q. And the population is what?

A. 20,455 in 1920.

Q. What is the total amount of gas territory held by those 4 companies you have mentioned operating in that county?

A. 176,739 acres.

2267 Q. How many producing wells in that county are owned by those 4 companies?

A. 1,106.

Q. If they have purchased from independent producers in t county, how many of those independent producers, and how m wells?

A. They purchased from 16 independent producers, owning wells.

Q. And what is the mileage of pipe line owned by those 4 c panies, 2 inches and over, located in Lewis County?

A. 795 miles.

Q. Give the assessed value of the property of those 4 compa in that county.

A. $10,630,629 for the taxing year of 1920.

Q. By the way, I neglected to ask you in connection with Ha son County, the assessed value of the property of the 5 compa operating and producing in that county, how much is that?

A. For the taxing year of 1920, $13,915,199.

Q. Getting back to Lewis County, do any of those 4 compa you have mentioned as operating in that county, supply dom consumers there?

A. To a limited extent.

Q. Can you give us approximately the number of domestic sumers?

A. One thousand to 1,200.

2268 Q. What company furnishes those, and where?

A. The Hope Natural Gas Company, the Reserve Gas C pany and the Pittsburgh and West Virginia Gas Company each h some domestic consumers. They supply principally rural sumers, rural communities, no incorporated cities or towns are plied by any of the 4 companies.

Q. Do any of the 4 companies supply any industrial consu in Lewis County?

A. To a very limited extent they do.

Q. Now, do any of them furnish local utilities in Lewis Cou

A. Yes, the Hope Natural Gas Company furnishes some ga the Keener's Oil, Natural Gas & Fuel Company supplying We

Q. That was for the year 1919, was it not?

A. Yes, the year 1919.

Q. Do you know whether or not the Hope Company is sellin supplying any gas to the Keener's Oil, Natural Gas & Fuel C pany?

A. My information is that they are not, but I am not defini advised as to that. I could give you a definite answer. I believe referring to the monthly reports.

Q. Will you please get us that information during the noon h

A. I will.

Q. In the course of your going through the financial conditio the 7 companies, in your various investigations, did you

2269 come acquainted with the history of those companies? their development in the way of consolidation of compan

A. I have considerable knowledge along that line.

Q. Did you ever investigate and ascertain that information

reference to the Manufacturers Light & Heat Company of Pennsylvania?

A. I did.

Q. Does the company consist of consolidation of other public utilities in the gas business to any extent?

A. It does.

Q. Can you give us the various companies consolidated in that parent company, the Manufacturers Light & Heat Company of Pennsylvania?

A. I can.

Q. I wish you would give us the several companies in Pennsylvania which entered into that consolidation.

A. The Manufacturers Light & Heat Company was incorporated originally as the Manufacturers Natural Gas Company, in 1885, a Pennsylvania corporation doing business in Pennsylvania. It was reorganized in 1889 under the name of the Manufacturers Light & Heat Company, a Pennsylvania corporation. This organization was a consolidation of the original company; that is, the Manufacturers Natural Gas Company, with the Peoples Light & Heat Company and the Belleville and Glenville Natural Gas Company. In 1902 the West Virginia constituent companies were absorbed or taken over by the company. Those are the Tri-State Gas Company, the
2270 Wheeling Natural Gas Company, the Ohio Valley Gas Company, the Wetzel Gas Company, Cameron Gas & Oil Company, New Cumberland Water & Gas Company. The Manufacturers Gas Company operating in Wheeling was also absorbed by the company. In 1903 the Manufacturers Light & Heat Company merged with the Fort Pitt Gas Company and others of the Pennsylvania Corporations. The companies making up this merger were the Manufacturers Light & Heat Company of Pennsylvania, the Fort Pitt Gas Company, the Relief Gas Company, the Mutual Benefit Gas Company, the Citizens Natural Gas Company of Waynesboro, and Waynesboro Natural Gas Company, the Cannonsburg Light & Power Company. All of these companies were, with the exception of the Manufacturers Light & Heat Company of Pennsylvania, Pennsylvania corporations.

Q. Serving consumers in Pennsylvania?

A. Exclusively. Now since, in recent years, the Manufacturers Light & Heat Company, to my knowledge, has absorbed the Middlebourne Gas Company, a West Virginia corporation, operating in Tyler County.

Q. Tyler County is in West Virginia?

A. It is. I might state that in the merger in which the Fort Pitt and the other companies were taken over, the Fort Pitt Gas Company was made up of numerous smaller companies.

Q. Can you give us the constituent companies which made up the Fort Pitt Gas Company?

A. I can.

Q. What were they?

2271 A. They were the New Castle Gas Company, Rochester Light & Heat Company, The Ohio Valley Gas Company, and the Independent Natural Gas Company of Sewickley.

Q. Are those Pennsylvania corporations serving the consumers in Pennsylvania?

A. They were—possibly reaching over to a few consumers in Ohio.

Q. What do you know about the Pittsburgh and West Virginia Gas Company as taking over any local utilities in West Virginia?

A. The Pittsburgh and West Virginia Gas Company took over the properties of the Fairmont Natural Gas Company, operating at Fairmont and in the vicinity.

Q. As a matter of fact, the Pittsburgh and West Virginia Gas Company is a changed name of the old Fairmont and Grafton Gas Company?

A. It is.

Q. Does the Pittsburgh and West Virginia Gas Company now have the properties of the Philadelphia Company of West Virginia, do you know?

A. Yes, they operate those properties under lease.

Q. Was the Philadelphia Company of West Virginia a West Virginia corporation?

A. It was.

Q. What sections of West Virginia were served by the former Fairmont and Grafton Gas Company?

2272 A. Fairmont, Marion County, and in later years Grafton, Taylor County and vicinity.

Q. And smaller communities, I judge?

A. Yes.

Q. Do you know whether that company was at its inception owned by local people in West Virginia or not?

A. I don't believe I could definitely answer that.

Q. It was a West Virginia corporation, was it not?

A. It was a West Virginia corporation. My impression is that it was developed by local people, but I would have to refresh my memory as to that.

Q. Do you know whether the control of the company passed into the hands of any other company, and if so, what other company?

A. It passed into the hands of the Pittsburgh and West Virginia Gas Company in 1913.

Q. Judge Reed in his testimony at Pittsburgh stated incidentally that the capital stock of the Pittsburgh and West Virginia Gas Company was of no value. In that connection, do you know where the Pittsburgh and West Virginia Gas Company markets its gas?

A. I do.

Q. Well, to whom?

A. Markets a small part of it within the State of West Virginia. The greater part of the entire production of the company is marketed to the Equitable Gas Company at the West Virginia state line.

2273 Q. Is the Equitable Gas Company owned or controlled by the same interests?

A. It is.

Q. What is the controlling company?

A. The Philadelphia Company is the controlling company.

Q. Now, under what arrangement or what place is that gas marketed, by the Pittsburgh and West Virginia Gas Company to the Equitable Company?

A. It has been the custom for the producing company in West Virginia, which at this time is the Pittsburgh and West Virginia Gas Company, to sell the gas at the state line to the producing company, which at this time is the Equitable Company, at the cost of production within West Virginia to the producing company.

Q. Both companies being owned and controlled by the parent companies, the Philadelphia Company of Pennsylvania?

A. Yes.

Q. What can you tell us with reference to the development of the United Fuel & Gas Company, with reference to constituent companies especially?

A. The United Fuel Company was first incorporated in 1903.

Q. Right there, suppose you tell us what its holdings were, its production and its market?

2274 A. Well, up until 1908 the company had no market, it was merely a developing—what you might term, a developing company, owning leases and having some production, but not then reaching any market.

Q. Can you give us an idea of its leasehold territory in West Virginia at that time?

A. It was very limited at that time, it did not have any extensive holdings prior to 1908. In 1909 it acquired the properties of the United States Natural Gas Company. I might state that I am refreshing my memory from a report which I have made to the Public Service Commission in connection with the United Fuel Gas Company rate case. The United Fuel Gas Company has acquired no other—the property of no other natural gas utility companies. The United States Natural Gas Company, however, the company which it acquired, as I have stated, was made up of numerous smaller natural gas companies, including the Triple State Natural Gas Company, The Kanawha Natural Gas, Light & Fuel Company, The Charleston Natural Gas Company and some of the properties of the Kanawha Gas Company. The United Fuel Gas Company was reorganized along about the time it took over the properties of the United States Natural Gas Company and its stock very greatly increased. At this time it also took over from the Hope Natural Gas Company a great block of leases, south of the little Kanawha River. I think that about covers the development of the Company.

2275 Q. At one time there was a transfer by the United Fuel Company to the Kermit Gas Company, and then back from the Kermit to the United Fuel, was there not?

A. The Kermit was the original United Fuel Company, it was organized as The Kermit Gas Company. The United Fuel succeeded the Kermit Gas Company.

Q. Are you quite sure of that?

A. Well, that is my understanding.

Q. Will you look at that from the public records available to you and report to us again in the afternoon session?

A. Yes, I will.

Q. Now, with reference to the properties that were in the hands of the United States Natural Gas Company and went to make it up, where was the Triple State Gas Company doing business, and where were its holdings?

A. The Triple State supplied Huntington, and Kenova, the towns in that section of the State.

Q. And its gas territory was located where?

A. Its gas territory was in Lincoln County primarily.

Q. What about the Kanawha Gas Company?

A. The Kanawha Gas Company was a company having a pipe line into Charleston from the Roane County field.

Q. And the Charleston Natural Gas Company?

A. The Charleston Natural Gas had some properties in the vicinity of Charleston, and also in Roane County, supplying Spencer.

Q. Are you able to state whether the United States Natural
2276 Gas Company, The Triple State Gas Company, The Kanawha Gas Company and Charleston Gas Company, or any of them, were chartered under the laws of West Virginia?

A. They all were.

Q. You spoke of the transferring of a large block of territory from the Hope Company to the United Fuel along about 1909. Will you tell us a little more fully about that transaction, and what was the nature of the re-organization under which that property was acquired by the United Fuel?

A. Well, it was a matter of general information at that time——

Mr. Weil: I object to this testimony on a matter of general information. The witness has made no special investigation, nor has he any information on the subject that would be legal evidence.

Mr. Steptoe: You need not answer, Mr. Nease, as to matters of general information.

A. (continued). As a matter of fact, I could not say that the United Fuel did take over the leases formerly held by the Hope Company south of the little Kanawha River in the State of West Virginia.

Q. Do you know of any agreement between the United Fuel Gas Company, on the one hand, and the Hope Gas Company on the other, or between companies controlling those companies, with reference to their transfer of territory?

2277 A. I do not have definite knowledge of such a contract or agreement.

Q. Was the Standard Oil Company of New Jersey, at any time interested in the United Fuel Gas Company?

A. Yes.

Q. That was when?

A. Well, up until 1910 the majority of the stock of the United Fuel Company was held by the Standard Oil Company of New Jersey.

Q. What became of that majority interest?

A. The Columbia Gas & Electric Company had certain holdings in the East Ohio Gas Company. These holdings were traded or exchanged for the Standard Oil holdings in the United Fuel Gas Company, passing from the Standard Oil Company to the Columbia Gas & Electric Company.

Q. Do you know the date of that transaction?

A. Yes, I can give you that date, that was June, 1915.

Q. Then your answer, a few moments ago, was not strictly accurate when you said that the Standard Oil Company of New Jersey held the majority interest up to the year 1910. What you mean is that they held it until the date of this sale, in 1915, is it not?

A. Yes, that would be true.

Q. Who was the president of the United Fuel Gas Company at that time?

A. President of the United Fuel Gas Company?

Q. Yes, sir, in 1915?

2278 A. I would not be able to state, without refreshing my memory.

Q. Do you know whether or not, during the period 1909 to 1915, Mr. A. C. Bedford of New York was at any time President of that Company?

A. Not without refreshing my memory. He held the stock of the company for the Standard Oil Company of New Jersey.

Q. But you do not know what official position he held in the United Fuel?

A. No, not without refreshing my memory, my recollection is, he was vice-president but I could not tell you definitely as to that.

Q. Do I understand you, that the Columbia Gas & Electric Company was interested in the East Ohio Gas Company?

A. It was, yes, quite extensively interested.

Q. That interest was transferred by the Columbia Gas & Electric Company to the Standard Oil Company of New Jersey or some one for them in the transaction that you have just referred to?

A. Yes.

Q. Which took place in June, 1915?

A. Yes.

Q. Do you happen to know whether or not there was any transfer of gas territory by the United Fuel Gas Company to the Hope Company, situated north of the Kanawha River?

A. I so stated that there was.

Q. You have no definite personal knowledge as to that?

2279 A. No, I do not have. I didn't see the agreement, as I stated before.

Q. Well do you know whether or not there was, or is an agreement on the subject between the United Fuel Gas Company and the Hope Natural Gas Company or the interests controlling those two companies, with reference to the territory north of the Kanawha River, and the territory south of the Kanawha River?

A. I understand there is such an agreement.

Q. That is the extent of your information?

A. Yes.

Q. Do you mean the big Kanawha River or the little Kanawha River?

A. The little Kanawha River.

Q. Some point was made in the complainant's testimony touching the difficulty of making connection between the larger companies and the local utilities. Are you a practical operator to the extent of being able to testify as to that, whether or not it is feasible?

A. I know it is done quite extensively. I have that much practical knowledge of the situation.

Q. Well, can you give us instances of such connections by the several companies with local utilities? I will ask you as to whether or not the Carnegie Natural Gas Company has any physical connection with any local utility?

A. It has.

Q. Well, be a little more specific.

2280 A. It has a connection with the distributing company at Morgantown. Until recently it was known as the property of the West Virginia Traction & Electric Company, the name has recently been changed, I do not just recall what the company is known by now.

Q. Do I understand that the Carnegie Company is selling a supply of gas for Morgantown to the local utility you mentioned?

A. Yes.

Q. Now, to what local utilities does the Pittsburgh and West Virginia Gas Company sell gas?

A. I could answer that more definitely if I had a copy of the report here. The Monongahela Valley Traction Company and the Glenville Natural Gas Company.

Q. What city or community is served by the Monongahela Valley Traction Company?

A. Fairmont, Marion County and vicinity.

Q. And what community by the Glenville Natural Gas Company?

A. That is Glenville, the town of Glenville, in Gilmer County.

A recess was here taken until 1:30 o'clock p. m.

2281 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Afternoon Session, Thursday, December 16, 1920.

Defendant's Testimony.

2282 Thursday Afternoon, December 16, 1920.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumes the stand.

Direct examination (continued).

Mr. Steptoe:

Q. Before lunch we were on the subject of the local utilities to which the seven companies sell natural gas. Will you now tell me to what local utilities in West Virginia the Hope Natural Gas Company sells gas, together with the places served by the particular local utility so purchasing?

A. The Clarksburg Light and Heat Company, serving Clarksburg and vicinity; the Light, Fuel and Power Company, serving Sutton, Braxton County, and, indirectly, Gassaway, through the Gassaway Gas Company, and various smaller towns in Braxton County.

Q. Does it not also serve Burnsville?

A. Yes, Burnsville and another litle town or two but I do not just recall the names of them. The Keener's Oil, Natural Gas and Fuel Company, serving Weston, Lewis County. There is some question as to whether that service is now being rendered, which I will be able to testify more definitely within the next few minutes. And the Comet Oil and Gas Company, which has a few consumers in Grafton, and serves Pruntytown and possibly another small town or two in Taylor County; Flemington, I think. The West
2283 Virginia Heat and Light Company serves the towns of Ellenboro, Pennsboro and Cairo in Ritchie County; the Monongahela Valley Traction Company, which serves Fairmont and vicinity. That seems to be the extent of its service to local utilities.

Q. Do you know the nature of the service or supply of the Hope Natural Gas Company for the Monongahela Valley Traction Company? That is to say, whether it is a regular service for the year round, or an emergency service or casual?

A. I am not in a position to state as to that. I could ascertain the nature of the service furnished for any period of time you might want by months.

Q. Can you tell me more in particular about the supply from the Hope Natural Gas Company to the Comet Oil and Gas Company? Do you know where that supply is furnished?

A. No, I do not. I would have to make further investigation.

Q. Now, take the United Fuel Gas Company: to what local utilities does it sell natural gas in West Virginia?

A. It seems to have furnished the Charleston-Dunbar Natural Gas Company with gas over the year 1919.

Q. What communities are furnished by the Charleston-Dunbar Natural Gas Company?

A. A small portion of Charleston; the incorporated cities of Saint Albans and South Charleston and the towns of Dunbar, Spring Hill and Institute—all in Kanawha County.

2284 Q. Do you know of any local utilities supplied by the Columbia Gas and Electric Company?

A. I do not.

Q. Their report seems to refer to sales to the Martha Gas Company. Do you know anything about that?

A. No, I do not know anything about that.

Q. What about the Reserve Gas Company: does it sell to any local utilities?

A. It does not.

Q. At an earlier stage of the proceedings you gave us a list of the natural gas utilities operated in the State of West Virginia. Let me know if any local utilities on that list sell and deliver gas to the seven companies?

A. They do.

Q. That is, those operating within the state?

A. Yes.

Q. Will you look over that list and tell us what utilities sell to one or more of the seven companies?

A. The Pittsburgh and West Virginia Gas Company purchased gas during the year 1919 from the Clarksburg Light and Heat Company. The Hope purchased gas from the,—from,—Godfrey L. Cabot and the Bridgeport Gas Company. The United Fuel Gas Company purchased gas from the Belvard Oil and Gas Company and Central Wayne Oil and Gas Company, which properties have been absorbed by the Southern West Virginia Oil & Gas Corporation. It also purchased from the Charleston-Dunbar Natural Gas Company and the Owens Bottle Machine Company.

2285 Q. You mean the last two named sell to the United Fuel Gas Company?

A. Yes.

Q. Can you tell me whether or not the Imperial Oil and Gas

ducts Company, which is listed by you as one of the local utili-
sells to the Carnegie Natural Gas Company?
. It does.
. It should have been included in your statement?
. Yes. I overlooked that one.
. I believe you have heretofore testified touching sales and
veries by the South Penn Oil Company and the Ohio Fuel Oil
mpany to one or more of the seven companies?
. Yes, sir.
. Do all of the seven companies or any of them produce or
e pipe lines in every county in which they hold acreage?
. They do not.
. Could you give us as to each of the seven companies the sev-
l Counties in West Virginia in which that particular company
duces gas or has pipe lines or serves consumers?
. The Manufacturers Light and Heat Company has such serv-
in Doddridge, Harrison, Marion Monongalia, Tyler, and Wet-
counties. The Reserve Gas Company in Harrison, Lewis,
chie, Wood, Pleasants, and Doddridge counties.
. In your previous answer with respect to the counties in which
Manufacturers Light and Heat Company produces, has pipe
lines or serves consumers have you not omitted the Pan
86 Handle counties?
A. Yes, I have. I have not included the counties of Mar-
ll, Ohio, Brooke, and Hancock.
. Now, as to the Pittsburgh and West Virginia Gas Company?
. The Pittsburgh and West Virginia Gas Company has such
vice in the counties of Braxton, Doddridge, Gilmer, Harrison,
wis, Marion, Monongalia, Ritchie, Taylor, Tyler, and Wetzel.
. You say "has such service." Do you mean by that produces,
s pipe lines or serves consumers?
. Yes.
. It has one or more or all of those things?
. Yes.
. With respect to the Carnegie Natural Gas Company, in how
ny counties and in what counties does it produce, have pipe lines
serve consumers?
. In Braxton, Doddridge, Gilmer, Harrison, Lewis, Taylor, Tyler,
rion, Monongalia, Ritchie, and Wetzel.
. In how many counties with respect to the Hope Natural Gas
mpany and which counties?
. The counties of Barbour, Braxton, Calhoun, Doddridge, Gilmer,
rrison, Lewis, Marion, Marshall, Monongalia, Pleasants, Ritchie,
me, Tyler, Upshur, Wetzel, and Wirt. Wood and Taylor should
o be included.
. How about the Columbia Gas and Electric Company?
A. The Columbia Gas and Electric Company covers the
87 counties of Cabell, Lincoln, Putnam, and Wayne.
Q. And lastly, how about the United Fuel Gas Company?
. Boone, Cabell, Calhoun, Clay, Gilmer, Jackson, Kanawha, Lin-
ln, Logan, Mingo, Putnam, Poane, and Wayne counties.

Q. Before our adjournment at lunch time I asked you to investigate further with reference to the connection between the Kermit Gas Company and the United Fuel Gas Company. Have you anything further to say on that matter now?

A. United Fuel Gas Company—the present United Fuel Gas Company—was incorporated February 1, 1916, under the name of Kermit Gas Company and the name was changed on March 4, 1916, to the United Fuel Gas Company.

Q. And is the word "incorporated" a part of that new or changed name?

A. I so understand.

Q. That is the present name of the company, now changed from the Kermit Gas Company, is United Fuel Gas Company? Is that correct?

A. According to my records it is. It is not that way on this tax report, but that does not necessarily mean it is correct.

Q. How long did the Kermit Gas Company hold their property?

A. Well, it was only a month and four days from the time the company was incorporated until the name was changed.

2288 Q. From what company did the Kermit Gas Company acquire its properties?

A. From the United Fuel Gas Company.

Q. Were all three of those companies West Virginia corporations?

A. Yes, sir.

Q. Can you tell us now about whether the Hope Natural Gas Company is at the present time selling gas to Keener's Natural Gas and Oil Company or the town of Weston?

A. The monthly reports submitted by the Hope indicate that it is not.

Q. When was the last sale by the Hope Company?

A. During the month of May, 1919.

2289 Cross-examination.

(Mr. Weil:)

Q. Mr. Nease, there seems to be, from the statements you have read into the record or introduced as exhibits, contained, for example, in the "Statement Showing Natural Gas Utilities Operated Within the State of West Virginia, December 31, 1919," on page 15 of the record, some confusion in my mind (perhaps not in yours) as to what you designate natural gas utilities. For example, calling your attention to the second name on that list, Virgil S. Allen: Why did you designate him as a natural gas utility operating within the State?

A. Well, he is engaged in the business of supplying natural gas to the public.

Q. To what part of the public does he supply natural gas? Whom does he supply?

A. I would not be in a position to state without refreshing my memory by getting the records pertaining to Virgil S. Allen.

Q. Does he make a report to the Public Service Commission?

A. He does.
Q. Have you that report?
A. Not before me.
Q. Can you get it before our next session?
A. I can.
Q. And he supplies, you say, some portion of the peo-
2290 ple?
A. He does.
Q. What is that name?
A. Aizpuru Oil and Gas Company.
Q. Whom do they supply?
A. Well, their service is very limited; they do not serve any towns r cities, but they do have some service to the public.
Q. But they serve nobody except on their own leases or free gas, r something of the kind?
A. Yes; they sell gas to the public, but I would also have to investi- ate their report in order to be specific.
Q. They make a report you say?
A. They do.
Q. What about the Bailey Gas Company?
A. The same answer would be applicable to the Bailey Gas Com- any.
Q. You do not know now without looking at your records whom hey supply?
A. No; those three happen to be very small utilities; the extent f their business is very small.
Q. Those are the first three on the list?
A. Yes, sir.
Q. What about the Bristol?
A. It is another one of the same nature.
Q. And the Buckhannon?
A. The Buckhannon Fuel Company supplies the towns of
2291 Buckhannon and South Buckhannon.
Q. What about Godfrey L. Cabot?
A. He has consumers scattered around in different sections of the State. He supplies some consumers in Kanawha County; he sup- lies consumers in Roane County, and part of the City of Spencer, nd he has consumers in Calhoun County; also in Wirt County, upplying the towns of Elizabeth, Newark, Creston, and numerous ther small towns along the Kanawha River.
Q. His principal business and his principal use for gas that he roduces is his carbon black manufactory, is it not?
A. That would depend on the locality in which he is operating. His operations are peculiar, in that he operates in different sections f the State, and there is no connection between these different opera- ions. Now, as to Roane County: He does considerable utility busi- ess. His principal business in Calhoun County would be, and has een, the carbon black business.
Q. In what other counties does he make carbon black, if you emember, if any?

A. I think he has a plant in Wirt County or close to the line between Wirt and Calhoun. I think that is in Wirt County. I know he has a plant in Calhoun County.

Q. And where else?

A. I said in Wirt County.

Q. His production of gas is, is it, chiefly for the purpose of supplying his plants with gas for the purpose of manufacturing
2292 carbon black in those counties?

A. That has been his chief purpose in producing gas, but I should say his chief purpose now in producing gas is to place it on the market.

Q. Now, J. B. Cather Gas Company: what about that?

A. Cather; that is a very small company. I would not be able to tell you the exact location of that without referring to it. It serves no important communities.

Q. What about the Centerville population, etc.?

A. It is a little distributing company, serving Centerville in Tyler County.

Q. What about the Columbian Carbon Company?

A. That is primarily a carbon black manufacturing company.

Q. Where are their plants located?

A. The Columbian, I think, is in Lewis County, but I am inclined to think they have more than one. I could not speak definitely without looking over my records.

Q. You can get that from your records. What gas do they sell?

A. Let me understand. You would like to have further information as to each of those companies that you have questioned me about?

Q. Yes; those that I have asked you about. What about the Comet Oil and Gas Company?

A. It serves quite a good many consumers in Taylor County and the population in Grafton.

Q. Bring that statement also. John Q. Dickinson: what
2293 about him?

A. He has a very limited public service in Kanawha County.

Q. What about the Empire Petroleum Company?

A. That is of the same nature. Their service is very limited.

Q. And the Fay Company?

A. That is a company operated in Fayette County, in the vicinity of Gauley Bridge. It is a straight utility, not engaged in any other business.

Q. You can give us the towns it supplies?

A. I can.

Q. What about the Federal Coal Company?

A. It is primarily a coal company, but incidentally engaged in furnishing gas to the public.

Q. Give us that. What about the B. F. Gilmore?

A. He is also engaged in business to a very limited extent.

Q. Let us get that. What about the Harshbarger Oil and Gas Company?

A. That is about a 50-50 proposition. They produce both oil and gas, but it furnishes the substantial community of Milton, Cabell County.

Q. Give us that. What about the Huntington Development and Gas Company?

A. Well, it has considerable service.

Q. Bring that statement also, so we can go into that. What
2294 about the Imperial Oil and Gas Products Company?

A. It has some local utility business.

Q. And the Jane Lew Light and Heat Company?

A. Well, it also serves the public.

Q. What about the Lumberport Gas Company?

A. It serves the town of Lumberport and two or three other communities.

Q. Let us get that. What about the Monarch Carbon Company?

A. It serves several communities in Kanawha County.

Q. Is its principal business producing gass for its carbon plants?

A. I would not want to say right now that that was its principal business. It has considerable public business.

Q. It does run carbon plants?

A. It does.

Q. You can give us that?

A. I will.

Q. What is the Montgomery Gas Company?

A. It serves a great many towns and communities in Kanawha and Fayette Counties.

Q. Let us have that. What about Herman Moore?

A. He has gas production in Lincoln County, and serves the public to a limited extent.

Q. You may give us that information when you bring the report?

A. I will.

2295 Q. The Owens Bottle Machine Company?

A. The Owens Bottle Machine Company sells a considerable quantity of gas to industries in Kanawha County.

Q. Is not its operation primarily to obtain gas for its own operations?

A. Primarily, in the beginning, I think it was, but it had more gas than it needed, and it is now selling to the public in large quantities.

Q. It does produce gas for its own use in its own plants?

A. It does.

Q. What is the Raccoon Gas Company?

A. That is a small company supplying gas to the public.

Q. You can get that for us, also?

A. I can.

Q. The Randall Gas Company?

A. That serves a considerable portion of Morgantown and other sections in Monongalia County; it is purely a public service corporation.

Q. What about the Reno Gas Company?

A. It is a public service corporation, serving the public.

Q. And the Richter Oil Company?

A. It serves the public to a very limited extent. However, its business primarily is producing oil.

Q. You will have this statement, also?

A. I will.

2296 Q. The Rosedale Fuel and Water Company?

A. The Rosedale Fuel and Water Company is a gas company serving communities in Braxton County.

Q. The Salem Natural Gas Company?

A. That is a gas company serving the town of Salem.

Q. And the Shields Oil and Gas Company?

A. That is a gas company serving towns in Boone County.

Q. You can get the exact data from these reports?

A. I will.

Q. And G. B. Travis?

A. G. B. Travis has some public service business.

Q. And the Troy Oil and Gas Company?

A. It is a natural gas utility.

2297 Q. I show you a paper marked for identification "Pennsylvania Exhibit No. 50" and ask you if that is not one of the advance sheets or a part of a report which the Public Service Commission of West Virginia proposes to issue in some one of its reports or in its annual report, and which the Public Service Commission had printed?

A. This statement not being prepared under my direction I am unable to answer the question.

Q. I beg your pardon?

A. As this was not prepared under my direction, I am unable to answer the question.

Q. Do you not know from your official connection with the Public Service Commission that such a statement is being prepared by the Commission under the direction of some representative of the Commission, and that they have issued some of these advance sheets?

A. This is the first time I have seen an advance sheet, Mr. Weil.

Q. Do you not know there is such an advance sheet there in the office of the Commission?

A. No, I do not know it.

Q. Do you not know that they had in preparation such a report?

A. I may have had the most general knowledge of it, but, it being in another department, it did not concern me. I was not interest in it and did not concern myself about it.

2298 Q. Being a little more definite, you say you may have had a little knowledge that such a statement was being prepared. Then you had the general knowledge?

A. I have not the general knowledge. That they have prepared statements similar to that from time to time, and perhaps this, I am not in a position to state. I cannot state the purpose.

Q. I am not asking you the purpose. I am asking you as to the fact.

A. Did not you ask if it was not being prepared for the annual report?

Q. I said for that, or perhaps some other purpose of the Commission.

A. I do not know the purpose for which it was prepared.

Q. But you have some information that such a statement as this has been prepared, or of a similar character in recent years; and do have information that some such statement was being prepared by the Public Service Commission at the present time?

A. Yes, in the most general way, I have known that such a statement as that was being worked on. I stated that it was not in my jurisdiction and not under my notice and was in a different department altogether. It had not, I will state, become a part of the statistical report prepared for the Public Service Commission, such report being prepared under my jurisdiction and direction. I will state that such a report has never been included in the data of the statistical department, of which I have been the head, since shortly after the organization of the Commission.

2299 Q. This statement purports to show the natural gas produced and distributed within West Virginia and the quantity imported and exported from the State, fiscal year ending June 30, 1920, Inspection Department. Is there any other department of the Public Service Commission of West Virginia that prepares, collates and puts out statements of this character, or of this general character, with which you as, I believe, the chief statistician of the Commission, have anything to do in its preparation?

A. I have had absolutely nothing whatever to do with the preparation of any papers of any other department except the statistical department. I have had nothing whatever to do with the preparation of this particular paper.

Q. Are you not consulted by the Public Service Commission, or some of its representatives, in connection with the preparation of such statistical data.

A. I am not, and have not been, as to this particular statement, or any former similar statement.

Q. Has the Public Service Commission no other Bureau except the statistical department of which you are the chief statistician, that collates or prepares any statement of the same general character as this without consultation with you or under your general supervision and direction as chief of the statistical department?

A. I am afraid I do not understand that question.

2300 The question was read to the witness.

A. I have no knowledge of any statistical information being prepared by any other department except the statistical department, except in the most general way, as I have given to this paper, the answer I have given as to it.

Q. Now, this statement purports to show 69 utilities including substantially every one of those mentioned in the list which is found on page 15 of the record, and several others, showing the name of the utility, purchases by the utility in M cubic feet; C—purchased from other producers in the state; M cubic feet; D—total production

in state M cubic feet; E—purchased from other utilities in the stat M cubic feet; F—imported by utility from other states M cubi feet; G—balance line lease, etc., M cubic feet; H—total available sup ply of gas M cubic feet; I—sold to cities and towns in the state M cubic feet; J—sold to field and on main lines M cubic feet; K—tota distribution in state M cubic feet; L—sold to other utilities in th state M cubic feet; M—exported by utility to other states M cubi feet; N—balances, line leases, etc., M cubic feet; O—total distributio of gas M cubic feet; P—average number of wells used by utilities M cubic feet; Q—average number of wells used by others; R—total o both averages of wells; S—reported as used for carbon black M cubic feet. Is there any other department of the Public Servic Commission of West Virginia from which this information coul be obtained except its statistical department of which you are th chief.

2301 Mr. Blue: The state of West Virginia objects to the fore going question and excepts to any answer thereto for reasons among others, that Pennsylvania Exhibit No. 50, from which coun sel for the state of Pennsylvania has used certain headlines appears to be a printed statement wholly unidentified, no page numbe indicated on it, to indicate on its face, the only source from whic it might come to the state of Pennsylvania, being that of Anderson & Taylor, Consulting Engineers of Charleston, West Virginia, o which Mr. J. K. Anderson testified on behalf of the plaintiff, Stat of Pennsylvania, as a witness, and as the engineer retained and em ployed by the Manufacturers Light & Heat Company; and the wit ness has answered that this statement was not prepared by him a chief statistician, and further, that such statement would not appea in the statistical statements in the report of the Public Service Com mission of West Virginia; and the paper being unidentified an unvouched for, any examination of the witness in respect thereto is objected to and excepted to; and, without repeating the objectio and exception to any questions that may be propounded to the wit ness by counsel for the complainant in respect to such a paper, thi objection is to go to any and all such questions; and the State o West Virginia by counsel insist that before any examination of thi witness in respect to such paper shall be made, that the paper shal be identified and vouched for by some person as competent and off cially entitled on behalf or in connection with the Public Servic Commission of West Virginia, to make such report, that the sam was made for and on behalf, or in connection with any repo of the Commission of which the paper identified as Pennsylvani Exhibit No. 50 shall be a part.

Mr. Weil: For the information of the Commissioner and of th Court, counsel for complainants states he expects to sho 2302 before the paper is formally offered as an exhibit, tha same was obtained from the Public Service Commission o West Virginia, was issued by them as an advance sheet delivere to Anderson & Taylor by the Public Service Commission in thei

office as an advance sheet of some report to be subsequently issued by the Public Service Commission of West Virginia.

The Commissioner: Let the statements of counsel be noted, and the witness will answer the question.

A. I am not able to answer that question for the reason, among other things, that the column N of this statement attempts to show a "Balance Line Lease, etc." I am not aware that any other department has information of that character which would enable them to arrive at the figures shown in that column.

Q. Is that the answer you want to stand in reply to this question?

A. I might add that, as I have stated before, that was prepared, if at all, by another department; but I should dislike very much to give some other objection into this record which I might have to this report and its use.

Q. Leaving out Column N, is there any other department of the Public Service Commission of the State of West Virginia than the statistical department from which they could obtain the number of thousands of cubic feet produced by the respective utilities in the state?

A. Yes, the Inspection Department gathers that information; is presumed to.

2303 Q. And the amount of gas purchased from other producers in the state?

A. Yes, that would be available to the Inspection Department.

Q. And the total production in the state?

A. They could not get it from any information which is being furnished them to my knowledge except by deduction.

Q. And the amount purchased from other utilities in the state?

A. They get that.

Q. Could that be obtained from any other source than from these reports which are in the statistical department made by these respective companies?

A. They would have access to reports that would give them that information.

Q. And that would be the reports in the statistical department, would it not?

A. Not necessarily. They would have those in their department.

Q. And "Imported by the utilities from other states" could they get that from other sources than from your statistical department?

A. They could.

Q. And the "Total available supply of gas," could they get that from other departments?

A. That is a conclusion of theirs, Mr. Weil.

2304 Q. Could they get it from any other department than that contained in your department, the statistical department?

A. Well, from the character of the information which they gather that information could be gotten.

Q. Otherwise than from your department?

A. I said from the information they gather in their department.

Q. I asked, from other than your department. They gather that as well as the others?

A. Yes, that is true. I said from other papers, or what they gather.

Q. And from what they gather other than from your department?

A. They do not gather anything that has any connection with my department.

Q. Do you run a department, separate and distinct from the Public Service Commission?

A. I run that department separately as a part of the Commission.

Q. That is part of the records of the Commission, is it not?

A. They are.

Q. Could they get this data "Total available supply of gas" from any other records on file with the Public Service Commission except that which is contained in some reports or data filed in your department, the statistical department of the Commission?

2305 A. That item "Total supply of natural gas produced in West Virginia," if that is what that attempts to show, is a matter of deduction and competition, and is not shown by any reports which we gather.

Q. Is not the data on file in your bureau?

A. Not necessarily. They have that in the Inspection Department.

Q. It is information separate and distinct from your department?

A. Yes.

Q. And they can get the amounts sold to cities and towns in the state in the same old way, can they, without reference to your bureau?

A. They can.

Q. And "Sold to field and on main lines"?

A. Yes, they can get all that information in a way.

Q. And the total distribution in the state?

A. Yes.

Q. And "Sold to other utilities in the state," is the same true of that?

A. Yes.

Q. And "Exported by utility to other states"?

A. They collect that information.

Q. And they can get that without reference to the data in your department?

A. Yes.

2306 Q. And the "Balance, Line Lease"?

A. I do not know how they got that. They did not get it from any reports that I know of that are made to them.

Q. "Total distribution of gas," can they get that in the same way?

A. By deduction and estimates and in the way it has been gotten.

Q. And without reference to the data in your department?

A. They did not get that from any data on reports.

Q. From your department?

A. From any department.

Q. Would "Average number of wells used by utilities"—is the
ne true of that?
A. Yes, they could get that.
Q. And the "Average number of wells used by others"——
A. I take it they can. I do not know that they can.
Q. And the "Total of both averages of wells"—they could get
at, I suppose, in the same way?
A. That is a matter of computation, if they could get the other.
Q. Then there are other departments of the Public Service Com-
ission of the State of West Virginia containing statistical data, or
tistical data that is valuable, and it is not in your department, and
is not under your direction?
A. That is true. I might state that it is not confined to the
Inspection Department.
07 Q. And the evidence which you have given us here in re-
ply to questions by counsel is without reference to the data
the other departments, but solely from the data contained in your
n department, over which you have the supervision?
A. I did not so state, and such is not the fact.
Q. From what other sources then, did you obtain the data to
hich you have testified except from the records in your own office?
A. I naturally would go to all available sources in gathering data
this nature. As an illustration, in making up my list of utilities,
would not confine it to the data which I might have in my office, or
least in the preparation of the copy of that list. I would consult
e other departments. I would consult the Secretary's office as to
mpanies that filed rates or had rates on file. I would then talk
ith the Inspection Department, and check with them as to utili-
es with which it had dealings. My data is not confined alone to
formation which I have within my office. I went to any sources
information which I thought would in any way assist me in the
reparation of the data.
Q. Did you go to that department of the Public Service Commis-
on of West Virginia which contained the statistical data which is
ven on this Pennsylvania Exhibit No. 50?
A. As I have stated before, Mr. Weil, I do not know, and have
o definite actual knowledge that that paper was prepared by any de-
partment of the Public Service Commission. If it be as-
308 sumed that it was prepared by some department, it is likely
that I did so. In the checking of such records as I have
repared.
Q. In the "Statement showing the natural gas utilities operating
ithin the state of West Virginia," I observe that you have omitted
e Natural Gas Company of West Virginia. That is true, is it not?
is not in that line.
A. In what line?
Q. In the list, on page 15 of the record, "Statement showing
atural gas utilities operating within the state of West Virginia,
ecember 31st 1919."
A. If your list does not show that, it is a misprint because the list

which I hold in my hand does show it. If it is omitted in your statement, it is a typographical error.

Q. That is my mistake. It is here, No. 42. The Natural Gas Company of West Virginia obtained substantially all of the gas which it supplies in the state of West Virginia from other states than West Virginia, does it not?

A. It does.

Q. And it supplies the City of Wheeling, I believe, and vicinity, does it not?

A. Primarily with domestic gas.

Q. I mean with domestic gas. And supplies something like three billion feet a year, or in that neighborhood, does it not?

A. I would not be in a position to state without referring to my records.

Q. Do you know that the Carnegie Natural Gas Company
2309 imports from other states into the State of West Virginia over one hundred million feet of gas per annum?

A. No, I do not know that.

Q. Do you know that the City and Suburban Gas Company imports into the state of West Virginia from other states over one hundred twenty-five million feet of gas a year?

A. I knew that the City and Suburban Gas Comapny operated outside of the state of West Virginia.

Q. Did you know that it imported into the State a large quantity of gas?

A. The City and Suburban Gas Company imported a very small quantity of gas into the state during the year 1919.

Q. How much?

A. 36,205 M cubic feet.

Q. Do you know from the reports on file in your office that up to June 30th of this year it imported into the state 126,889 M cubic feet?

A. I do not have that information on file.

Q. Do you know that the Hope Natural Gas Company imported into the state for the year ending June 30th, 1920, 755,666 M cubic feet from other states?

A. I think I testified to that this morning. Yes, I showed that this morning, Mr. Weil, in my direct testimony. But that importation was all during the year 1919, the last five months of the year 1919. None of it in the year 1920. I thought I answered that question and explained.

2310 Q. You did not give the amount. You said that it imported into the state. Do you know that the Natural Gas Company of West Virginia purchased from other utilities in the state 6,852,000 M cubic feet and imported from other states into West Virginia 3,416,826 M cubic feet and supplied to cities and towns in the state 3,245,419 M cubic feet for the year ending June, 30, 1920?

A. No, I do not know that, Mr. Weil. I have not compiled that information; any of it that you are referring to.

Q. Do you know that the Point Pleasant Natural Gas Company

ported from other states 113,062 M cubic feet for the year ending
ne 30th, 1920, and that was the whole amount sold by it in the
te of West Virginia during that year?
A. I do not know that. As I have stated before, I do not know
ything about the figures you are reading, as I have not compiled
em. I might state, however, that such gas as it does use it im-
rts into the state.
Q. And do you know that the Randall Gas Company imported
om other states and sold in the state of West Virginia 212,155 M
bic feet for the same period ending June 30th, 1920?
A. That is very much more than they imported for the annual
riod ending December 31st, 1919.
Q. They imported some of it during the year 1919, did they?

No response by the witness.

Q. Do you know that the United Fuel Gas Company im-
311 ported from other states and delivered in the state of West
Virginia 618,989 M cubic feet for the year ending June
th, 1920?
A. No, I do not know that; but, as I stated this morning, the
nited Fuel Gas Company does import a small quantity of gas into
e state.
Q. Do you know that the West Virginia Central Gas Company
nported from other states and delivered in the state of West Vir-
nia 11,679 M cubic feet during the same period to which I have
eviously referred.
A. No, I do not know that. I think that is a mistake.
Q. Do you know that the West Virginia Traction & Electric
ompany imported from other states and delivered in West Virginia
,581 M cubic feet for the same period to which I have referred?
A. No, I do not know that, Mr. Weil.
Q. Do you know that they do from time to time import gas from
her states, do you not?
A. They imported a very small quantity during the calendar
ar of 1919.
Q. I believe you stated that the Manufacturers Light & Heat
ompany, in their report, stated that they were unable to determine
report the quantity of gas which they obtained from other states
d imported into the State of West Virginia. That is correct, is
not?

A. I am not sure that they said that in their report, in this
312 report. But I know they have, on various occasions, made
that statement. Let me see just what they did say in their
eport, if you want that answer definitely. The Manufacturers
ight & Heat Company on this tax report made to the Board of
ublic Works evaded the questions, but said in their explanation for
ot answering that they had a number of pipe lines crossing into and
ut of the state, but did not give the information.
Q. Now, inasmuch as you have answered my question by saying
at the Manufacturers evaded the question, will you please read the
uestion and their exact answer.

A. I think your questions were pertaining to the importation of gas, were they not?

Q. Yes (reading the matter asked into the report). "Q. If this company has pipe lines leading from other states to this state, give the number of such lines and size of pipe used and the quantity of gas pipe, for the year ending December 31st," the answer is "A. See Form 9-U." On page 9 "22 lines crossed the Ohio River between Chester in Hancock County, W. Va. and New Martinsville in Wetzel County, W. Va. also pipe lines crossed the state line between West Virginia and Pennsylvania at various points in all three states, and the gas intermingles and flows through the entire system, sometimes in one direction, sometimes in the opposite direction, depending upon the demand in any particular locality." It is apparent that the answer is not responsive to the question.

Q. Could you tell us how the company could have answered the question with any more definiteness or correctness?

2313 A. Yes, they could have very definitely said they were unable to answer the question. They simply said "Sometimes the gas passes in one direction and then another, depending on the demand."

Q. And you would characterize that answer as you have done as an evasion, would you?

A. I would. I might add that it is apparent they do not state whether they can or cannot give the information, in the answer.

Q. In the list which you have furnished on page 15 of the transcript showing the natural gas utilities operating within the state of West Virginia, you have attempted to give us only those companies or individuals producing gas or furnishing gas to some part of the public in the state of West Virginia?

A. Well, the question of production of gas would not enter into it. It would be a question of service to the public that would determine the list.

Q. Those companies or individuals that were engaged in the production of natural gas and furnishing the same to themselves in their own plants for their own use and not supplying any to the public would not be included then in this list?

A. They would not.

Q. And you know that there are some such?

A. There are some few.

Q. In the state?

2314 A. There are—I might qualify my answer by stating the Owens Bottle Machine Company and a few others in this list use considerable quantities of gas produced themselves.

Q. For their own use?

A. But by reason of the fact that they are also engaged in the public service business, we are able to get reports from them.

Q. Since you referred to the Owens Company, do you not know it to be a fact that for about six months it has not been supplying any gas to the public? That it is using all of the gas produced by itself in its own works, and that the United Fuel Company has taken

and is now supplying all of the consumers who formerly ob-
d gas from the Owens Bottle Machine Company?
No, I do not know that. It may be true, and I have no doubt
if Mr. Altizer states that it is. As I have stated here, my list
is as of December 31st, 1919. I would be able to definitely an-
that question at a later time if you desire.
What company is it, Mr. Nease, that supplies the town of
ksville, W. Va.
The Manufacturers Light & Heat Company, to the best of my
vledge, now, without looking it up more definitely.
Do you know anything about the Blacksville Oil Company?
It is a constituent company of the Manufacturers.
Have you any knowledge upon that subject, Mr. Nease?
A. The last record I had of the Blacksville Oil & Gas Com-
pany, it was.
Q. Is not there another company in the town of Blacksville
supplies Blacksville with gas?
. Not to my knowledge. If so, it has escaped our notice.
. To refresh your recollection, does not the report of the Manu-
urers Light & Heat Company show them supplying just four
ple in the town of Blacksville, and four people only, four cus-
ers only?
. I could refer to the report, and answer that question. The re-
of the Manufacturers as of December 31st, 1919, shows only
e meters in the town of Blacksville.
. Mr. Nease, calling your attention to statements submitted by
, one about which you have just been examined "Statement show-
natural gas utilities operated within the state of West Virginia
ember 31st, 1919," and the next, contained on page 44 of the
script, being 44-B and 44-C, headed "Statement showing acreage
d in West Virginia by natural gas utilities December 31st, 1919,"
all your attention to the fact that while there are 67 companies
ntioned in the first statement there are only, as I counted them,
companies mentioned in the second statement. The second state-
nt showing the acreage held in West Virginia by natural gas utili-
; and you have separated into two parts, taking the seven com-
nies, the Hope, Pittsburgh & West Virginia, United Fuel Gas
mpany, the Reserve, the Carnegie, the Columbia, and Manufac-
turers Heat & Light Company, separate from the others, and
16 showing a large amount of acreage held comparatively by the
seven companies as compared with all the others. Did not
u omit from this last statement, showing acreage, some of the
gest acreage holding companies in the state of West Virginia
ich were included in the other list, on which there were these seven
mes, and which would have shown the other companies as com-
red with the seven in a very different proportion?
A. It was explained this morning in the testimony on direct ex-
ination as to the Ohio Fuel Oil Company. I said then that the
hio Fuel Oil Company is engaged in public service business to such
limited extent it should have been excluded even from the first list.
ractically every bit of its natural gas production that it does not

use itself is sold to the United Fuel Gas Company. It was omitted also, for the further reason that it is primarily a very large oil producing company and not a public service corporation. The same statement would hold true as to the South Penn Oil Company, which I think counsel has in mind. Except that the South Penn Oil Company, in addition to selling to the United Fuel Gas Company, sells considerable gas to the Hope Natural Gas Company. Now, with those two exceptions, I do not believe you will find any omissions of any gas companies of any significance omitted from the second list; in instances where they are omitted, it was for the reason that the data was not available.

Q. Now, as a matter of fact, both the Ohio Fuel Oil Company and the South Penn Oil Company produced considerable quantities of gas, do they not?

2317 A. They do. The Ohio Fuel Oil production is not large.

Q. What would you call large. How many million feet a year would you say was large?

A. Well, I would not consider two or three million feet a large production.

Q. What was the production of the South Penn Company?

A. The South Penn Oil Company had a production in the calendar year 1919 of a little over two billion feet.

Q. Now, do you not know that both the Ohio Fuel Oil Company and the South Penn Oil Company claim they obtained gas wells, frequently sell the wells themselves to these other gas companies, instead of just selling the gas?

A. I so understand.

Q. And in their developments for oil, you know that frequently they obtain a gas well,—both of these companies?

A. Yes, that is true.

Q. Then, why should not their acreage have been included in this other statement of acreage held by public utilities, when you list them as public utilities, and are trying to show the comparison between the acreage held by all of the other companies and the acreage held by the seven companies alone?

A. Because they are not primarily public service corporations. They are only public service corporations to the most incidental extent.

Q. Is not the same true of a large number of other corpo-

2318 rations?

A. It is.

Q. What about the Owens Bottle Machine Company?

A. The Owens Bottle Machine Company, for the calendar year 1919, sold large quantities of gas.

Q. Why did not you include them, then, in your list of acreages? Was it because they held about 40,000 to 50,000 acres of leases?

A. I am not advised as to the acreage of the Owens Bottle Machine Company.

Q. Why were they not included if they came under the description you have just given in this list?

A. I think I have answered that question. I said, Mr. Weil, that

e information was not available, and was not gathered by any de-
rtment or by anybody from whom I could get the information.
Q. Then, this statement does not purport to be full, complete or
curate?
A. It is substantially full and complete with the explanations that
ve been made.
Q. In this list, I observe, for example, "Statement showing acre-
ge held in West Virginia by natural gas utilities" you have down
uite a number of them by name that have not any territory at all?
A. Yes.
Q. Why did you put them in?
A. Well, those are companies which have no acreage at all.
319 They are purely marketing companies.
Q. Why did you put them in when you wanted to show
creage? Was it the purpose to show as large a number as possible
ompared with the seven?
A. That was merely a matter of information.
Q. Why did you not put in for the sake of information the Owens
Bottle Machine Company, the South Penn Oil Company, and the
Ohio Fuel Gas Company, which you say are public utilities and are
roducing and selling a large quantity of gas?
A. I think I have explained that fully enough. I do not see what
I could add to what I have said.
Q. What was the real purpose,—to make as disproportionate a
showing as possible against these seven companies without giving
he real facts to the court?
A. Mr. Weil, to state as concretely as I know how, that was not
the real purpose and real reason for the omission. These statistics
were not available. If there is any state department other than the
statistical department that has the information, I do not know what
department it is. If those statistics are available from any source
except the companies themselves, except the Ohio Fuel Oil Company,
I do not know the source.
Q. You know the acreage of the South Penn and the Ohio Fuel
Oil Company?
A. I do not know the acreage of the South Penn. I do not know
of anybody that does know except the company itself.
2320 Q. Are not they required to make a report of that?
A. They are not. They have always resisted the idea that
they were public utilities, and have refused and declined to make
reports so the Board of Public Works under the theory that they
were not public utilities. The only reason they are classified as pub-
lic utilities on my first statement is because the Commission did take
jurisdiction over them to the extent that they were serving the public,
I might say, over the protests of the companies.
Q. How many acres does the Ohio Oil—Ohio Fuel Oil Company
hold?
A. I would not be able to tell you unless I would get the report.
I might say that the Ohio Fuel Oil Company is the only company
omitted here that makes report to the Board of Public Works. That

is the only source known to me of this acreage from which this acreage could be obtained.

Q. Why not state in this statement, having given us this list of utilities and made out this comparative statement, that you could not give the acreage of the other companies?

A. I knew enough about the character of your examination in this case and what it would be, that it would be put into the record. I suppose that putting it into the record in this way would be as good as an attempt to make further explanation on the exhibit.

Q. In other words, you wanted to leave the facts to be brought out on cross-examination instead of setting it forth in that statement?

2321 A. I did not think it necessary to burden the statement with explanatory notes. I did not have the least suggestion or idea that you would overlook that proposition, Mr. Weil.

Q. I thank you for the compliment. It seems to me the statement should have been full and complete without reference to the cross-examination. Did not the Owens Bottle Machine Company make a report to the Public Service Commisssion?

A. It does to the Public Service Commission but not to the Board of Public Works. There is a distinction that ought to be noted right here. What the Public Service Commission of West Virginia regards as a public utility does not agree necessarily with what the Board of Public Works would class as a public utility. The Board of Public Works would not require reports from utilities that were just to a very incidental extent serving the public with any public service. While the Public Service Commisssion would class such companies as public utilities to the extent that they did serve the public. As I said, for that reason the omissions here with the exception of the Ohio Fuel Oil Company do not make returns and are not assessed by the Board of Public Works as public utilities.

Q. In the report of the Owens Bottle Machine Company to the Public Service Commission, did it not show this acreage?

A. It does not. There are no statistics required from the Owens Company which would require it from it. There is nothing from the Public Service Commission which would require it to show

2322 its acreage. I would like to state, once for all, if that information is available, I would not know the source except from the company's records. It is not available.

Q. Would you say, Mr. Nease, from your knowledge of the general situation, that if the Ohio Fuel Oil Company, the Owens Bottle Machine Company, and South Penn Oil Company, had been included in this statement showing the acreage held in West Virginia by the natural gas utilities, that the correct acreage, developed and undeveloped, of the other companies than the seven companies named would have been larger than all of the acreage held by the same companies?

A. I have no knowledge as to the acreage held by the South Penn Company and the Owens Bottle Machine Company. But if you want me to venture a guess, I would guess that their natural gas acreage would not be anything near the amount of natural gas acreage

held by the seven companies. But, as I said, that is merely a guess.

Q. Do you not know that the South Penn Oil Company alone holds the oil and gas rights in between two and three hundred thousand acres in the state of West Virginia?

A. I am not familiar with the holdings of the South Penn Oil Company.

Q. Do you not know that the Ohio Fuel Oil Company holds the gas rights in over fifty thousand acres?

A. I could give you the estimate on behalf of the Ohio Fuel. I do not have them before me.

2323 Q. You can get that?

A. Yes.

Q. And the Owens Bottle Works holds the gas rights in over forty thousand acres?

A. As I said, I do not know anything about what they hold. I might add further that I do not know anything about the holdings of independent producers throughout the state,—any of them.

Q. Calling your attention again to the statement showing acreage held in West Virginia by natural gas utilities, as stated by you in your testimony the Centerville Pipe Line & Gas Company has no undeveloped or developed territory. The Kanawha Gas Company has neither undeveloped or *un*developed territory. The Keener's Oil, Natural Gas & Fuel Company, as put down by you in this same report, has neither undeveloped or developed territory. The Light, Fuel & Power Company of West Virginia as put down by you on this report has neither undeveloped or developed territory. The Mountain State Company as put down by you on this report has neither undeveloped or developed territory. The Northern Natural Gas Company has neither undeveloped or developed territory. The Point Pleasant Natural Gas Company has neither undeveloped or developed teritory. The Reno Gas Company has neither undeveloped or developed territory. The West Virginia & Maryland Gas Company has neither undeveloped or developed territory. Why did you put them down on this statement showing the acreage held in West Virginia by natural gas utilities?

2324 A. One reason was because I had the data and information as to whether or not they did own territory. Each company that you mentioned makes a report to the Board of Public Works. In that report they show that they do not hold territory.

Q. Why did you put them down on a statement showing the acreage held if you had the data showing they held none?

A. As I said before, for a matter of information. It was to show they did not hold territory.

Q. Did you know that the Mountain State Gas Company, the one that I have mentioned, has been out of business in West Virginia for over ten years?

A. This is not the Mountain State Gas Company that you have reference to. This Mountain State Gas Company is now in business.

Q. Where does its supply gas?

A. To certain communities in Boone County.

Q. Can you name the communities, or any of them?
A. I could not without getting the report.
Q. Where does it get its gas?
A. From what is now the Pure Oil Company, formerly the Ohio Cities Company.
Q. From what?
A. The Pure Oil Company, formerly the Ohio Cities Company. Its gas utility business is what is known now as the Pure Oil Company. They have a separate corporation to handle the utility business.
2325 Q. The Pure Oil Company owns a large acreage, does it not, in the state of West Virginia?
A. I am not advised as to the holdings of the Pure Oil Company.
Q. Do you not know that it holds a large amount of acreage in Kanawha and Boone Counties?
A. As a matter of the most general information, I might say that I do know that it holds some acreage, but I am not advised as to the extent. I have no reports of it.
Q. The Mountain State Gas Company is a distributing company of the Pure Oil Company?
A. Locally, here.
Q. Why was not the Pure Oil Company put down on this list?
A. It is not a public utility in the state of West Virginia.
Q. Does not it supply gas to a public utility that supplies it to the public?
A. Yes, but so do all the other gas producers. All the independent producers sell their gas.
Q. If it supplies the gas to the public through this subsidiary company or gas distributing company, would not you call it in the gas business.

Mr. Blue: The state of West Virginia objects to the foregoing question because calling for a conclusion of law and asking for an opinion thereon; and for the further reason that the statement made by the witness to which counsel is referring in his
2326 examination, purports to show a statement of acreage held in West Virginia by natural gas utilities, and the witness has stated that the Pure Oil Company makes no report to the State as a natural gas utility.
The Commissioner: Let the objection be noted and the question answered.

A. It is in the gas business the same as any other gas producing company would be. If we would include it, we would have to include the 450 other gas producers in the State for the same reason that we would include it.
Q. Calling your attention now, Mr. Nease, to the statement read into the record at page 31-*b* of the transcript "Statement Showing Total Production of Natural Gas in West Virginia and the Total Net Public Supply Thereof in 1919" if I remember your testimony correctly (if not, I wish you would correct me) you said you ob-

tained the total production from various sources chiefly from the United States Geological Reports?

A. I do not think I said chiefly from the United States Geological Reports. I did obtain a considerable portion of the data from such reports.

Q. And from what other sources did you obtain your information in addition to the United States Geological Reports?

A. Well, from reports filed with the various state departments of West Virginia.

Q. What reports?

A. From the reports filed with the State Tax Commissioner. For the Board of Public Works and other reports submitted to the
2327 Public Service Commission of West Virginia.

Q. From any other sources?

A. No, I believe that would be the three sources from which this particular information was obtained.

Q. Then you obtained it from the United States Geological reports, from the reports made by the respective companies to the Board of Public Works and to the Public Service Commission. Is that correct? From those three sources?

A. Yes, substantially. I do not now think of sources that I might have gotten information from that might occur to me later, but those were the three main sources.

Q. Now then, calling your attention to the statement you have given for the year 1919, the total gas production in the State of West Virginia at 219,053,658 M. Cubit Feet. Where did you get that? From the Geological Survey?

A. That was gotten from the reports from the other sources mentioned—not from the Geological Survey Reports.

Q. In other words; then, that was obtained from the reports made to the Board of Public Works or to the Public Service Commission by the various public utilities. Is that correct?

A. Yes, not necessarily various public utilities. It would also include carbon black manufactories.

Q. But would not include private operators?

A. It includes such companies, yes.

Q. How would it include that? How would they make
2328 reports?

A. They do not make reports.

Q. It would not include that unless they sold their gas to some public utility, would it?

A. It would not.

Q. If these individual operators sold their gas to some manufactory or industrial plant, or if they produced this gas for their own use in their own plants, that would not be included, would it?

A. It would not except as stated heretofore.

Q. Where did you get the items making up the aggregate of the gas sold and used in field operations?

A. That was gotten primarily from reports submitted to the Public Service Commission.

Q. That, of course, would not include, then, the individual pro-

ducers or those who produce gas for their own use in their own plants?

A. It would not. Such gas, as a rule, is not accounted for.

Q. Where would you get the items of the "Quantity of Gas Used or Marketed by Private Persons or Enterprises?"

A. That is substantially the gas used by carbon black factories in the manufacture of carbon black.

Q. And would not include concerns like the Owens Bottle Company, for example, who supply themselves with their own gas?

2329 A. It does not.

Q. Or any other similar concerns?

A. No, it does not.

And adjournment was here taken until Friday, December 17, 1920, at 10 o'clock, a. m.

2330 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Morning Session, Friday, December 17, 1920.

2331 Friday Morning, December 17, 1920.

And now, the hour of 10:00 o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumes the stand.

Cross-examination (continued).

Mr. Weil:

Q. In view of your testimony, Mr. Nease, to the effect that the fourth column in this statement on page 31-*b*, "Gas Used or Marketed by Private Persons or Enterprises," that it did not include concerns like the Owens Bottle Company, who supply themselves, nor any other similar concerns, is not that heading, under the facts and cir-

cumstances, misleading when it states: "Used or Marketed by Private Persons or Enterprises"?

A. It is not, Mr. Weil, for the reason that the total of such gas is not included in the first column, the total production.

Q. Well, regardless of that fact, should not this statement by its headings, as far as possible, express the actual facts?

A. It should.

Q. Should it not, for example, when you stated the total production in thousand cubic feet under a statement purporting to show the total production of natural gas within West Virginia and the total net supply thereof, have contained the explanation that it did not include in the total production that gas to which you have already referred, and did not include in the "Gas Used or
2332 Marketed by Private Persons or Enterprises" that gas to which you have referred?

A. Well, possibly an explanation of that kind would have made the exhibit somewhat more clear, but the statement, of course, does not attempt to show the total production of gas in the state for other reasons than those named by you. There is a great quantity of gas naturally wasted from oil wells and in other ways, even in the operation of gas plants, that is not accounted for in any way by anybody. That gas also would not be included.

Q. I was going to ask you about that, I am glad you mentioned it.

A. This total production here would include all gas that is saved and handled by public utilities.

Q. And nothing else?

A. The carbon black plants as indicated under the fourth column and such gas as would be used in the field for production purposes.

Q. Now calling your attention further to this statement, you have for the year 1918 under the column "Used or Marketed by Private Persons or Enterprises," 34,000,000 ft. As I understood your testimony, that was your approximation?

A. That is true, but that is substantially the correct figure.

Q. How did you get that approximation—from what sources?

A. From the carbon black plants themselves in most in-
2333 stances. It may have been necessary to estimate as to one or two companies.

Q. Do I understand you then to mean that in this fourth column of "Gas Used Or Marketed by Private Persons or Enterprises," that that is to a very large extent gas that is used by these carbon black manufacturers?

A. That is what I intended by the figures in the column.

Q. Now, then, in 1917, you have it estimated at 25,000,000 ft. I presume the same explanation is applicable there that you just made as to 1918?

A. Yes, except the information at hand was hardly as complete for that year, as it was not as complete for that year and the earlier years as for 1919 and 1918.

Q. That was because, if I remember your statement, the carbon black companies were not required under your law to make their

reports prior to that time, or did not make them, to the Public Service Commission or the Board of Public Utilities. Is that the fact?

A. Yes, such reports were not made prior to 1917,—or 1918.

Q. And therefore you simply estimated the amount, now is not that a fact?

A. Well, in a way, Mr. Weil, it was estimated, and it was verified to an extent. By a process of deduction it was—we are able to show that the quantity of gas used for that purpose was around the figures given.

2334 Q. How could you ascertain that if they made no reports?

A. Well, we had the total production of natural gas as shown by the U. S. Geological Survey reports, and then from such data as we did have as to the consumption of natural gas in West Virginia, enabled us to arrive at something near the consumption by carbon black plants. I might state too, if I have not already done so, that we had the advantage of the estimate of the U. S. Geological Survey that 20,000,000,000 ft. was used annually for this purpose.

Q. You have used that estimate of 20,000,000,000 ft. for the years 1910-11-12-13-14-15-16?

A. Yes.

Q. Don't you know that in some of those earlier years there was a very much larger quantity of gas used for carbon black manufacturing than in the later years; that is, when the gas was much cheaper and was much more easily obtained, don't you know that there were more carbon black factories and more gas used for that purpose, especially during the years 1912, 1913, 1914, 1915 and 1916?

A. No, my judgment is that the greatest consumption of gas used in the manufacture of carbon black was in the year 1918.

Q. From what sources do you get that information?

2335 A. From my knowledge of the number of plants and number of people that were engaged and the extent to which they were engaged in the business, there were a greater number of companies, a greater number of carbon black plants in the state in the year 1918 than any time in the history of the state—during the last fifteen years, and I do not think the question of the cheapness of gas in those early years affected the situation as to the manufacture of carbon black prior to 1917 or 1918.

Q. Did the fact that those companies were able to obtain the gas for that purpose either by drilling themselves or in their own operation, or by purchasing it from other operators in the vicinity of their plants, as compared with the later years when the gas shortage began to develop, make them use more gas for that purpose, than after the attention of the public and the authorities was directed to the fact that this was such a wasteful use of gas?

A. I do not think the situation that it was such a great waste had much effect with the use by the carbon black manufacturers, and they as long as they could manufacture or use their gas more profitably for carbon black than they could sell it on the market, did so. I think there was not much sentiment in the proposition with

them. As a rule though, I might add, that the carbon black manufacturers were situated in more or less isolated sections in the early years, apart and away from markets for natural gas, and their incentive, of course for the use of carbon black was the low price
2336 they could obtain for their natural gas where they were in a postion to sell it.

Q. This fifth column is a mere computation made by you by first deducting from what you put down here as the total production the figures used by you and has explained "Used and Sold in Field Operations" and also the fourth column "Used or Marketed by Private Persons or Enterprises" as explained by you,—deducting the sum of those two columns from the total production, as explained, gives you the net public supply?

A. Yes.

Q. And those figures are obtained in that way and not from any reports as to the net public supply that are furnished to the Department?

A. Yes, that is true.

Q. Now you testified that the Hope Natural Gas Company was confined in its operations to the State of West Virginia, and that this was likewise true as to the Reserve Company and the Pittsburgh and West Virginia Gas Company. The Hope Company, you know do you not, as also the Reserve, furnishes a large amount of gas to other companies that transport that gas into Pennsylvania and into Ohio and other states?

A. Yes, I know it.

Q. Then a large portion of the gas—a very large proportion of the gas produced by the Hope Company, is thus delivered to these other companies to whom it sells, which transport the same into Ohio and Pennsylvania and these other states?

2337 A. Yes.

Q. Now calling your attention to Exhibit No. 16, which purports to show the natural gas produced and acquired in West Virginia by the 7 companies mentioned, also the gas purchased by them, you obtained those figures, if I understand you, from reports of these 7 companies made to the Board of Public Works or to the Public Service Commission, did you?

A. Yes.

Q. Where did you get the interchanges as between these companies?

A. From the same sources.

Q. Do these reports show the amount of gas supplied by each one of these companies to the others?

A. They do.

Q. In other words, you attempted then, as I understand, to count that only once, charging it to one or the other of the companies and eliminating it from all others?

A. That is the effect of it.

Q. So that it would not be included in the total more than once, that gas would be accounted for with some one company and not again computed in your estimates?

A. Yes.

Q. And the amount: "Used and sold in field operations." What do you mean by that?

A. Well, substantially, that means gas that was used or sold in the field in the production of gas.

2338 Q. Now, it is not a fact that where an operating company, either one of the 7 or all of them, use portions of the gas which they produced in field operations, such as in the drilling of wells and cleaning out of wells and operation of their pump stations and compressor stations, etc., that they have no records that show the amount of that gas thus used?

A. Some of them have very complete records and keep it as closely as they do sales to the public. Others do not keep as close record of such gas.

Q. There is not included in this gas used or sold for field purposes, the so-called free gas; that is, the gas that is supplied under the terms of leases, to the owners—to the lessor or his tenants, who as a part of his contract of lease obtains this gas for his own or his tenant's use?

A. No, free gas is not included.

Q. And that is not in any way deducted from this general computation that you have made here?

A. It would not be included in the column one, the total produced.

Q. Why not?

A. Because it was not counted in the statement.

Q. Would it not be included in the reports of the company's total amount produced?

A. In some instances it would, and in others, not.

Q. Would it not in practically all of them?

A. It would not.

2339 Q. Do you not know that these free-gas consumers in the State of West Virginia under the orders of the Public Service Commission, are metered and have been since 1914 or 1915?

A. Well, in a general way, I think I could say that I know that, that is outside of my line of work, in a general way, I think that is true.

Q. And do you not know as a fact that these companies include in the statements made to the Commission and to the Board of Public Works all of the gas which they produce, including that which is thus distributed and known as free gas?

A. No, they do not make such showing in their reports to the Board of Public Works, one or two possibly, may.

Q. I do not mean necessarily that they made that showing separately or distinct from the total amount produced, but is there anything in their reports that indicates to you that that gas thus distributed to the free gas consumers was not included in the total production as reported by them to the departments—to the various departments of the State?

A. There is not, for the reason that the total—in the majority of cases the total sales of gas equals the total production of gas. If

they do make such return in the report to the Board of Public Works they include such gas as a sale of gas.

Q. Well, would it not be proper to include that as a sale of gas because it is one of the outlays which they make in connection with their payments for the right of supplying and operating the leases, where the leases so provide?

2340 A. That would depend wholly, Mr. Weil, on the system of bookkeeping or accounts which the respective company kept.

Q. That is undoubtedly true, and the only reason I am pressing this question is because I want to get from you, if I can, the statement that you do not know whether or not to include in the total amount of gas produced in West Virginia by these 7 companies this gas which these companies distribute under their contracts to what we commonly call free gas consumers?

A. As I stated before, these figures show the sales of gas by the respective companies, and do not include free gas. That information was, I might add—was available from one source or another for the year 1919, the last year but not for the prior years, and the figures given here do not include free gas.

Q. You are sure of that?

A. I am.

Q. Would you say that was true of the Manufacturers Light & Heat Company?

A. The Manufacturers Light & Heat Company did not show in its reports free gas.

Mr. Steptoe: What do you mean by that, the amounts used by lessors?

A. I do.

Mr. Weil: Q. Do you know whether or not many of these companies, or at least some of them, give gas to the parties from whom they obtain rights-of-way for their pipe lines in payment for

2341 such rights-of-way and charge such gas in their accounts to expense of operations?

A. No, I do not know what the custom is in that respect.

Q. And do you know that this amount throughout the State of West Virginia, for these 7 companies, aggregates a very substantial amount of gas thus delivered or sold and charged to the expense account instead of among their receipts?

A. Well, I have the figures, Mr. Weil, for the companies. I could give you the exact figures for most of them to be exact.

Q. Then you do know that that is a fact if you have the figures, do you?

A. Well, I would not want to answer that the quantity was so very great.

Q. I understood you to say before, perhaps I misunderstood you, that you did not know that that condition existed?

A. I answered in reply to your question as to whether they carried that gas into their accounts as expense.

Q. But you do know as a fact then that they do supply gas in that way to parties from whom they obtain rights-of-way for their pipe lines in West Virginia, you know that?

A. That they supply such gas?

Q. Yes.

A. I do. I might state that I have made investigations into at leas one or two companies and know that they do not carry such gas in their expense accounts. That was in connection with investi-

2342 gations I have made in rate cases, especially the Hope Gas Company.

Q. You do not know as to some of the others?

A. I do not know as to their system of accounts regarding fre gas.

Q. I call your attention now to statement made by you on page 34 of the record showing the total net supply for public service of natural gas produced within West Virginia and the total thereof of the 7 companies and the percentage of the net supply of the 7 companies to the total. Calling your attention to that statement you have put down as the total net supply for public service for each of the years 1911 to 1919, inclusive, the figures obtained by you as explained, after taking the total production, the amount used and sold in field operations as explained, and the amount used or marketed by private persons or enterprises as explained by you, and after taking that total production and deducting those two items you have adopted for the purposes of this calculation the total net supply for public service?

A. Yes, for all operations within the state.

Q. That is the way that you arrive at those figures?

A. Yes.

Q. And those figures would be subject to whatever, if any, corrections are applicable by reason of the facts and conditions which have been testified to by you heretofore?

A. Well, I think if it would appear that they are inaccurate in any respect, they should be changed to meet the exact situation.

2343 Q. You don't want to qualify them any further than you have already in your testimony which we have elicited this morning with reference to those figures?

A. I think my former answer would answer the last question.

Q. Have you any other qualification you want to make now? If so, make it.

Mr. Steptoe: Question is objected to; if counsel has in mind any specific matters, he should call the attention of the witness to them in order that the witness may have a fair opportunity to answer.

The Commissioner: Note the objection and let the witness answer.

A. I do not care to make any further qualification at this time. I do not mean to close the door, however, by this statement in the record as to further qualifications if it should appear that they should be made.

Q. These figures were obtained in part, as you have already explained, by these estimates of the gas used or marketed by private persons or enterprises for the years 1918—1910 to 1918, inclusive?

A. I expect I will have to ask you to amplify that question, Mr. Weil. I do not understand it.

Q. Well, you are using exactly the same figures for your net supply that you used on table on page 31-*b*, about which I examined you a few moments ago?

A. I did.

2344 Q. And therefore it is subject to all of the statements made with reference to that table?

A. Yes.

Q. And is not an independent or separate or distinct calculation for this purpose?

A. It is not, except as to the question of percentage.

Q. I am talking now, simply, of the total net supply, that was all that I was asking about. And you got your net supply of the 7 companies from Exhibit No. 16 offered in evidence in the case, which of course, would be subject to whatever explanations, etc., you have made with reference to the examination upon Exhibit No. 16, which was just completed?

A. Yes.

Q. And this table is the application of those two totals and the calculation of what percentage the one is to the other upon those figures?

A. Yes.

Q. Now in the table on page 36 of the record, in which you adopt the total net supply for public service that is used in these other two statements about which you have just been testifying, you have the column "Sales to West Virginia Consumers." Where did you get those figures?

A. From the same sources heretofore explained.

Q. What were those?

A. From the various reports and records which have been used.

Q. Now that does not include, does it, the gas that was

2345 used in West Virginia by these consumers to whom we have referred as free gas consumers; it does not include the gas paid for rights-of-way; it does not include the gas used in West Virginia by individual operators for their own uses and purposes; it does not include the gas used or sold for field purposes, does it?

A. It does not.

Q. It does not include the field gas, I think you stated that?

A. Yes, I so stated.

Q. In other words, in the sales to West Virginia consumers of forty-six billion feet for the year 1919, you have omitted the fourteen billion feet used and sold in—I am using round numbers, of course—the 14,000,000,000 feet and over used and sold in field operations and the 20,000,000,000 feet used or marketed by private persons or enterprises?

A. Yes, those are excluded.

Q. Now, then, if these items had been included, instead of 25 per cent, it would be pretty nearly double, would it not, for 1919—in round numbers, not exact?

A. Yes, I think it would.

Q. It would be a little less?

A. It would be considerably greater than it is.

Q. And, of course, that would apply to each of the subseque years, whatever the proportions are?

2346 A. Yes. The exact percentage as to the year 1919, wou be about 40 per cent under such conditions.

Q. Now, these same explanations, which we have just h without going over them in detail, with reference to the stateme showing the total net supply for public service of natural gas p duced within West Virginia and total thereof furnished to W Virginia consumers would also apply to the statement on page of the transcript where you have made a like calculation for t 7 companies?

A. Yes.

Q. Now, then, adding to your sales to West Virginia consum for 1919, as given by you, of 29,360,811,000 feet, adding to th the 10,520,709,000 used or sold for field purposes as contained Exhibit No. 16, would make that percentage for 1919 instead 17 9/10 per cent., close to 40 per cent., would it not?

A. It would not.

Q. What would it make it?

A. Approximately 22 per cent.

Q. Suppose you figure that again and see if your are not mistak about that. Add to your 29,360,811,000 the 10,520,709,000.

A. It gives you approximately 39,000,000,000.

Q. And what percentage is that of 164,000,000,000?

A. Well, that would not be the way to arrive at the percenta

Q. What percentage would that be of 164,000,000,000?

2347 A. I could figure that but that would not give you wh you are after. It would be apparent to you that you must a the 10,000,000,000 to the 164,000,000,000. It certainly would n be fair to use it in one case and not the other.

Q. Why not?

A. If it is to be considered as part of the sales to the consum in West Virginia, it must be considered as part of the total suppl

Q. If it is used or sold to the consumer, why should it not counted?

A. I say it should be considered as part of your total net supp and added to your 164,000,000,000.

Q. I don't care why it is added, but is it not a fact that t table 38, without this explanation and without calling attention these facts, is absolutely misleading and conveys a wrong impr sion to the mind o ny one who has not gone into all of the facts and figures?

A. That is a mat.er for the court to decide, not for the witne

Q. You have put down on your table in 38 the sales to West V ginia consumers absolutely ignoring the other tables which you h already put in evidence showing used or sold for field purposes t item of over 10,000,000,000 feet. How is it possible for you justify such a table, ignoring those figures, whether you put the on both sides or one side only?

2348 Mr. Steptoe: The question is objected to, in that the witness has fully explained the amounts referred to, what they were for and why excluded, in his prior examination, and the question now asked calls for a conclusion or opinion of the witness, which is wholly immaterial, the facts being in the record and showing for themselves.

The Commissioner: Note the objection and let the witness answer the question.

A. I think I stated, in connection with this statement, clearly what these headings mean. It would appear that Mr. Weil has overlooked the caption to this statement. I certainly have shown in previous testimony what we meant by the term "Total net supply." In reference to these figures shown on this statement, in the caption I explained this statement, showing the total net supply of these 7 companies and the total thereof furnished by the said 7 companies to West Virginia consumers.

Q. Is it not a fact, Mr. Nease, that this table as given by you on page 38, has omitted these figures to which I have called your attention for the express purpose of making it appear that the percentage of the total supply sold to West Virginia consumers was smaller than the facts actually warrant, and the testimony heretofore shows.

Mr. Steptoe: Objected to for the reasons already assigned.

The Commissioner: Note the objection and let the witness answer.

2349 A. That is not the purpose or purport of the exhibit and the testimony previously given in the case should show clearly what the purport of the exhibit is.

Q. You stated in computing the acreage, as shown on the table, 44-*b*, 44-*c* and 44, that you had not included—you said in making the computation you have not included the gas territory held by oil companies or the independent companies. We went into the question of the oil companies on yesterday, I will not repeat that, but what do you mean by the independent companies?.

A. Independent producers.

Q. I don't mean exactly that, by independent producers, do you mean producers who are not connected with these companies, or who are indiv-ual producers?

A. No, I mean independent producers of natural gas not engaged in the public service business or producers as distinguished from those engaged in the public service.

Q. In other words, that is the territory held by individuals or companies who are not public service—who are not public utilities, that is what you mean?

A. Yes.

Q. And that is a very considerable amount, is it not?

A. Quite considerable.

Q. You have reports, I suppose, made to the department from which you could estimate what the—or calculate what the quantity actually is?

A. Yes, I have such information.

2350 Q. Could you give us that information as to the aggregate of such quantity?

A. That is in the record, has been put in. Qualifying my answer in response to this question, such information can be given for the calendar year of 1918, but a little time would be necessary in order to furnish it, even for 1918.

Q. And for 1918 you would take it from the report of the U. S. Geological Survey?

A. I would take the total acreage held in West Virginia from the U. S. Geological Report and deduct from that the acreage held by utilities within the State to get the acreage held by the independent producers.

Q. In your Exhibit No. 18, Mr. Nease, in the statement showing the number of consumers within West Virginia furnished natural gas by the Hope Company and the other 6 companies for the years 1910 to 1919, inclusive, divided into domestic, industrial and local utilities, you have not included in that the gas furnished, as for example, by the Hope or by some of these other companies to other utilities or companies transporting that gas outside of West Virginia?

A. I have not.

Q. This is supposed to be applicable solely to the domestic consumers, industrial consumers and local utilities then, within the State of West Virginia?

A. Yes.

2351 Q. This does not include either, if I understand you correctly, that gas which is supplied to the free gas consumers, which we have already defined?

A. It does not include free gas consumers.

Q. Nor does it include those consumers to whom gas is furnished as payment for rights-of-way, etc., which have already been referred to?

A. Not if they would be considered by the reporting companies as free consumers.

Q. Nor does it include gas supplied in field operations by any of these companies?

A. It does not include gas supplied to such consumers.

Q. In other words, the word "Industrial" here, as I understand it, refers substantially to manufacturing enterprises within the State, that general designation would cover it, would it not?

A. Yes.

Q. And the local utilities, what did you intend to comprehend by that title, what class, general class of consumers, or users, rather?

A. That would be the total sales to local utilities, the total number of local utilities to which gas sales were made.

Q. You mean by that other gas companies in the State which are supplying gas to others?

A. Yes, gas to the public.

2352 Q. Gas to the public. Such as, for example, a gas company supplying some town or some section of the public in the State?

A. Yes; it would not include sales to one or the other of these seven companies.
Q. It would not include gas, for example, supplied by the Hope Company to the Manufacturers Light and Heat Company for supply to the City of New Martinsville, West Virginia?
A. It would not.
Q. And the same would be true as between any of the companies?
A. Any of the seven companies?
Q. Yes.
A. It would.

Here a recess was taken until 1.30 o'clock, p. m.

2353 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Afternoon Session, Friday, December 17, 1920.

2354 Friday Afternoon, December 17, 1920.

And now, the hour of 1.30 o'clock, p. m., having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumes the stand.

Cross-examination (continued).

Mr. Weil:

Q. Mr. Nease, calling your attention to your statement on page 57 of the record, "Statement showing miles of pipe line in use within West Virginia by the Hope Natural Gas Company, Pittsburgh and Western Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, December 31, 1919," being the seven companies; that is, from 2 inches and over: From what source did you get this information?

A. That was taken from the tax return, or the returns made to Board of Public Works.

Q. This, of course, is only, as the heading shows, the number miles of pipe in the State of West Virginia?

A. Yes.

Q. And does not include the pipe lines of these companies connecting with the West Virginia lines at the State Line in Ohio, Pennsylvania, Maryland and Kentucky that are owned by the same companies, or some of them, and supply gas outside the State of West Virginia?

A. It does not.

Q. And have you any information as to the total mileage including those outside the State of West Virginia?

2355 A. I could get that information.

Q. Will you give it to us, please, if you have it convenient? In other words, I do not care particularly for the separate companies.

A. I believe I could get it possibly quicker separately than combined, or combined if you care for it.

Q. The Hope Natural Gas Company is first?

A. The Hope Natural Gas Company has no such lines.

Q. The next is The Pittsburgh and Western Gas Company?

A. That company has no such lines.

Q. And the United Fuel Gas Company is next?

A. The United Fuel Gas Company has 307 miles, approximately of such lines.

Q. That includes both the 2 to 10 and the 10 inches and over?

A. It does.

Q. How many miles, did you say?

A. 307.

Q. How much has the Reserve?

A. The Reserve has no mileage outside the State of West Virginia.

Q. And the Carnegie?

A. The Carnegie has 434 miles of such lines outside of the State.

Q. And the Columbia Gas and Electric Company?

A. 125 miles. I might state this is not owned by the

2356 lumbia, but is operated by it under lease.

Q. And the Manufacturers Light & Heat Company?

A. 2,422 miles in round numbers.

Q. 2,422?

A. 2,422, yes, sir.

Q. None of these, of course, include companies with which the respective companies, or any of them, could or to which they deliver gas?

A. No. No mileage of companies of that nature would be included.

Q. You know, do you not, as a matter of fact, that the Pittsburgh and West Virginia Gas Company is a subsidiary of the Philadelphia Company of Pennsylvania and supplies gas to the Equitable Gas Company, which supplies the city of Pittsburgh and vicinity.

A. I so understand it.

Q. And the Hope Natural Gas Company supplies gas to the East Ohio, of Ohio; the Peoples Natural Gas Company of Pennsylvania and the Fayette Natural Gas Company of Pennsylvania?

A. It does.

Q. Has not the Hope a line crossing the river which delivers gas to the East Ohio Company in Ohio?

A. Not to my knowledge. If it had such connection, unless it would be above low water mark it would be still in West Virginia.

2357 Q. Has it not such a connection above Moundsville which runs over to Ohio and delivers the gas on the Ohio side?

A. Not to my knowledge. From all reports it has ever made I would have to state that it had no property outside the State of West Virginia. It has so stated in its own statement. I also read the testimony of officials of the company in the case to the Public Service Commission to that effect.

(Mr. Steptoe:)

Q. To what effect?

A. To the effect it owned no property outside the State of West Virginia.

Q. Calling your attention to your Exhibit No. 19, where you give the amount of gas of the 7 companies furnished to domestic consumers, industrial consumers, local utilities and the total, then amount transported and sold for transportation to the other states—you have before you Exhibit No. 19, now?

A. I have.

Q. You have given there the domestic consumption, the industrial local utilities and the total furnished to West Virginia consumers by the 7 companies, also transported or sold to other states by the 7 companies?

A. Yes, sir.

Q. Now, that omits the gas used or sold for field purposes, does it not, in West Virginia?

A. Such gas is not included.

Q. This applies, of course, only to the 7 companies?

2358 A. It does.

Q. That also omits the gas furnished by these 7 companies to their free gas consumers, about which we talked this morning, and to those consumers who obtained gas as compensation for rights-of-way, does it not?

A. It does.

Q. In your direct examination your attention was called to the fact that the record of the Public Service Commission show the independent producers who sell gas to the 7 companies and the amount of gas they so sell, that is correct, is it not?

A. It is.

Q. And you testified that there were 212 of such producers, and that those records did not disclose where the independent producer

sells to these companies the gas by the sale of the well instead of selling the gas by the thousand feet, that is correct, is it not?

A. Do I understand you to mean where the gas well is sold to one of the 7 companies?

Q. Yes.

A. No, the records would not disclose information of that nature.

Q. You know, as a matter of fact, from your general knowledge, there are a number of sales of wells?

A. There are.

Q. To these companies by the different producers?

A. There are.

2359 Q. The statement which you placed upon the record, page 68, showing the productive gas wells within West Virginia, total of all producers and total of the 7 companies, and the percentage of the total owned by the 7 companies, I believe you said you got this data and information from the United States Geological Survey so far as the aggregates were concerned of all producers and as to the individual companies you obtained this from their report—or reports, rather? Now, I want to ask you if this takes into consideration the number of wells abandoned from year to year by these respective companies or the wells that are not in use, though owned by them, because of the amount of rock pressure being so low as to make it impossible to turn them into the lines?

A. This statement would not include abandoned wells. It does not purport to show information of that character. It does show the number of wells which the utilities, themselves, term "gas wells." They show such information as of December 31st, for the various years.

Q. Now then, you could not tell, for example, how many of those wells that were owned by those 7 companies, were wells held in reserve for emergency purposes, and which ordinarily would not produce gas into the lines against the line pressures? You could not tell that from the report, could you?

A. I could not.

Q. And you could not tell how many were thus held by the respective companies in which the gas volume or the rock press- had declined to such an extent that they were only used, if

2360 used at all, at long intervals? You could not tell that could you?

A. I could not, either for the 7 companies or the rest of the producers.

Q. As I understand you took all the other producers from the report of the Geological Survey?

A. I did.

Q. I call your attention now, to a statement headed (on page 71 of the transcript) "Summary of natural gas wells drilled within West Virginia by the Hope Natural Gas Company, United Fuel Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas & Electric Company and Manufacturers Light & Heat Company" (being the 7 companies) "1910-1919" which purports to show the number of

roductive gas wells January 1st; the number of dry holes; wells rilled; dry holes drilled and total num-er drilled; the number of wells urchased and transferred and those that were productive on Decem-er the 31st. This list does not take into account, does it, those wells hich these respective companies drilled down deeper in the lower roducing areas, so as to increase their production of gas?

A. Well, it would in this case—if a well had been treated as an bandoned well——

Q. I am not speaking of those wells that have been abandond or ave been reported as abandoned.

A. That would not change the status in that case, it would be a gas well yet.

361 Q. But it would not show the operation of the companies in that respect, would it—these statements?

A. If you mean the deepening of a well that was already considered a gas well—it would not.

Q. You know that many of these 7 companies had a large number such wells that were so treated, or were drilled deeper into the wer producing sand areas and the production of which was thereby creased?

A. I have not any definite advice or information as to that.

Q. For example, do you know that the Manufacturers Light & eat Company, so far this year, has drilled down over 38 of such ells?

A. I do not know that.

Q. At any rate, such operations would not appear on this statement I understood you to say?

A. They would not, unless as I said before, they had been treated abandoned wells or dry holes.

Q. When did the Public Service Commission adopt the require-ent of these companies to report in their annual or monthly reports e amount of gas imported into the State?

A. The Public Service Commission reports you are referring to?

Q. Yes.

A. I am not able to answer that question.

Q. You do not know when that was adopted?

A. No.

362 Q. That has been in vogue some years?

A. To the best of my knowledge, it has been some two or ree years. Such information has always been required or required r a great many years by the Board of Public Works.

Redirect examination.

(By Mr. Steptoe:)

Q. On cross-examination, counsel asked you to produce monthly orts for the various companies listed as public utilities under your tement. Have you produced those statements, and have you them sent?

A. I have such statements in my possession.

Q. Have you been ready, at all times, to answer any question in respect thereto, that counsel for complainant states might desire?

A. I have.

Q. Some confusion appears, at least to my mind, with respect to your examination on the amount of West Virginia gas assigned in your statements to the Manufacturers Light & Heat Company. To clear that up, will you please state where and how you obtained the amount of West Virginia gas which you assigned on Exhibit No. 16 and connective exhibits, *a* to *i*, inclusive? To give a specific example, take Exhibit 16-*a* and tell us how you arrive at the figures shown for the Manufacturers Light & Heat Company under the heading "Produced in West Virginia" and under the heading "Purchased in West Virginia"?

2363 A. The figures were taken from the reports heretofore referred to, and were furnished by the Manufacturers Light and Heat Company in making such reports.

Q. You refer now to the annual reports made to the Board of Public Works and to the monthly statements made to the Public Service Commission?

A. I do.

Q. Does the Manufacturers Light and Heat Company in its report undertake to state definitely and certainly that that amount was produced in West Virginia or was purchased in West Virginia?

Mr. Weil: The question is objected to as being incompetent, irrelevant and immaterial, and not the best evidence, the report itself being the only evidence of what the report shows.

The Commissioner: Let the objection be noted and the question answered.

Q. You may consult the last annual report of the Manufacturers Light and Heat Company made to the Board of Public Works of West Virginia in making them.

Mr. Weil: This question is objected to for the same reason, and unless the witness reads into the record exactly what the report shows.

The Commissioner: Let the objection be noted and the question answered.

A. On page 53 of the return to the Board of Public Works the Manufacturers Light and Heat Company states the following: "The estimated gas production available from wells owned by the

2364 Manufacturers Light and Heat Company, computed on the first minute rise above line pressure, showing number of cubic feet available under conditions existing at time guages were taken on December 31st, total was, all states, 68,693,000 cubic feet. Estimated West Virginia 20,022,000 cubic feet." I understand the company in making its reports based its estimate for West Virginia in that year. Now, as to the exact figures for 1919, as shown in the exhibits referred to or the statements referred to, such figures were taken from the monthly reports submitted to the Public Service Commission by the company in which such information was shown

Q. And have you in the statements used the figures that the Manufacturers Light and Heat Company so gave?

A. I have.

Q. Reference was made on cross-examination to a large amount of gas used by Godfrey L. Cabot in the carbon business. Do you or do you not know anything touching sales by Cabot of his carbon productions instead of using it in the manufacture of carbon?

A. You mean carbon productions?

Q. Yes.

A. I do not just understand what you mean by that term.

Q. I mean by carbon productions that he used the gas formerly used to manufacture carbon.

A. I had from officials of the Hope Company a statement———

2365 Mr. Weil: I object to hearsay evidence of this character: what officials of the Hope Company said to the witness as being incompetent and not proper evidence.

The Commissioner: Let the objection be noted and the answer continued.

A. (continued). I think I could state that I am aware of the fact that the Hope Company has had negotiations with Godfrey L. Cabot for the purchase of large quantities of his gas lying principally in Calhoun County, and have constructed a large pipe line into said county in order to get such gas.

Mr. Weil: I move to strike out this evidence as being glaringly hearsay and incompetent.

The Commissioner: Let the motion be noted.

Q. Mr. Nease, there is an inspection department connected with the Public Service Commission?

A. There is.

Q. I believe you said on cross-examination that that department gets up statistics annually, but there is no connection between your office as statistician and the inspection department statistics?

A. I so stated.

Q. The records which you have used in making up your statements and exhibits, especially the returns of the utilities to the Board of Public Works, are public records, are they?

A. They are.

Q. And the monthly reports which you refer to, are they
2366 open to the public also?

A. Well, I would consider that they are. I do not know of any restrictions against their being used in such a way.

Q. Are the inspection department statistics published?

A. To some extent.

Q. Where do they appear?

A. They would appear in the annual reports of the Public Service Commission.

Q. Do you know whether the inspection department statistics undertake to show, or do show, definitely and clearly the quanti-

ties of gas produced in West Virginia which are exported, or whether they undertake so to do?

A. Not without referring to the reports.

Q. In preparing your statistics and statements in this case, which were filed by you, on direct examination I believe you stated that you used primarily these monthly reports and the Board of Public Works reports, and occasionally other information, such as the United States Geological Survey reports.

A. I so stated.

Q. In the preparation of those statements, I wish you would say whether or not you were requested by counsel for the defendant State to show separately, as you have done, the interchanges; the amounts used for field purposes; the amounts consumed, or the amounts produced and consumed by private enterprises?

2367 A. I was.

Q. And in making the statements in that form you were following the request of defendant's counsel?

A. I was.

Q. And whether that produced a net public supply that is fair or unfair, right or wrong, is a question to be determined from the facts shown, as I understand you?

Mr. Weil: The question is objected to as an argument by counsel to sustain their own unfairness.

The Commissioner: Let the objection be noted and the question answered.

A. Yes.

Q. Now, with reference to the Ohio Fuel Oil Company and your failure to include this company and its acreage in your statement shown on page 44-*b* of the record. Let me ask you whether the Ohio Fuel Oil Company markets gas to the United Fuel Gas Company?

A. It does; practically its entire production.

Q. And does the Pure Oil Company market its gas to any company other than the Mountain State Gas Company?

A. It does.

Q. What other company?

A. The United Fuel Gas Company.

Q. How would the amounts marketed to the Mountain State Gas Company compare to the amounts marketed to the United Fuel Gas Company, as far as you can recollect?

A. A very much greater quantity would be marketed to the United Fuel Gas Company.

2368 Q. Is the Pure Oil Company the same as the former East Ohio?

A. The former Ohio Cities Gas Company.

Q. Is there any affiliation between those two companies?

A. Which two do you refer to?

Q. I mean the Pure Oil and the Ohio Cities Gas Company, and the Ohio Fuel Oil Company.

A. Not to my knowledge.

Q. Was there any affiliation between the South Penn Oil Company and the Hope Natural Gas Company?

A. They are both Standard Oil concerns.

Q. You have on several occasions referred to information obtained from the United States Geological Survey, and in some cases used its figures. Can you tell me if the total production as shown in your statement on page 31-*b* of the record is taken from the Geological Reports?

A. For the years prior to 1918.

Q. Do you know whether the Geological Reports include in their totals the production or amounts used in field service and the amounts marketed or produced by private persons?

A. They are supposed to include those items.

Q. In your figures for the year- 1918 and 1919, under that heading you included the same items?

A. With the exception, as has been explained heretofore.

Q. Referring again to the Ohio Fuel Oil Company, ex-
2369 cluded from your list of gas utilities in West Virginia: Have you the report of that company for the year 1919?

A. I do not have the Ohio Fuel Oil Company right at hand. I could get it within the next few minutes.

Q. Suppose you send for it. When it comes in, will you be able to give us the gas territory reported by that company, if any?

A. I will.

Q. If I correctly understood you on yesterday, there is no report either to the Board of Public Works or to the Public Service Commission disclosing the acreage of the South Penn Oil Company.

A. There is not.

Q. And the same is true with reference to such reports as you have from the Owens Bottle Machine Company?

A. Yes. It occurs to me that I should state here that the production of the Owens Bottle Machine Company has been treated by me through all these reports as industrial sales. The reason I am making this statement is because in speaking of independent producers using their own gas, which I had not included, Mr. Weil in propounding a question included the name of this company as one of such companies. I overlooked clearing the record *of* that respect at the time the question was propounded.

(Mr. Weil:)

Q. The gas furnished by the Owens Bottle Machine Company from its own production to itself in its own manufacturing
2370 plant, as I understand you, now included in these respective reports, etc., wherever you refer to industrial companies you include such industrial companies, and as a part thereof?

A. Yes.

Q. Was there any gas furnished domestic consumers by the Owens Bottle Machine Company?

A. To my knowledge there was not. If so, a very small quantity, but I do not recall that any was furnished.

Q. If any was furnished, would it be included under the domestic consumption accounted for in your various statements?

A. It would.

Q. I do not just understand a part of your cross-examination with reference to the statement of total acreage in West Virginia, Ohio and Pennsylvania, shown on page 44 of the record. Does the acreage there shown include all acreage held under lease or owned for gas purposes, or simply the acreage of public utilities?

A. No, it includes all acreage of all producers.

Q. Did I understand you to say that that statement is taken from the reports of the Geological Survey?

A. It is.

Q. Then, on page 44-*b* your statement shows the acreage of the natural gas utilities in West Virginia?

A. It does.

Q. Let me direct your attention to the statement on page 57, giving the mileage of pipe lines within West Virginia, and direct
2371 your attention to the fact that you are there accounting for pipe lines in size 2 inches and over, and ask you to compare it with the last annual report of the Manufacturers Light and Heat Company and see if you desire to make any correction in your figures.

A. In making this investigation it appears that pipe line under 2 inches was included in the figures.

Q. How much? Can you make your correction here?

A. The figures shown by me in that statement filed were 532 miles, from 2 to 10 inches, and 257 miles, all 10 inches and over, making a total of 789 miles. The exact amount shown by the report of size 2 to 10 inches should be 520 miles. 12 miles, approximately, of pipe under 2 inches have been included in the figures shown in the statement.

2372 Q. Then, to get the matter straight, you desire to change the number of miles of pipe line charged to the Manufacturers Light and Heat Company in the statement on page 57 from 532 to 520?

A. Yes. And the total should also be changed to 777 miles, and the grand total for all companies of sizes 2 to 10 inches should be changed to 5,326 miles. The grand total of all pipe line two inches and over should be changed to 7,606 miles.

Q. One other place in your cross-examination which is not clear relates to the number of independent producers. You speak of there being 212 independent producers. Do you mean in giving that number to give the total number of all independent producers operating in the State of West Virginia, or the number who are selling to the seven companies?

A. The number who are selling to the seven companies.

Q. And again, I understood you to state that your statement and the records in your office did not disclose the fact where a well was sold by an independent producer to one of the utilities. Is that correct?

A. Yes, that is correct. While it would not show,—it would show the number of wells sold or purchased yet it would not show to whom the well was sold or by whom purchased.

Q. Calling your particular attention to the statement on page 71, relating to wells, under the heading "Purchases Less Sold and Transferred," are the wells purchased by the seven companies from
2373 any source taken care of under that heading?

A. They are.

Q. Have you given the total number purchased or the net purchased? Explain that.

A. I have shown in that column the net gain to that company for each of the respective years.

Q. Just what do you mean by "net gain"?

A. The excess in the number of wells purchased from those sold and transferred.

Q. In other words, a company would sell some wells and buy others?

A. Yes.

Q. And you have taken the difference where it was a gain?

A. Yes. In every instance it showed a gain for each of the years. The statement shows the net gain for the period.

Q. I believe you now have in your possession the report to the Board of Public Works for the Ohio Fuel Oil Company?

A. I have.

Q. What is the acreage returned by that company for gas purposes?

A. The company reported as having, as of December 31st, 1919, 59,728 acres of undeveloped leases and 1,728 acres of developed leases within the State of West Virginia.

Q. Does that report show the total amount of gas marketed?

A. It does.

2374 Q. Will you please state the total amount marketed and then give us the parties to whom the gas is marketed and the amounts?

A. During the calendar year 1919 the company marketed, according to its report, a total of 322,802,000 cubic feet, of which amount 6,063,000 cubic feet was marketed to 47 domestic consumers; 11,482,000 cubic feet to oil producers for drilling wells and 315,256,000 cubic feet to the United Fuel Gas Company. I would like to amend that answer: The figures given were the total sales of that company, both within and without the State of West Virginia.

Q. What are the sales within West Virginia?

A. The sales within West Virginia, all of the domestic sales, as stated above, all of the gas reported to have been sold to the United Fuel Gas Company, and 8,262,000 cubic feet to oil producers for drilling wells.

Q. You were further interrogated by Mr. Weil as to why you did not include in your "Statement of Sales to West Virginia Consumers," shown on page 38 of the record, the quantities of gas shown in your earlier statement as used by the seven companies in the drilling of wells and other field service. Let me ask you if, in

your Exhibit No. 19, showing the amount of gas transported or sold for transportation to other states, you included the quantities used in field service?

A. I did not.

2375 Q. In other words, the quantities transported or sold for transportation to other states is net and you have not charged the amount used in field service to either the sales to West Virginia consumers or to the exporters?

A. It is not included in either event.

Q. Are the deliveries to other consumers included under the heading "Sales to West Virginia Consumers" or under the heading "Gas Transported"?

A. They are not.

Q. Would the same be true with respect to the free gas delivered in consideration of rights-of-way referred to by Mr. Weil?

A. Yes.

Q. Those figures would be included?

A. They would not be included.

2nd recross-examination.

(By Mr. Weil:)

Q. Mr. Nease, I want to call your attention to the report, for example, of the Manufacturers Light and Heat Company from which you read, and, on page 7, where the question is asked "What was the total daily capacity at the end of the year of the gas wells owned total in all states and in West Virginia, stated separately"; and the explanation given, on page 53, and page 7, under "Explanatory Remarks:" "Do not understand what meaning is to be taken

2376 from daily capacity. The estimated gas production available from wells owned by the Manufacturers Heat and Light Company, computed on the first minute raise above line pressure showing the number of cubic feet available under conditions existing every day at time *guages* were taken on December 31st was, all states, 68,693,000 cubic feet. Estimated West Virginia, 29,022,000 cubic feet." You used those figures, did you, in computing on your statements or amounts?

A. I did not.

Q. What figures did you use?

A. I used the figures shown on the monthly reports. I stated that I thought that was the method that the company used in arriving at the West Virginia production, as shown by the monthly reports.

Q. You understand, then, that the company adopted this method of making its computation for the purpose of its monthly reports did you, of the amount of gas that was supplied from West Virginia and from other states?

A. I thought that was the method they used.

Q. You know, as a matter of fact, that these computations would vary, as stated here, in accordance with climatic and other conditions

depending upon the time when, and the date when, these computations were made?

A. I did.

Q. So that, if those figures of production are obtained in that way, it is not figures obtained from actual deliveries but
2377 from computation based upon this method of arriving at the amount?

A. I so understood; and the company has always taken the position that they could not say definitely the amount of delivery.

Q. And adopted this method of making an estimate?

A. I so understood.

Q. Now, you said that the Hope Natural Gas Company and the South Penn Oil Company were both Standard Oil companies?

A. Yes, I so state.

Q. Do you not know, from the published reports of the decisions of the Supreme Court of the United States, in the Standard Oil dissolution, that the stock of the South Penn Oil Company was distributed among individual stockholders and is not owned or controlled by either one of the Standard Oil companies, but is a separate and distinct corporation and has been for twelve years, since that order was made by the Court?

A. I know that is true of all the constituent oil companies of the Standard Oil Company of New Jersey, but, notwithstanding that fact, the stock of the Hope Company is owned by the Standard Oil Company of New Jersey.

Q. Do you not know that the stock of the South Penn Oil Company is not owned by any one of the Standard Oil Companies, either of New Jersey or of New York, but is owned by the individual stockholders?

A. Well, I do not understand that control of the South
2378 Penn Oil Company has ever passed from the Standard Oil Company of New Jersey.

Q. Why have not you understood so?

A. I have no advice as to that.

Q. What information have you to the contrary?

A. None.

Q. And if the stock is, in accordance with the order of the Court, and if the stock has been, in accordance with the order of the Court, distributed among the individual stockholders, and not held by either one of the Standard Oil Companies, then, of course, the control of that company would be in the majority of its stockholders, whoever they were, would it not?

A. Yes, nominally that situation might exist and at the same time the control be vested in the New Jersey corporation.

Q. How?

A. The stockholders might hold the stock for the New Jersey corporation. That is a very common practice, Mr. Weil.

Q. If they hold the stock in trust for the New Jersey corporation do you think that would be a compliance with the order of the Supreme Court.

Mr. Steptoe: The question is objected to on examination as callin for an answer of the witness which manifestly must be a legal co clusion of an interpretation of a decree of the United States Supren Court.

2379 The Commissioner: Let the objection be noted and t question answered.

A. Well, I have never heard it denied by anybody that the sto of the Hope Company is not under the control of the Standard O Company of New Jersey. It was one of the constituent companie I take it that, under the order of the Court, it is nominally held b the individual stockholders; but that does not necessarily mean th the control has passed from the Standard Oil Company of New Jerse I do not think anybody would argue that it has passed, exce nominally, from the Standard Oil Company of New Jersey. Th same situation could exist as to the South Penn Oil Company, a though there might be a greater number of stockholders. I shou say it would be a compliance with the order of the Court if th nominal stockholders directed the affairs of the constituent co panies that were broken up.

Q. As a matter of fact, Mr. Nease, do you know anything abo it, as to who holds the stock, where the control is or anything el with reference to the operations of the South Penn Oil Compan or of the Hope Natural Gas Company?

A. I have no definite information on the subject at this time.

Q. Do not let us qualify it by the word "definite." Have you an information at all on this subject? Are not you just giving yo guess or conclusion without any definite information on which base it?

A. Well, as I stated, I have no definite knowledge on th
2380 proposition. That is as fully as I would care to answer. can qualify the statement by saying that I have not seen th stock records.

Q. I beg your pardon.

A. I have not seen the stock records of the South Penn Oil Co pany. I believe, if I am not mistaken, that the stock of this co pany is sold as a subsidiary of the Standard Oil Company on th curb market.

(Mr. Steptoe:)

Q. You mean listed?

A. Listed.

Q. Did any of these other companies make up their reports as the quantity of their production in West Virginia and in oth states in the same manner and by the same method of computatio as did the Manufacturers Company?

A. They did not.

Q. Was it not understood with the Public Service Commission the Board of Public Works that they could make up their stat ments and estimates in that way?

A. It was.

An adjournment was here taken until Saturday, December 18, 1920, at 9.30 o'clock a. m.

2381 Supreme Court o fthe United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Morning Session, Saturday, December 18, 1920.

2382 Saturday Morning, December 18, 1920.

And now, the hour of 9:30 o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

CHARLES E. KREBS, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

(By Mr. Blue:)

Q. State please, your name, your age, residence and your profession.

A. Charles E. Krebs, 50 years, Charleston, West Virginia.

Q. Your profession?

A. General engineer and geologist.

Q. State your academic preparation for your profession.

A. I was student in a high school at New Martinsville, West Virginia, until 1886, after which I taught school for 3 years, and in 1889 entered the West Virginia University, and graduated there in 1894 with degree of bachelor of science in Civil Engineering.

Q. Following your graduation from the University of West Virginia, what did you engage in?

A. From 1894 until 1895 I was transit man on the railroad, survey and topographic work, in West Virginia. In 1895 and 1896 I was resident engineer on the construction of railroad, known as the Charleston, Clendenin & Sutton. It is now known as the
2383 Coal & Coke and owned by the Baltimore & Ohio Railroad. In 1897 until 1900 I did general engineering work and con-

struction work and also prospecting and developing coal properties. In 1900 I became a member of the firm of Clark & Krebs, civil and mining engineers, and for the next five years did a general mining, engineering and development work of coal properties in Fayette, Kanawha and Raleigh Counties, West Virginia. In 1901 I was appointed by the Governor of West Virginia as a member of the Board of Examiners of district mine inspectors and still did my work as mining engineer. In 1906 I was appointed on the staff of a Board of Examiners of Mine Foremen for West Virginia and from there on until 1909 did a general engineering work in the development of coal properties. In 1909 I was appointed as assistant state geologist to Dr. I. C. White of the West Virginia Geological Survey, and I was assistant to Dr. White until 1913. My work consisted in gathering data for detailed geological reports that were published by the West Virginia Geological Survey under the direction of Dr. I. C. White, and along that line in 1911 I furnished the manuscript of a detailed geological report of the Counties of Jackson, Mason and Putnam and submitted that to Dr. I. C. White, State Geologist, for publication, and it was published shortly after. In 1913 I submitted the general information gathered in the field in manuscript form for the detailed geological report of Cabell, Wayne and Lincoln Counties and this was published shortly after. In 1914 I gathered the data for detailed geologic

2384 report of Kanawha County and submitted the same to the state geologist, Dr. I. C. White, for publication and same was published shortly thereafter. In 1915 I gathered the general detailed report data for geological report of Boone County, West Virginia and same was submitted in manuscript form to Dr. I. C. White for publication. In the latter part of 1915 and early part of 1916, I completed the geological work in the field and gathered the data together in manuscript form of Raleigh, Mercer and Summers counties, of West Virginia. During the period 1909 to 1916 my work took me over a part of the State of West Virginia, having done some work in Wood County, some in Ritchie County and some in Pleasants County, also in Clay and Roane Counties, West Virginia. In 1916 I took up the general geological work leaving the West Virginia Geological Survey, and during the year 1917 my work was in West Virginia, Ohio and some of Kentucky, in which I did considerable work in studying the general structure of oil and gas, for different operating companies. In 1918 I continued on the same work in West Virginia, Ohio and Kentucky. In 1919 I worked along the same line in Ohio, West Virginia, Kentucky, Texas and Louisiana. In 1920 I am still continuing the same that I have and have during the past year done work in West Virginia, in Ohio, Kentucky, Texas, Louisiana, Mississippi, and a little work in Florida.

2385 Q. To what, in particular, did the data collected by you in the years 1911 to 1916 relate?

A. It related to the general—the study of the general structure of the different counties of West Virginia, making our structure maps on which we indicated the anticlines and synclines, and in

gathering data for oil and gas wells, their records, elevations, studying the sands where we could get production.

Q. You mean the oil and gas sands?

A. Yes, and also in making examination of the coals, taking samples and making analyses of the same.

Q. You have stated that the reports of your examinations were submitted to Dr. I. C. White, the State Geologist. When you submitted them to Dr. White, what did he do with them and what finally became of the written reports or the substance of your written reports?

A. Dr. White went over these reports, read them, and where he felt that the facts were possibly stated a little different from what we had stated them, he would use a blue pencil on some points; or in other words, he O. K.'d our work after making such corrections as he saw were necessary.

Q. And then were those reports published?

A. They were.

Q. In what publication?

A. In the West Virginia Geological Survey publications.

2386 Q. What is the West Virginia Geological Survey Department, what do you mean by that?

A. The West Virginia Geological Survey is a branch of the—I don't know whether you would call it of the utilities or of the state officials of the state, in which we have an organization with a state geologist and several assistants, in which they are gathering, collecting and publishing data from time to time on the geological work of West Virginia and getting it in form for use for the public for distribution and for sale, and the publications have been commented on by a number of state geologists that personally told me that they were the best publications of any state in the union.

Q. These publications are in book form?

A. They are.

Q. Permanently bound?

A. They are.

Q. Printed at the expense of the State of West Virginia as public volumes?

A. Yes, sir. This is the form of the book (indicating book).

Q. So your work with the West Virginia Survey has brought you into actual personal experience and examination with and of the minerals of West Virginia, including the oil and the gas?

A. Yes, sir. And particularly oil and gas owing to the fact—our theory of anti-clines and syn-clines, we attempted to

2387 study the structure carefully, and make structural maps showing the location of these anti-clines and syn-clines, also the probable location of oil and gas pools.

Q. Does the West Virginia Geological Survey publish or has it been publishing maps showing the results of the labor of yourself and others connected with the Geological Survey?

A. It does. Each detailed report usually has three maps accompanying the same, one a topographic map of the work embraced in the survey, the other this same topographic map with the

location of the oil and gas wells on same, the out-crops of the coal seams and the anti-clines and syn-clines and their structure that is found in the study of the work in the field, and the third map is a soil map that is made under the direction of the United States government, showing the different soils in the area studied.

Q. Are these maps published and are they of a public nature?

A. They are.

Q. Do you know whether they are usually relied upon by those engaged in or proposing to engage in the business of mining coal, and oil and gas?

A. They are.

Q. You have stated that in 1914 you gathered data and made report for Kanawha County. I wish you would state, if you can, whether the work—the work and the things indicated by that report, have since been verified by actual experience.

2388 A. It has. The map especially that we prepared showing the structure of the County of Kanawha. At that time there was very little development in the oil and gas except in the Blue Creek field of West Virginia. The great Cabin Creek field nor the Kelly's Creek field had not been discovered. The structural map made by our survey under my work and direction showed the general structure of the Cabin Creek field, also of the Kelly's Creek field. Since that time a number of wells have been drilled in the Cabin Creek field, also in the Kelly's Creek field producing oil and gas and the structure has appeared verified as shown by our survey previous, before any development was made.

Q. Of what size and importance is this Kelly's Creek field that you refer to?

A. The Kelly's Creek field covers, its oil and gas covers, an area of several thousand acres. The oil drilled so far does not cover a very large area but has produced a considerable quantity of oil.

Q. Of what importance or size is the Cabin Creek field?

A. The Cabin Creek field is at this time possibly one of the largest developed oil fields in West Virginia. The Berea sand which is producing the oil has been developed for a distance in a northeast and southwest direction of more than ten miles, from the waters of almost Kanawha River and across the divide of Cabin Creek and Paint Creek beyond the waters of Coal River, and the sand

2389 appears to be very rich, and being fine grained has a long life to its production.

Q. Is the field large enough to justify the establishment of any refinery or other manufacturing establishment in respect to oil?

A. Yes, there is a large refinery built near the mouth of Cabin Creek just a little bit to the north of the oil field.

Q. By what company?

A. By the Pure Oil Company, formerly the Ohio Cities Gas Company.

Q. Do you know the capacity or the size of that refinery?

A. I cannot give the exact size, but it has a capacity of from 5,000 to 10,000 barrels of oil per day.

Q. Refined oil?

A. Crude oil to be refined.

Q. Do you know whether any of the other work that you did in the years you have referred to from 1911 to 1916 has been since verified or demonstrated by experience?

A. It has in a number of counties where I have worked, Jackson, Lincoln and Wayne Counties, and during that time—I also have made then and since the location of a number of wells, oil and gas, for clients for myself, — of mine.

Q. I was going to ask you that question, whether independently of the development of those fields that you have indicated in your structural maps and reports, what your experience has been as an engineer, geological engineer for others engaged in or pro-

2390 posing to engage in drilling for oil and gas.

A. On the data from those maps I have made a number of locations for oil and gas for different operating companies.

Q. Is that part of your work at this time?

A. It is.

Q. You referred also to work that you did in Ohio and your study of oil and gas structures in that state. Will you state in a brief way the general character and the locations in Ohio covered by your work?

A. I did considerable work for the Logan Natural Gas Company and the Preston Oil Company of Columbus, Ohio, and in that made locations, and studied the structure and the general data from a point 60 miles south of Cleveland in a southwest direction through Ohio to practically the Ohio River, and made some locations for oil and gas wells for them.

Q. You have also referred to general geological work, the study of oil and gas structures in the State of Kentucky. Will you give in a brief way the character of such work and the locations in the State of Kentucky examined by you?

A. I did the same kind of work in several counties of Kentucky, among which are Breathitt, Johnson, Magoffin, Lawrence and Martin Counties, and I worked for several companies, among which are the Preston Oil Company, did some work for them there.

Q. About how long were you engaged in the work in Kentucky?

A. I have been off and on at different intervals for the last

2391 ten years working in Kentucky at different times, studying the coal and the oil and gas, oil and gas particularly for the last 5 or 6 years, through different sections.

Q. For what persons or company did you make these examinations and do such work in the State of Kentucky?

A. For a number of different persons, clients, one of them being the Logan Natural Gas Company or the Preston Oil Company, and then for different clients, for smaller companies.

Q. You have also referred to general geological work in the States of Texas and Louisiana. Give just in a short way the localities of Texas and the character of the work you did and for whom.

A. The work done in Texas was principally for a company that I was interested in myself, the Chesapeake Oil & Gas Company. I

made a location and looked after the drilling of a well in Wichita County about five miles northwest of Burkburnett. We drilled in three wells on my location there. Then I also studied the structure in several counties in Texas, among others being Eastland, a little in Limestone County and in Harrison County, Texas, and that was the main points that I did my work in, in Texas. In Louisiana I did some work for a client in the Homer oil field, or rather, condemned some property there for him, which since has proven that it was of no value as oil and gas property, and I made location for oil, or rather for gas, about 30 miles south of Shreveport
2392 along the Red River for Godfrey Cabot as a carbon plant, and some wells have been drilled there since.

Q. What was the result of the drilling of the wells in Texas upon the location referred to by you.

A. The 3 wells that we drilled there came in producers for oil and gas and are still producing.

Q. You also referred to work that you have done in the states of Mississippi and Florida, state, please, in what parts of Mississippi and Florida you worked, and the character of the work and for whom.

A. I worked for one of my clients, a large company studying the structure from a point about 100 miles north of Jackson, Mississippi, south to Jackson, Mississippi, and made one location that I understand they are drilling on at this time.

Q. How about Florida?

A. In Florida I studied the structure for a small concern who have land adjoining to wells, that is being drilled down there, has been drilling for the last year near Chipley, Florida.

Hearing adjourned to be resumed on the 4th day of January, 1921, in the United States District Court Room, Charleston, West Virginia, all other and further notice thereof being waived by counsel for the respective parties.

2393

ORIGINAL, #20 & #21.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Proceedings of January 6-8, 1921.

Morning Session, Thursday, January 6, 1921.

Defendant's Testimony.

2394 By agreement of counsel the hearing set for the 4th day of January, 1921, was continued until Thursday, the 6th day of January, 1921, at ten o'clock, a. m., to be then resumed at the United States District Court Room, in the City of Charleston, West Virginia.

Thursday Morning, January 6, 1921.

Pursuant to adjournments heretofore noted hearing was this Thursday, the 6th day of January, 1921, resumed, at the hour of ten o'clock, a. m., in the United States District Court Room in the City of Charleston, West Virginia.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.
On behalf of the State of Ohio, Freeman T. Eagleson, Esq.
On behalf of the State of West Virginia, George M. Hoffheimer, Esq., Philip P. Steptoe, Esq., Fred O. Blue, Esq.

2395 CHARLES E. KREBS, a witness on behalf of the State of W Virginia at the time of the adjournment of the 18th da December, 1920, resumed the witness stand.

Direct examination (con'd).

(By Mr. Blue:)

Q. Are you acquainted with the work of the United States Geo cal Survey?

A. I am.

Q. State in a few words what the United States Geological su is, what it means, and what it does.

A. It is a department organized under the Department of Interior of the United States, with its main office at Washing D. C., and in its organization it has a Director of said Survey, different employes, geologists, auditors, and engineers, etc. Its pose is to make surveys, topographic and otherwise of the bound of the holdings of the United States and this is scattered over entire United States. They furnish maps, reports and other pertaining to different parts of the United States, and the pur is to eventually map the entire United States in topographic f Some states have joined in with them by appropriation and ass so as to get their states mapped up sooner than would be done were dependent upon the moneys furnished by the United St This is true of West Virginia. For the past twenty years the l lature has each year appropriated a certain sum of money tha expended in conjunction with the United States Geolo

2396 Department in making topographic maps of the state; tha assisted the State of West Virginia in getting accurate veys of the different portions of the state, so that there is practic less than twenty per cent of West Virginia now that is not surv on the scale of one mile equals one inch, in topographic work. United States Geological Survey also has made different geolog surveys of West Virginia, and especially one part of their wor the compilation of the mineral resources of the United States. comprises the production of gold, silver, all the precious metals coals, salt, iron, and oil, gas, and the by-products of the diffe minerals that are produced in the United States. These compilat are published by said survey annually and are for distribution am the people of the United States.

Q. Who is the director of this work?

A. At present George Otis Smith is the director of the Un States Geological Survey.

Q. You mean he is the national director?

A. National direct-.

Q. What is the latest year available giving date of the Un States Geological Survey in respect to gas—natural gas?

A. The latest data is 1918, although the 1918 reports on oil gas are not yet officially published for distribution, but advance co have been published that can be obtained.

2397 Q. Have you obtained advance copies for the year 1918 in respect to natural gas?

A. I have.

Q. Can you state the method used by the United States Geological Survey to obtain or procure information of the quantities of gas produced in the several states?

A. They have several methods to obtain this. The first method is by sending a blank questionnaire or report to be filled out by each producer and operator of oil and gas. This is filled out by them and sent to said Department, and from which the general data is compiled. If not all the operating companies or individual operators report, they have field men that they send out into the field and into the main points to ascertain if they have a list of all the companies and all the operators, and then to take up with those that have not reported and go in person and get such report from them, so as to include as near as possible every producer of oil and gas within the boundary of the state.

Q. Who is meant by or included in the term "producer"?

A. Those operating oil and gas wells whether they own them or whether they buy the gas, and those owning oil and gas wells are also included and are classified either as owners or operators.

Q. Does the United States Geological Survey undertake to ascertain how much of the gas produced in the State is used for industrial and domestic purposes?

2398 A. They do.

Q. Does the publication, or do the publications of the United States Geological Survey undertake to give public information of the amount of gas fuel used for industrial and domestic purposes in the several States?

A. They do.

Q. Are you acquainted with and can you state what items or particular uses are included in the classification of industrial gas as industrial gas is classified by the United States Geological Survey?

A. I can.

Q. Will you do so, please?

A. Under industrial consumption they have first, for fuel in manufacturing plants making iron, steel, glass, brick, pottery, cement, and any metallurgical work, etc.; second, for fuel in field for drilling and pumping; and third, for material for making carbon black; and they also—they have under the head of material for making natural gas from gasoline, also.

(Mr. Weil:)

Q. It is just the other way, is it not?

A. Making gasoline from natural gas, I guess we will put it that way. For using natural gas for gasoline, is what I really intended to say.

Q. Have you examined, and informed yourself by such examination, the quantity of gas produced for each of the years 1914 to

1918, inclusive, in the State of West Virginia as shown by the United States Geological Survey?

2399 A. I have.

Q. Do you have the published reports of the United States Geological Survey which you examined and from which you ascertained the quantity of gas for each of the years mentioned in the preceding question?

A. I have for the year beginning with 1906 and ending with 1918.

Q. You have those reports present with you?

A. I have.

Q. They are printed reports furnished by the Survey itself?

A. Yes, sir.

Q. Those reports contain a great deal of information and a great deal of data other than that in respect to natural gas?

A. Yes, sir.

Q. Are they or are they not rather large and voluminous?

A. They run in pages from 20 pages up to 70 pages, every report.

Q. For each report?

A. For each report.

Q. Printed pages you mean?

A. Yes, sir.

Q. Will you please state the quantity of gas produced in the State of West Virginia for the years 1914 to 1918 and each year, inclusive, as shown by the United States Geological Survey

2400 reports?

Mr. Weil: This is objected to unless the reports themselves are put in evidence and then a summary thereof given by the witness, the reports being the only evidence of their contents. We have no objection to the witness stating his summaries from those reports if the reports are first put in evidence in the case.

The objection as made is withdrawn with the understanding that the witness will refer to the special report of the Geological Survey, so that counsel may have the opportunity of examining the same for the purpose of cross-examination or any other proper purpose.

A. "The Production of Natural Gas" by John D. Northrop, issued by the Department of the Interior, United States Geological Survey, Mineral Resources of the United States, calendar year 1914, published December 15, 1915, pages 747-818, shows the production in 1914 to be 236,489,175 M cu. ft. Same title, for the calendar year 1915, dated December 29, 1916, shows the production in 1915 to be 244,004,159 M cu. ft. Same title, for the year ending December 31, 1916, published May 4, 1918, shows the production in 1916 to be 299,318,907 M cu. ft. Same title, for the calendar year 1917, published on September 20, 1919, shows the production in 1917 to be 308,617,101 M cu. ft. From the advance copy of "Natural Gas Produced and Consumed in the United States in 1918," for the calendar year ending December 31, 1918, 265,160,917 M cu. ft. In all of the figures given this notation is included "Includes gas piped from West Virginia and Consumed in Maryland."

2401 Q. As your answer is long, and to make it clear and concise, we understand from your answer that the quantities for the respective years are as follows: for 1914, 236,489,175 M cu. ft.; for the year 1915, 244,004,159 M cu. ft.; for the year 1916, 299,318,907 M cu. ft.; for 1917, 308,617,101 M cu. ft.; for the year 1918, 265,160,917 M cu. ft. State, please, if our understanding is correct.

A. It is.

Q. Have you informed yourself from the official reports of the United States Geological Survey and are you prepared to state therefrom the quantities of gas consumed as industrial and domestic gas in the state of West Virginia for the years 1914 to 1918, inclusive?

A. I have.

Q. State, please, the quantity of gas used for industrial and domestic purposes during the years 1914 to 1918, inclusive, within the State of West Virginia as shown by the official reports of the United States Geological Survey, identifying, if you can, the reports from which you derived such information.

A. This information was obtained from the same reports as the total production just given, and for the year 1914 the total amount of industrial gas consumed was 78,423,546 M cu. ft.; for domestic purposes 17,023,701 M cu. ft., making a total consumption in West Virginia of natural gas for the year 1914 of 95,447,247 M cu. ft.

For the year 1915, the industrial was 77,083,600 M cu. ft.

2402 domestic was 17,893,105 M cu. ft., making a total of 94,976,705 M cu. ft. For the year 1916, the total amount of industrial consumption was 86,324,137 M cu. ft., domestic was 18,799,871 M cu. ft., making a total of 105,104,008 M cu. ft. For the year 1917 the industrial was 94,230,183 M cu. ft.; the domestic was 21,258,009 M cu. ft., making a total of 115,488,192 M cu. ft. For the year 1918 the industrial was 87,704,820 M cu. ft.; the domestic was 20,968,624 M cu. ft., making a total of 108,673,444 M cu. ft. Now in this consumption the same thing refers in regard to the other. It includes the gas piped from West Virginia and consumed in Maryland.

Q. Do you mean that the consumption of gas in West Virginia as shown in the figures just stated by you includes in that gas produced in West Virginia piped to be consumed in the State of Maryland?

A. It does.

Q. Have you undertaken to inform yourself of the quantity or quantities of gas produced in West Virginia piped to and consumed in the State of Maryland but which is included in the quantity stated as consued in the state of West Virginia?

A. I have.

Q. Where did you get the information?

A. From the Public Service Commission, from the statistician of the Public Service Commission and the records in their office.

(Mr. Weil:)

Q. Of what state?

2403 A. West Virginia.

Q. To what records do you refer?

A. To reports sent to the Public Service Commission and filed in their office.

Q. You mean by the company which produced the gas in West Virginia but transported it to the State of Maryland?

A. Yes.

Q. Did you examine the reports made by that company to the Public Service Commission of West Virginia?

A. I did.

Q. Did you obtain from that examination information as to the quantities produced in West Virginia but carried into the State of Maryland for consumption there?

A. I did.

Q. Will you state from your examination of such records the quantities of gas consumed in Maryland for industrial and domestic purposes but included in the United States Geological Survey as consumed in the State of West Virginia?

A. I will. For the year 1914 the total amount of industrial gas consumed in Maryland and piped from West Virginia was 3,035,661 M cu. ft., for domestic purposes 784,424 M cu. ft., making a total of 3,820,085 M cu. ft. For the year 1915 the industrial gas was 1,918,270 M cu. ft., for domestic purposes was 842,773 M cu. ft., making a total of 2,761,043 M cu. ft. For the year 1916 the industrial was 1,457,272 M cu. ft., the domestic was 900,145 M cu. ft., making a total of 2,357,417 M cu. ft. For the year

2404 1917 the industrial was 149,387 M cu. ft., the domestic was 707,547 M cu. ft., making a total of 856,934 M cu. ft. For the year 1918 the industrial was 456,789 M cu. ft., the domestic was 628,710 M cu. ft., making a total of 1,085, 499 M cu. ft.

Q. Do the official reports of the United States Geological Survey for the years 1914 to 1918, inclusive, show the quantities of industrial gas consumed in West Virginia for manufacturing and power purposes and for the manufacture of carbon black?

A. For the year 1914——

Q. Interrupting:) I am asking you whether those reports show that.

A. Yes, sir.

Q. The same reports give that information as the ones from which you have given the quantities produced in West Virginia?

A. Yes, sir.

Q. Have you from such reports ascertained and are you able to state the quantities used for the years 1914 to 1918, inclusive, for manufacturing and power purposes and for the making of carbon black?

A. I can.

Q. To make it clear, I mean have you ascertained from the same official United States Geological reports for the years 1914 to 1918

inclusive, the information in respect to the quantities consumed for manufacturing and power purposes and the manufacture of carbon black, as you used in getting your information as
2405 to the production in West Virginia for those years?

A. I have.

Q. I hand you a blue print headed "Chart Showing Consumption of Natural Gas for Industrial Purposes in the State of West Virginia, including gas sold in Maryland during 1914, 1915, 1916, 1917 and 1918," and which for the purpose of identification will be marked West Virginia Exhibit No. 20, and also a chart showing consumption of natural gas for industrial purposes in the State of West Virginia (exclusive of Maryland) during 1914, 1915, 1916, 1917 and 1918, and which for the purpose of identification will be marked West Virginia Exhibit No. 21; and ask you to state whether you made these charts or had them made under your supervision and direction.

A. I had these made under my supervision and direction and verified them.

Q. Where did you get the information or the facts or the data from which these charts were made?

A. For Exhibit No. 20, the one including gas sold in Maryland, I obtained this from the United States Geological Reports referred to in my previous testimony.

Q. You mean for the years 1914 to 1918, inclusive?

A. Yes, sir.

Q. And already referred to by you?

A. Yes, sir. For Exhibit No. 21, chart showing consumption of natural gas for industrial purposes in the State of West Virginia, exclusive of Maryland, I obtained the data for the years 1914
2406 to 1918 from the United States Geological Survey, and for the amount of gas consumed in Maryland from the Public Service Commission of West Virginia.

Q. When you said for the years 1914 to 1918, you meant for the year 1914 to '18 and inclusive of the years 1914, 1915, 1916, 1917 and 1918?

A. Yes, sir.

Q. The Records of the Public Service Commission to which you refer are the records referred to by you a while ago when you stated the quantities of gas ascertained by you to have been produced in West Virginia but shipped to and consumed in the State of Maryland?

A. Yes.

Q. I wish you would explain Exhibit No. 20, the one including gas sold in Maryland, and particularly in what way you read the percentages shown in the last two columns of the exhibit.

A. The first column is percentage of total consumption within West Virginia, and the second is the percentage of total production of gas within West Virginia, and the total industrial consumption would be 82.42% of the total consumption of gas in West Virginia and Maryland, and this would be 33.03% of the total production of gas in West Virginia for the year 1914.

Q. You mean by the first column to show that 82.42% of the gas consumed in West Virginia in 1914 was consumed for and is industrial consumption?

A. Yes, sir.

2407 Q. And in the second column that the gas consumed in West Virginia as industrial consumption was 33.03% of the total production in West Virginia?

A. Yes, sir.

Q. You may proceed with your further answer.

A. And in 1914 the amount of gas consumed for manufacturing purposes was 36.80% of the total consumption.

Q. In West Virginia?

A. Of West Virginia, and 14.72% of the total production of West Virginia. And the amount consumed in the field for power, under boilers, gas engines and other purposes was 22.82% of the total consumption in West Virginia or 9.19% of the total production, and the amount used for carbon black was 22.80% of the total consumption in West Virginia or 9.12% of the total production, for the year 1914. For the year 1915 the total consumption for industrial purposes was 81.15% of the total consumption of West Virginia or 31.59% of the total production of said state, and for manufacturing purposes 39.26% of the total consumption was utilized and 15.28% of the total production. For the year 1915 the amount of gas used in the field for power, under boilers, gas engines, etc., was 21.90% of the total consumption or 8.52% of the total production, and the amount used for carbon black was 19.99% of the total consumption or 7.79% of the total production of West Virginia. For the year 1916 the total industrial consumption was 82.13% of the total consumption.

Q. In the State of West Virginia?

2408 A. In the State of West Virginia. Or 28.82% of its total production. The manufacturing for the same year was 36.27% of the total consumption or 12.74% of the total production. The amount for power, under boilers, gas engines, etc., was 23.52% of the total consumption or 8.24% of the total production, and the amount used for carbon black was 22.34% of the total consumption or 7.84% of the total production of gas in West Virginia for 1916. For the year 1917 the total industrial consumption was 81.59% of the total consumption in West Virginia or 30.53% of the total production in West Virginia. For manufacturing purposes the amount utilized was 36.78% of the total consumption or 13.76% of the total production. The amount of gas used for field power, boilers, gas engines, etc., was 20.32% of the total consumption or 7.60% of the total production in West Virginia. The amount utilized for carbon black was 24.49% of the total consumption or 9.17% of the production in West Virginia. For the year 1918 the total industrial consumption of gas utilized in West Virginia was 80.70% of the total consumption or 33.08% of the total production. The manufacturing was 26.40% of the total consumption or 10.87% of the total production. Field power, boilers, engines, etc., was 23.00% of the total consumption or 9.39% of the total

production. The amount utilized for carbon black was 31.30% of the total consumption or 12.82% of the total production of gas in West Virginia.

Q. Now as to Exhibit No. 21, the one showing the consumption of natural gas for industrial purposes in the State of West
2409 Virginia, exclusive of Maryland, state or explain the columns showing your per cent of total consumption and your per cent of total production.

A. For the year 1914 the total industrial consumption was 82.55% of the total consumption or 31.88% of the total production; for manufacturing 34.97% of the total consumption or 13.51% of the total production; for power in field, boilers, gas engines, etc., 23.81% of the total consumption or 9.18% of the total production; for carbon black 23.77% of the total consumption or 9.19% of the total production. For the year 1915 the total industrial consumption was 81.51% of the total consumption or 30.80% of the total production in West Virginia. For manufacturing the per cent of total consumption was 38.36% or 14.50% of the total production. For field power, boilers, gas engines, etc., the per cent of the total consumption was 22.56% or of the total production 8.53%. For carbon black the per cent of the total consumption was 20.59% or the per cent of the total production was 7.77%. For the year 1916 the total industrial consumption was 82.60% of the total consumption or 28.35% of the total production in West Virginia. For manufacturing purposes was used 35.69% of the total consumption or 12.25% of the total production. For power in field, boilers, gas engines, etc., the percentage of total consumption was 24.07% and the percentage of total production was 8.26%. For carbon black the percentage of total consumption was 22.84%, the percentage of total production was 7.84%. For the year 1917 the total amount of industrial gas consumed
2410 in West Virginia was 82.07% of the total consumption or 30.48% of the total production. The total amount of manufacturing gas used was 36.83% of the total consumption or 13.68% of the total production. For field power, boilers, gas engines, etc., the gas used was 20.47% of the total consumption or 7.60% of the total production. Gas for carbon black was 24.77% of the total consumption or 9.20% of the total production. For the year 1918 the total industrial consumption was 81.09% of the total consumption or 32.90% of the total production. The total manufacturing was 26.38% of the total consumption or 10.70% of the total production. Field, power, boilers, gas engines, etc., was 23.12% of the total consumption or 9.38% of the total production. The carbon black was 31.59% of the total consumption or 12.82% of the total production.

Q. I notice that in giving your percentages of total production that there is a slight variation for the years 1914, 1915 and 1917 in respect to carbon black. While these variations are very small, can you explain how they occurred?

A. The percentages were worked out independently for each year and the figures consist of three columns of nine figures or more.

Often a slight mechanical error occurs in the calculation, and these figures should be the same, but the error was simply made in making the calculation.

Q. In other words, the last figure in the column of percentages is at least the third figure from the ordinary decimal point and a very slight change would occasion these slight variances?

2411 A. Yes, sir.

Q. In other words they would have to be carried out into far numbers so as to make it exactly mathematically correct?

A. Yes, sir.

A recess was here taken until 2:00 o'clock, p. m.

2412 Supreme Court of the United States, October Term, 1919

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Afternoon Session, Thursday, January 6, 1921.

Defendant's Testimony.

2413 Thursday Afternoon, January 6, 1921.

And, now, the hour of 2:00 o'clock, p. m., having arrived, hearing resumed, pursuant to adjournment.

C. E. KREBS resumes the stand.

Direct examination (continued).

Mr. Blue:

Q. I will ask you to explain, or state more fully than you have yet perhaps done, the figures included in the item of power and particularly so in respect to that item where you use it with the word "Field" before it on West Virginia Exhibits Nos. 20 and 21 and in answering this, state what you understand from the United States Geological Survey reports, the item covered within that term.

A. I understand that the item marked "Field, Power, Boilers Gas Engines, etc.," is the amount of gas that was consumed in the oil fields in the development of power in drilling wells, pumping

etc., and also for gas that was utilized in boilers and gas engines whether they were in the oil fields or whether they were at some other convenient point.

Q. Do you have knowledge of the relative amount of this power that is consumed, or was consumed, in the fields for drilling and pumping?

A. I have not.

Q. Do the United States Geological Survey reports in any way indicate the relative amount of gas consumed in the field for drilling and pumping oil wells, or whatever the gas may be used
2414 for by the producing companies or the producers?

A. Not definitely.

Q. In the Exhibits 20 and 21, you have set forth the quantities of gas consumed in the years 1914 to 1918, inclusive, for carbon black. Do you know, from your own personal knowledge, as an engineer and geologist, and from your experience in different parts of West Virginia where the gas is generally used in the making of carbon black, I mean its location in respect to the gas fields generally?

A. It is usually located at some isolated field or a place that is some distance from the market where it could be consumed.

Q. You mean from any and all markets, or from a local market?

A. From a local market.

Q. If it were to be used for domestic or manufacturing purposes, then it would have to be transported by pipe lines, or delivered to existing pipe lines for such uses?

A. Yes, sir.

Q. Do you know, from your experience as an engineer and geologist, what pressure, if any, is required to utilize natural gas in the making of carbon black?

A. It usually is very low pressure, in fact, it is eventually, where it is finally used, the pressure is less than one pound per square inch.

Q. State, if you know, whether gas from wells that have lost their pressure and lost it to the extent that they cannot
2415 be utilized practically for supplying pipe lines, or general uses, can be used in carbon plants, and for the making of carbon black?

A. It can, as lon- as it has pressure enough*t* to be transported through the pipes of its own accord.

Q. That pressure, as a general rule, need be what, as a general maximum?

A. It can be very low. Much lower than it could be put into large transporting pipes.

Q. From your knowledge and experience as an engineer and geologist and your knowledge of the fields of West Virginia, can a gas well, whose quantity and pressure have been so reduced as to be no longer practically valuable for furnishing gas to pipe lines in domestic and manufacturing purposes, be used and utilized for the manufacture of carbon black?

A. It can.

Q. As long as a well has a flow of gas of a very low pressure, is it practicable to use it for the purpose of manufacture of carbon black?

A. It is.

Q. And is it practicable to use it for the purposes of putting it into the transportation lines for domestic and manufacturing purposes?

A. It is not, unless mechanical means are utilized to put it in; compressor stations, to pump the gas.

Q. If the quantity of it is small, is it practicable to undertake to put it in the line by pressure?

2416 A. It might not be profitable to do so if you have a small amount of gas.

Q. Would it be profitable to use that small amount of gas, however, for the making of carbon black?

A. It can be used, yes, sir.

Q. Do you know whether, as a fact, carbon black is made from gas taken from the wells of public utilities?

A. I do not.

Q. Do you know, as a fact, from your knowledge of West Virginia, whether those engaged in the manufacture of carbon black, buy the gas from utilities or do they acquire it, or produce it from their own territory?

A. As far as I know, they produce it from their own wells. There may be some plants that are buying it from some wells that have been drilled by local capital or small companies, but I do not know of any carbon plant that is buying gas from the large utilities.

Q. What is carbon black, and what is it used for?

A. Carbon black is a pure flocculent form of carbon manufactured from natural gas. It is made by burning the gas under a very low pressure and a low flame, and not enough air is admitted to produce complete combustion, with the result that the unconsumed carbon is deposited on a roller plate from which this carbon is removed.

Q. Do you know where it is manufactured?

A. It is manufactured in West Virginia, in Oklahoma, Louisiana, Wyoming and possibly, or probably, in one or two places

2417 in Pennsylvania, but I am not sure of the latter.

Q. What is it used for?

A. The uses of carbon black are, First; for printers' ink, and, Second, for automobile tires, both pneumatic and solid; for black and gray paints; for ships' structural iron; for carbon paper; typewriter bibbons, phonograph records; tarpaulins having black leather, paper book binders' boards; for buttons, shoe polish, stove polish, electrical compositions, cameras, crayon, and many other things that are manufactured from carbon black.

Q. Have you any information of the total quantities of it manufactured to the United States?

A. It is estimated that there are, approximately, forty to forty-three million pounds of carbon black manufactured per year.

Q. Where did you get that information?
A. From the U. S. Bureau of Mines.
Q. Out of the same official volumes of the reports that you used a while ago?
A. No, the U. S. Bureau of Mines is another department of the Department of the Interior.
Q. Have you examined their reports as to the quantities of carbon black manufactured?
A. I have.
Q. Of that total quantity, have you information as to the part of it, or the quantity of it, made in the State of West Virginia?

2418 A. It is estimated that there is possibly, about three-fourths of all the carbon black manufactured in West Virginia.

Q. Of the forty million pounds of it manufactured annually, can you state the principal industries in which it is used and the quantities of it each of these industries use?
A. It is estimated that the rubber industry uses 20,000,000; printers' ink about 10,000,000, for exportation purposes about 8,000,00-, stove polish 4,000,000, phonograph records, about 1,000,000, and the remaining 500,000.*00* or more, is utilized for other purposes that I mentioned.
Q. Of the carbon black made in the State of West Virginia, do you know whether it is used, all of it, or any part of it, in the State?
A. There is a very little bit of it used within West Virginia.
Q. Where, and for what purpose, do you know?
A. It is used for some of the rubber plants that are starting up, and possibly, for some shoe polish and stove polish, is about all.
Q. None of these rubber plants in West Virginia are in operation yet, are they?
A. I do not know, unless there is one at Wheeling. There is none in this part of the State.
Q. So that practically all of the carbon black manufactured in West Virginia is used outside of the State?
A. It is.

2419 Q. Do you know whether the use of gas, for the making of carbon black, is increasing or decreasing in the State of West Virginia.

A. From the statistics I have obtained, I think it is decreasing within West Virginia.
Q. Have you made an examination of the official public reports of the United States Geological Survey to ascertain the quantities of production of natural gas in the states of Pennsylvania, Ohio, Indiana, and Kentucky?
A. I have.
Q. I have heretofore asked you to state the quantities of gas produced in the State of West Virginia, for the years 1914 to 1918, inclusive, as shown by the United States Geological Survey reports, and the amount consumed in the State for industrial and domestic purposes, for each of the years. Will you state, please, the amount

of gas shown to be shipped out of the State of West Virginia for the years 1914 to 1918, inclusive, as shown by the reports referred to?

A. For the year 1914, the amount of gas shipped out of West Virginia was 141,341,928 M cubic ft.

Q. What percentage was that of the total production?

A. 59.77 per cent. For the year 1915, there was shipped out of West Virginia 149,027,454 M cubic ft. or 61.08 per cent of the total production. For the year 1916, there was shipped out of West Virginia 194,214,899 M cubic ft. of gas, or 64.90 per cent of the total production. For the year 1917, there was shipped out
2420 of West Virginia 193,128,909 M cubic ft. or 62.58 per cent of the total production. For the year 1918, there was shipped out of West Virginia 157,487,473 M cubic ft. or 59.12 per cent of the total production of gas in the State.

Q. Are you able to state, from an examination of the United States Geological Survey reports the production of natural gas in the State of Pennslyvania and the consumption of natural gas in the State of Pennsylvania, including in your answer whether you can state the amount of gas shipped into the State of Pennsylvania?

A. I can.

Q. Are the official reports of the United States Geological Survey, from which you have informed yourself, respecting the production of natural gas in Pennsylvania, and the use of natural gas in that State for industrial and domestic purposes and the amount of gas brought into the State, the same from which you informed yourself respecting the production and consumption of gas in the State of West Virginia?

A. They are.

Q. And the ones you have already referred to and identified?

A. They are.

Q. I hand you a diagram of "Production And Consumption Of Natural Gas in the State of Pennsylvania during 1914, 1915, 1916, 1917 & 1918" which for identification, will be marked West Virginia Exhibit No. 22, and will ask you if the same was made up by
2421 you, or under your direction and supervision?

A. It was.

The State of West Virginia now files Exhibits Nos. 20, 21 and 22.

Q. From your examination of the reports of the United States Geological Survey and from the diagram which you have made, I will ask you to state the production of natural gas in the State of Pennsylvania for the years 1914, to 1918, inclusive, the quantities used in that State for industrial and domestic purposes, respectively, and the amount of gas purchased and brought into the State of Pennsylvania from the outside?

A. For 1914, the total production was 110,745,374 M. cubic ft. or 67.19 per cent of the total consumed. There was consumed in Pennsylvania for 1914, for industrial purposes 114,641,800 M. cubic ft. or 69.55 per cent of the total consumption. For domestic purposes there was consumed 50,192,742 M. cubic ft. or 30.45 per cent of the total consumption. The total consumption for the year was 164,-

834,542 M. cubic feet, and the amount imported was 54,089,168 M. cubic feet, or 32.81 per cent of the total consumption.

Q. What do you mean when you say "Gas imported"?

A. I mean gas shipped into Pennsylvania.

Q. From other States?

A. From other States. For the year 1915, there was produced in Pennsylvania 113,691,690 M. cubic feet, or 64.46 per cent of
2422 its total consumption. There was consumed for industrial purposes 125,018,851 M. cubic feet, or 70.89 per cent of its total consumption. There was consumed for domestic purposes 51,348,384 M. cubic feet, or 29.11 per cent of the total consumption. There was shipped or transported into Pennsylvania 62,675,545 M. cubic feet, or 35.54 per cent of its total consumption; for the year 1916, there was produced in Pennsylvania 129,925,150 M. cubic feet of gas and there was consumed in it for industrial purposes 145,854,898 M. cubic feet, or 72.40 of its entire consumption. There was consumed for domestic purposes 55,605,995 M. cubic feet, or 27.60 per cent of its entire consumption. There was shipped or transported into the State 71,535,743 M. cubic feet of gas, or 35.51 per cent of the total consumption. For the year 1917, there was produced in Pennsylvania 133,397,206 M. cubic feet, or 65.95 per cent of its total consumption. There was consumed for industrial purposes 139,123,715 M. cubic feet, or 68.78 per cent of its entire consumption. For domestic purposes, there was consumed 63,135,783 M. cubic feet, or 31.22 per cent of its entire consumption. There was consumed in the State for that year 202,259,498 M. cubic feet, and there was transported into the State 68,862,292 M. cubic feet, or 34.05 per cent of its entire consumption. For the year 1918, there was produced in Pennsylvania 123,813,358 M. cubic feet, or 69.89 per cent of its entire consumption. There was consumed for industrial purposes 117,300,074 M. cubic feet, or 66.28 per cent of its entire consumption. For domestic purposes there was consumed
59,839,730 M. cubic feet, or 33.72 per cent of its entire con-
2423 sumption. The entire consumption was 177,139,804 M. cubic feet; and the amount transported into the state was 53,326,446 M. cubic feet, or 30.11 per cent of its entire consumption.

Q. Have you prepared, or have you caused to be prepared, a chart showing the consumption of natural gas for industrial purposes in the State of Pennsylvania, showing the per cent of the gas produced in Pennsylvania used in and for industrial purposes?

A. I have.

Q. I hand you a blue print marked, for identification, West Virginia Exhibit No. 23, and I will ask you if that is the chart showing the per cent of consumption; that is, the per cent of the gas produced in Pennsylvania consumed in and for industrial purposes?

A. It is.

The State of West Virginia now files West Virginia Exhibit No. 23.

Q. Please explain West Virginia Exhibit No. 23 and particularly

the last column thereof, under the head of "Per cent of Total Production".

A. For the year 1914 the industrial consumption showed 69.55 per cent of the total consumption, or 103.52 per cent of the total production of Pennsylvania. This was classified into "Manufacturing", which shows a total consumption of 63.13 per cent of the total consumption of the State, or 93.98 per cent of its total production. For Field, Power, (Boilers, Gas Engines, etc.), the percentage of total consumption was 6.42 and the percentage of total con-
2424 sumption was 9.54 per cent. For the year 1915 the total industrial consumption was 70.89 per cent of its total consumption, or 109.95 per cent of its total production. For manufacturing there was 64.58 per cent of the total consumption used, or 100.23 per cent of its total production. For power (boilers, gas engines, etc.), the percentage of consumption was 6.31 of its total consumption, or 9.72 per cent of its total production. For the year 1916 the total industrial consumption was 72.40 per cent of the entire consumption, or 112.26 per cent of the total production of Pennsylvania. For manufacturing it was 65.31 per cent of the total consumption, or 101.27 per cent of the total production of Pennsylvania. The field, power, (boilers, gas engine, etc.), was a total percentage of 7.09 of its total consumption, or 10.99 per cent of its total production. For 1917 the total industrial consumption was 68.70 per cent of the total consumption, or 104.28 per cent of the total production of Pennsylvania. The manufacturing was 61.23 per cent of the total consumption, or 92.84 per cent of the total production. The power, field, (boilers, gas engines, etc.), was 7.55 per cent of the total consumption or 11.44 per cent of the entire production of the state. For the year 1918 the total industrial consumption was 66.28 per cent of the total consumption, or 94.74 per cent of the total production of Pennsylvania. The manufacturing was 58.88 per cent of the total consumption, or 84.24 per cent of the total production. The field, power, (boilers, gas engines, etc.), was 7.40 per cent of the total consumption
2425 or 10.50 per cent of the total production.

Q. Your column headed "Per Cent of Total Consumption" is based upon the total quantity of gas produced and imported or brought into the State of Pennsylvania?

A. It is.

Q. And your last column, headed "Per cent of Total Production," is based upon the production of natural gas in the State of Pennsylvania?

A. It is.

Q. Do the words "manufacturing" and "power" have the same meaning, and are they used in the same meaning and sense, as you used them in making your statements in respect to gas used for manufacturing and for power in the State of West Virginia?

A. They do and they are.

Q. In making your statements respecting consumption of gas in West Virginia, you included the gas consumed in making carbon

black. In your statements in respect to Pennsylvania you do not seem to have included carbon black. Will you explain why you have not?

A. I was unable to find any data in the United States Geological Survey Reports where carbon black was manufactured and the amount thereof through the years 1914 to 1918, inclusive.

Q. Have you made an examination of the United States Geological Reports to ascertain the quantity of gas produced in
2426 the State of Ohio, and the quantity of gas shipped into or imported into the State of Ohio, and the consumption thereof for industrial and domestic purposes for the years 1914 to 1918, inclusive?

A. I have.

Q. Have you made, or had made under your supervision and direction, a diagram of the production and consumption of natural gas in the State of Ohio, including the quantities shipped into the State of Ohio, for the years mentioned in the preceding question?

A. I have.

Q. I show you a diagram "of the production and consumption of natural gas in the State of Ohio," showing the amount produced and shipped into the State and the quantities used for industrial and domestic purposes, which, for indentification, is marked West Virginia Exhibit No. 24, and will ask you if that is the diagram you made or had made under your direction and supervision?

A. It is.

Q. Where did you get the information from which West Virginia Exhibit No. 24 is made?

A. From the published reports of the United States Geological Survey?

Q. The same reports from which you made and compiled your figures in respect to the State of West Virginia and in respect to which you have made your statements?

A. Yes, sir.

2427 The State of West Virginia now files her exhibit, marked West Virginia Exhibit No. 24, being a "Diagram of Production and Consumption of Natural Gas in the State of Ohio during 1914, 1915, 1916, 1917 and 1918".

Q. Will you please explain West Virginia Exhibit No. 24, what the figures in it indicate and what they mean?

A. For the year 1914 the State of Ohio produced 68,270,174 M. cubic feet of natural gas, or 49.53 per cent of its entire consumption. There was consumed within Ohio during that year for industrial purposes 66,515,215 M. cubic feet, or 48.06 per cent of its entire consumption. For domestic purposes there was 71,873,699 M. cubic feet, or 51.94 per cent of its entire consumption. The total consumption for that year in the state was 138,388,914 M. cubic feet. There was transported or shipped into the State of Ohio for that year 70,118,740 M. cubic feet, or 50.67 per cent of its entire production. For 1915 the amount produced in Ohio was 79,510,032 M. cubic feet

of natural gas, or 54.19 per cent of its entire consumption. Ther was consumed in that year for industrial purposes in that stat 69,337,444 M. cubic feet, or 47.46 per cent of its entire consumption For domestic purposes there was consumed 77,087,545 M. cubic fee or 52.54 per cent of its entire consumption. The total consumptio in Ohio for that year was 146,724,989 M. cubic feet. There wa transported into Ohio for that year 67,214,757 M. cubic feet, o 45.81 per cent of its entire consumption. For the year 1916 ther was produced in the State of Ohio 69,888,070 M. cubic feet, o
2428 41.24 per cent of its entire consumption. There was con sumed, for industrial purposes, that year 84,822,389 M. cubi feet, or 50.05 per cent of its entire consumption. For domestic pur poses there was consumed 84,657,622 M. cubic feet, or 49.95 pe cent of its entire consumption. There was consumed that year i Ohio 169,480,011 M. cubic feet of gas. There was transported int Ohio that year 99,591,941 M. cubic feet, or 58.76 per cent of its en tire consumption. For the year 1917 there was produced in Ohi 68,917,231 M. cubic feet, or 41.57 per cent of its entire consumptio There was consumed that year in Ohio for industrial purposes 64 197,917 M. cubic feet, or 38.72 per cent of its entire consumptio For domestic purposes there was consumed 101,584,452 M. cubi feet, or 61.28 per cent of its entire consumption; the entire con sumption for the year being 165,782,369 M. cubic feet. There wa transported into the State of Ohio for that year 96,865,138 M cubic feet, or 58.43 per cent of its entire consumption. For the yea 1918 there was produced in Ohio 61,261,069 M. cubic feet, or 42.6 per cent of its entire consumption. There was consumed in tha year for industrial purposes 45,561,594 M. cubic feet, or 31.73 pe cent of its entire consumption. For domestic purposes there wa consumed 98,023,666 M. cubic feet, or 68.27 per cent of its entir consumption. There was consumed in the state that year 143,585 260 M. cubic feet. There was transported into the state 82,324,19 M. cubic feet, or 57.34 per cent of its entire consumption.
2429 Q. I now hand you a chart showing consumption of na ural gas for industrial purposes in the State of Ohio, which for identification purposes, will be marked West Virginia Exhibi No. 25, and will ask you if that chart wa smade by you or unde your direction and supervision?

A. It was.

The State of West Virginia now files as part of the record "Cha Showing Consumption of Natural Gas for Industrial Purposes, in th State of Ohio, During 1914, 1915, 1916, 1917 and 1918", marke West Virginia Exhibit No. 25.

Q. Will you please explain the chart just introduced and filed a West Virginia Exhibit No. 25?

A. For the year 1914 the industrial consumption was 48.06 pe cent of its entire consumption, or 97.57 per cent of the total produc tion. For manufacturing purposes there was consumed 35.82 pe cent of the total consumption, or 72.76 per cent of the total produc tion. For field power, (boilers, gas engines, etc.), there was con

sumed 12.24 per cent, or 24.81 per cent of its entire production. For the year 1915 the total industrial consumption was 47.46 per cent of its total consumption, or 87.58 per cent of the total production of Ohio. For manufacturing purposes there was consumed 36.34 per cent, or 66.91 per cent of the total production of the state. For field power (boilers, gas engines, etc.), there was consumed 11.12 per cent, or 20.67 per cent of the total production. For the
2430 year 1916 there was consumed for industrial purposes 50.05 per cent of the total consumption, or 121.38 per cent of its total production. For manufacturing there was consumed 38.71 per cent of the total production. For field power, (boilers, gas engines, etc.), there was consumed 38.71 per cent of the total consumption, or 93.90 per cent of the total production. For field power, (boilers, gas engines, etc.), there was consumed 11.34 per cent of the total consumption, or 27.48 per cent of the total production of Ohio. For the year 1917 the total industrial consumption for Ohio was 38.72 per cent of the total consumption of gas, or 93.15 per cent of the total production of the state. For manufacturing purposes there was consumed 28.19 per cent of the total consumption, or 67.85 per cent of its entire production. For field purposes (boilers, gas engines, etc.) there was consumed 10.53 per cent of the entire consumption, or 25.30 per cent of the entire production of the state. For the year 1918 there was consumed for industrial purposes in Ohio 31.73 per cent of the total consumption, or 74.37 per cent of the total production. For manufacturing purposes there was consumed 23.29 per cent of the total consumption, or 54.59 per cent of the total production. For field power (boilers, gas engines, etc.) there was consumed 8.44 per cent of the entire consumption, or 19.78 per cent of the entire production.

Q. Is West Virginia Exhibit No. 25 made upon information obtained from the United States Geological Survey Reports?

A. Yes, sir.

2431 Q. State, please, whether you have made, or had made under your direction and supervision, diagram of production and consumption of natural gas in the State of Indiana for the years 1914 to 1918, inclusive, showing the production of gas therein; the gas imported or brought into the State and the industrial and domestic consumption of gas in that State for the years named.

A. I have.

Q. Where did you get the information upon which you made such diagram?

A. From the published report of the United States Geological Survey.

Q. The same ones to which you have already referred this day.

A. Yes, sir.

Q. I hand you a blueprint with the heading "Diagram of production and Consumption of Natural Gas in the State of Indiana during 1914, 1915, 1916, 1917—&—1918," and marked for identification, West Virginia Exhibit No. 26, and will ask you if that is the one that you made or had made under your direction and supervision.

A. It is the same one.

Q. Will you please explain West Virginia Exhibit No. 26.

A. This exhibit shows the production of natural gas in the S
of Indiana, the consumption for industrial purposes and for dome
purposes, and the amount of gas transported into said s
2432 for the years 1914, 1915, 1916, 1917 and 1918, and the
sult shows as follows: The total production of gas in Indi
for the year 1914 was 2,579,675 M. cubic feet, or 58.06 per cent. of
entire consumption, and the amount of consumption for indust
purposes was 1,038,693 M. cubic feet, or 23.38 per cent. of its en
consumption; for domestic purposes there was consumed 3,404,
M. cubic feet, or 76.62 per cent. of its entire consumption; the t
amount of gas consumed in Indiana for that year was 4,443,
M. cubic feet, and the total amount of gas transported into the s
for that year was 1,683,569 M. cubic feet, or 141.94 per cent;
1915 there was produced in Indiana for that year 2,260,733 M. cu
feet, or 50.02 per cent. of its entire consumption; there was c
sumed within the state that year for industrial purposes 1,013,
M. cubic feet, or 22.44 per cent of its entire consumption; for
mestic purposes there was consumed 3,505,354 M. cubic feet, or 77
per cent. of its entire consumption; the total amount consumed
the state that year was 4,514,244 M. cubic feet; the total amo
transported into the state for that year was 3,303,865 M. cubic f
or 49.98 per cent. of its entire consumption; for the year 1916 th
was produced in Indiana 1,715,497 M. cubic feet, or 34.18
cent. of its entire consumption; there was consumed that year
industrial purposes 1,663,492 M. cubic feet, or 33.13 per cent. of
entire consumption; for domestic purposes there was consu
3,357,872 M. cubic feet, or 66.87 per cent. of its entire c
2433 sumption; the total consumption for that year in Indiana
5,021,364 M. cubic feet, and the total amount of gas tra
ported into the state for that year was 3,303,865 M. cubic feet,
65.82 per cent. of its entire consumption; for the year 1917 there
produced in Indiana 1,711,454 M. cubic feet, or 29.68 per cent.
its entire consumption; there was consumed that year for indust
purposes 2,291,145 M. cubic feet, or 39.73 per cent. of its entire c
sumption; for domestic purposes there was consumed 3,475,321
cubic feet, or 60.27 per cent. of its entire consumption; the ent
consumption for the year was 5,766,466 M. cubic feet, and
amount transported into the state for that year was 4,055,012
cubic feet, or 70.32 per cent of its entire consumption; for the y
1918 there was produced in Indiana 1,666,822 M. cubic feet, or 36
per cent. of its entire consumption; for industrial purposes there
consumed 2,088,580 M. cubic feet, or 46.24 per cent. of its entire c
sumption; for domestic purposes there was consumed 2,428,003
cubic feet, or 53.76 per cent. of its total consumption; the total c
sumption for the year was 4,516,585 M. cubic feet, and the amount
gas transported within the state for that year was 2,849,761
cubic feet, or 63.10 per cent. of the entire consumption. We have t
foot-note in the production of gas from the United States Geologi
Survey, in which it says, "The amount of gas utilized in Indiana

cludes the consumption of gas pipes from Indiana to Chicago, Illinois,' but the amount of this gas is not given.

2434 (Mr. Eagleson:)

Q. What volume and page?
A. "Gas, 1916," page 591.
Q. What is the date of the issue?
A. Issue of 1918.
Q. I hand you a "chart showing consumption of Natural Gas for Industrial Purposes, in the State of Indiana, During 1914, 1915, 1916, 1917 and 1918," which, for the purpose of identification, will be marked West Virginia Exhibit No. 27, and will ask you if the same was made by you or under your direction and supervision.
A. It was.

The State of West Virginia here files as part of the record West Virginia Exhibit Nos. 26 and 27, respectively.

Q. Please take West Virginia Exhibit No. 27 and explain it.
A. This exhibit shows the consumption of natural gas for industrial purposes in the State of Indiana for the years 1914, 1915, 1916, 1917 and 1918, which is as follows: Total industrial consumption for 1914 was 23.38 per cent. of the total consumption of the State, or 40.06 per cent. of its total production; the consumption for manufacturing purposes was 16.59 per cent. of the total consumption, or 28.37 per cent. of the total production for power, field (boilers, gas engines, etc.) the total amount of gas used was 6.79 per cent. of the total consumption, or 11.69 per cent. of its total production; for the year 1915 the total consumption for industrial purposes was 22.44 per cent. of the total consumption, or 44.85 per
2435 cent. of the total production; for manufacturing purposes 17.23 per cent. of the total consumption was utilized, or 34.41 per cent. of its total production; for field, power (boilers, gas engines, etc.) there was consumed 5.23 per cent. of the total consumption, or 10.44 of the total production; for the year 1916 the total consumption for industrial purposes was 33.13 per cent. of the total consumption, or 96.97% of the total production; for manufacturing purposes there was utilized 30.88 per cent. of the total consumption, or 90.38 per cent. of the total production; for power, field (boilers, gas engines, etc.) there was utilized 2.25 per cent. of the total consumption, or 6.59 per cent. of the total production; for the year 1917 the total industrial consumption was 39.73 per cent. of the total consumption, or 134.22 per cent. of the total production; for manufacturing there was utilized 35.06 per cent. of the total consumption, or 118.50 per cent. of the total production; for field, power (boilers, gas engines, etc.) there was utilized 4.67 per cent of the total consumption, or 15.32 per cent. of the total production; for 1918 the total industrial consumption was 46.24 per cent. of the total consumption, or 125.29 per cent. of the total production; the manufacturing was 32.02 per cent. of the total consumption, or 86.76

per cent. of the total production; the field, power (boilers, gas engines etc.) was 14.22 per cent. of the total consumption, or 38.53 per cent of the total production of the state.

2436 Q. Where did you get the information from which you made up West Virginia Exhibit No. 27?

A. From the published reports of the United States Geological Survey.

Q. The same ones to which you have been referring all along?

A. Yes, sir.

Q. Have you made an examination of the United States geological reports in respect to the production of natural gas in the State of Kentucky and the quantities shipped into that state and used in that state for industrial and domestic purposes for the years 1914 to 1918, inclusive?

A. I have.

Q. I hand you a blue print headed "Diagram of Production and Consumption of Natural Gas in the State of Kentucky During 1914, 1915, 1916, 1917, & 1918," marked for identification West Virginia Exhibit No. 28, and will ask you if the same was made by you or under your direction and Supervision.

A. It was.

Q. Where did you get the information from which you made West Virginia Exhibit No. 28?

A. From the published reports of the United States Geological Survey.

Q. From the same reports to which you have referred already in your testimony?

A. Yes, sir.

2437 The State of West Virginia now offers and files in evidence West Virginia Exhibit No. 28.

Q. Will you please take West Virginia Exhibit No. 28 and explain it.

A. West Virginia Exhibit No. 28 is a diagram of the production and consumption of natural gas in the State of Kentucky for the years 1914, 1915, 1916, 1917 and 1918, showing production and consumption, which are as follows: For the year 1914 the total amount of gas produced in Kentucky was 1,421,818 M. cubic feet, or 19.6 per cent. of its entire consumption; there was consumed for industrial purposes that year 3,003,131 M. cubic feet, or 41.54 per cent of its entire consumption; for domestic purposes there was consumed 4,222,495 M. cubic feet, or 58.46 per cent. of its entire consumption there was consumed that year 3,225,626 M. cubic feet of gas, and there was transported into the state that year 5,800,808 M. cubic feet or 80.31 per cent. of its entire production; for the year 1915 there was produced in Kentucky 1,667,423 M. cubic feet of gas, or 21.5 per cent. of its entire consumption; there was consumed in that year for industrial purposes 2,822,144 M. cubic feet, or 36.43 per cent of its entire consumption; for domestic purposes there was consumed 4,924,209 M. cubic feet, or 63.57 per cent. of the entire consumption; the total consumption for the year was 7,746,353 M. cubic feet

there was transported into the state that year 6,078,927 M. cubic feet, or 78.47 per cent. of its entire consumption; in 1916 there was
2438 produced in Kentucky 2,106,542 M. cubic feet, or 21.30 per cent. of its entire consumption; there was consumed for industrial purposes that year 4,027,721 M. cubic feet, or 40.73 per cent. of its entire consumption; for domestic purposes there was consumed 5,860,235 M. cubic feet, or 59.27 per cent. of its entire consumption; the total consumption for that year was 9,887,956 M. cubic feet, and there was transported into the state that year 7,781,414 M. cubic feet, or 78.70 per cent. of its entire consumption; for the year 1917 there was produced in Kentucky 2,802,079 M. cubic feet, or 23.25 per cent. of its entire production; there was consumed that year for industrial purposes 4,699,292 M. cubic feet, or 38.99 per cent. of its entire consumption; for domestic purposes there was consumed 7,354,153 M. cubic feet, or 61.01 per cent. of its entire consumption; the total consumed for that year was 12,053,455 M. cubic feet, and the total amount of gas purchased or transported into the state for that year was 9,251,366 M. cubic feet, or 76.75 per cent. of the total consumption; for the year 1918 there was produced in Kentucky 3,022,439 M. cubic feet, or 24.77 per cent. of its entire production; there was consumed that year in Kentucky for industrial purposes 4,277,249 M. cubic feet, or 35.06 per cent. of its entire consumption; for domestic purposes there was consumed 7,922,941 M. cubic feet, or 64.94 per cent. of the total production; the total amount consumed that year in Kentucky was 12,200,190 M. cubic feet, and the total amount of gas transported into Kentucky for that year
2439 was 9,177,751 M. cubic feet, or 75.23 of its entire consumption.

Q. I hand you a blueprint headed "Chart Showing Consumption of Natural Gas for Industrial Purposes, in the State of Kentucky During 1914, 1915, 1916, 1917 and 1918", which for identification will be marked West Virginia Exhibit No. 29, and will ask you if you made the same, or whether it was made under your supervision and direction?

A. It was made under my supervision and direction.

Q. Where did you get the information upon which it was made?

A. From the published reports of the United States Geological Survey.

Q. The same reports to which you have been referring in all of your testimony?

A. Yes, sir.

The State of West Virginia now offers and files in evidence said chart just identified by the witness, marked West Virginia Exhibit No. 29.

Q. Will you please take West Virginia Exhibit No. 29 and explain it.

A. This exhibit shows the total consumption of natural gas for industrial purposes in the State of Kentucky for the years 1914, 1915, 1916, 1917 and 1918. For the year 1914 the total amount of gas consumed for industrial purposes in Kentucky was 41.54 per

cent. of its total consumption, or 211.21 per cent. of the total produc
tion of that state for that year; for manufacturing purposes
2440 there was consumed 28.23 per cent. of the total consumption
or 143.50 per cent. of the total production of the state; for
field, power (boilers, gas engines, etc.) there was consumed 13.31 per
cent. of the total consumption, or 67.71 per cent. of the total produc
tion; for the year 1915 there was consumed in Kentucky 36.43 per
cent. of the total consumption, or 169.24 per cent. of the entire pro
duction of the state; there was utilized for manufacturing purposes
31.31 per cent. of the total consumption, or 145.37 per cent. of the
total production of the state; for field, power (boilers, gas engines
etc.) 5.12 per cent. of the total *of the toal* consumed, or 23.87 per
cent. of the total production; for the year 1916 there was consumed
for industrial purposes in Kentucky 40.73 per cent. of its entire
consumption, or 191.19 per cent. of its entire production, and for
the same year there was consumed for manufacturing 36.04 per cent
of the entire consumption, or 169.17 per cent. of the entire produc
tion; there was consumed for field, power (boilers, gas engines, etc.)
4.69 per cent. of the entire production, or 22.02 of the entire pro
duction; for the year 1917 there was consumed in Kentucky for in
dustrial purposes 38.99 per cent of the entire consumption, or 167.6
per cent. of the total production; there was consumed for manufac
turing purposes 32.64 per cent of the entire consumption, or 140.3
per cent. of the entire production; for field, power (boilers, gas en
gines, etc.) there was consumed 6.35 per cent. of the entire consump
tion, or 27.31 of the entire production; for the year 1918 there
2441 was consumed for industrial purposes 35.06 per cent. of the
entire consumption, or 141.51 per cent. of the entire produc
tion; there was consumed for manufacturing purposes 30.45 per cent
of the entire consumption, or 122.92 per cent. of the entire produc
tion; there was consumed for power, fi*l*ed (boilers, gas engines, etc.)
4.61 per cent. of the entire consumption, or 18.59 of the entire pro
duction.

Q. Are your statements in respect to the production and consump
tion of natural gas in the States of Pennsylvania, Ohio, Indiana and
Kentucky made from information obtained or procured from the
same United States Geological reports as those used by you in mak
ing your statements in respect to the production and consumption of
natural gas in the State of West Virginia?

A. They are.

Q. In using the terms "manufacturing" and "power" in respect
to the States of Pennsylvania, Ohio, Indiana and Kentucky, have
you used them in the same sense and meaning as used by you in re
spect to the State of West Virginia, when using those terms?

A. I have.

Q. In your statements respecting Ohio, Indiana and Kentucky
under your heading of "Industrial Consumption", you have made
no reference to the item of carbon black. Will you explain why you
have done so?

A. As far as I could ascertain, there was no carbon black
2442 during those years produced in those States, or no reference
of it; nor could I find any reference to the production of car-

bon black in the United States Geological reports for those years concerning those states.

Q. Do you know, as a matter of your own knowledge, whether carbon black is manufactured in the State of Kentucky?

A. It is being manufactured now in Floyd County; there is one plant installed, just ready for manufacturing—from the best knowledge I have.

Q. You have stated in the early part of your examination that the production of gas in West Virginia for the year 1917 was 308,617,101 M. cubic feet, as shown by the United States Geological reports. Have you made an examination of the reports to the Public Service Commission of West Virginia for the year 1917 to ascertain what those reports show to be the production of natural gas in the State of West Virginia for that year?

A. I have.

Q. Will you state the production of natural gas in the State of West Virginia for the year 1917, as shown by the reports to the Public Service Commission of West Virginia?

A. The reports show 289,898,967 M. cubic feet for the year 1917.

Q. Have you made an examination of the reports to the Public Service Commission of West Virginia and the reports in its offices showing the production of natural gas in the State of West Virginia for the year 1918, as indicated by the reports to and in the
2443 offices of the Public Service Commission of the State of West Virginia?

A. I have.

Q. What is the amount for that year?

A. The amount for 1918 is 280,289,044 M. cubic feet.

Q. Are you able to state from your examination of the United States Geological Survey reports and from which you have been testifying as your sources of information, whether distinction is made between the use of gas by public utilities and by private concerns, or whether all gas, whether handled by utilities or used by private concerns, is treated alike?

A. The United States Geological Survey treat gas as "industrial" and "domestic," primarily, and then it divided industrial into the classification as given by me; that is, as to manufacture into field use and into carbon black; especially is that true of West Virginia.

Q. You mean, especially that is true as to West Virginia in respect to the carbon black.

A. Carbon black; yes, sir.

Q. Do the geological reports refer to and specifically state the amounts of gas handled by utilities handling natural gas and distinguish that in quantities from the gas handled by private persons or in a private way?

A. They do not report that way.

Q. Were you present at Pittsburgh when Mr. Samuel W. Wier, a witness on behalf of the State of Pennsylvania, introduced certain small maps showing the location of the lines of the Carnegie
2444 Gas Company, the Eastern Oil Company, the Fayette County Gas Company, the Hope Natural Gas Company, the Manu-

facturers Heat & Light Company, the Philadelphia Company, Reserve Gas Company and the United Fuel Gas Company, with their compressing stations, etc.?

A. I was.

Q. Have you, at the direction of counsel for the State of West Virginia, made, or caused to be made, a composite map showing the same lines, stations, etc., as were shown on the several maps introduced by the State of Pennsylvania through Mr. Wier as one of its witnesses?

A. I have.

Q. I now hand you a map, which for identification purposes will be marked West Virginia Exhibit No. 30, and will ask you if that is the composite map made by you, and under your direction, which shows the lines and compressing stations, etc., on the one map as shown on the several maps introduced by the State of Pennsylvania through the witness Wier?

A. It is.

The State of West Virginia now offers and files in evidence the composite map identified by the witness, marked West Virginia Exhibit No. 30.

Q. I will ask you to make a statement in respect to this map, particularly to this extent: as to the basic of it and the lines as you have located them.

2445 A. The base of this map was prepared by reducing, by pantograph, from the United States topographical sheets—a scale of approximately 1 inch equals to 5,280 feet or $\frac{1}{62500}$ scale, and the outlines of the counties have been made from that map that has been prepared by us from time to time. The pipe lines were laid down by scale, as near as we could, from the maps that were furnished us as Mr. Wier's exhibit, and we have only shown the county seats of each county or points that might be of importance in regard to the connection of some of the pipe lines. Other towns are left off the map.

Q. Is this composite map, so far as the lines of the several companies named are concerned, made accurately from the maps introduced into the record and as part of the evidence of the State of Pennsylvania?

A. They are.

Q. You have added nothing to and taken nothing from those lines?

A. We have not.

Q. Do you know that the base of this map as to the counties is accurate?

A. As accurate as we could get it from the best data published.

Q. How long have you been engaged in the business of making maps?

A. For nearly 30 years, but this map proper has been on our

rafting table, off and on, for the last 10 years—a compilation of other maps.

2446 Q. You mean the base map of the State of West Virginia?

A. Yes, sir.

Q. And the lines, as shown on Mr. Wier's maps, as introduced in vidence by the State of Pennsylvania, are accurately laid down on he base?

A. As accurately as we could possibly do so.

Q. Have you made, or caused to be made under your supervision nd direction, for the book of exhibits in this cause a small photo- graphic map of this large composite map filed as West Virginia Ex- hibit No. 30?

A. I have.

Q. I hand you a small photographic map, which for identification will be marked West Virginia Exhibit No. 30-A, and will ask you if that is the photographic map, on a reduced scale, of West Virginia Exhibit No. 30?

A. It is.

The State of West Virginia now offers and filed the small photographic map, marked West Virginia Exhibit No. 30-A.

Q. In the photographic copy some of the lines thereon do not appear so heavy as those on the large composite map, West Virginia Exhibit No. 30. Will you please explain why this is true?

A. In the first place, this is a reduction of the large map.

Q. That is, you mean, West Virginia Exhibit No. 30-A.

2447 A. West Virginia Exhibit No. 30-A is a reduction of West Virginia Exhibit No. 30; and, in the second place, there are eight different colors on Exhibit No. 30, but these colors do not all photograph alike, as in the photographic map really there is only one color to each line, and the different colored lines on Exhibit No. 30—some are more faint in being photographed than others, which accounts for the faintness of these lines, and which also explains why some lines are more distinct than others.

Q. In other words, that some colors will photograph more plainly——

A. Yes, sir, with a bolder relief, and others with less.

Mr. Hoffheimer: It is hereby stipulated and agreed that the large map, West Virginia Exhibit No. 30, offered in evidence, shall be produced upon a submission and hearing of this cause, for use of either the court or counsel, if desired, but for the purpose of the printed record the smaller photographic copy of map, West Virginia Exhibit No. 30-A, shall be substituted for the larger or original map, West Virginia Exhibit No. 30.

An adjournment was here taken until Friday, January 7, 1921, at 9.30 o'clock a. m.

2448 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Friday, January 7, 1921.

Defendant's Testimony.

2449 Friday Morning, January 7, 1921.

And, now, the hour of 9.30 o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

Mr. Hoffheimer: Just before adjournment yesterday a stipulation was entered into between the plaintiffs and the defendant in regard to the producing of the large map West Virginia Exhibit No. 30, and the inclusion in the record as printed of the smaller photographic copy thereof, West Virginia Exhibit No. 30-A. The transcript, however, indicates that the statement in regard to this matter was merely an ex parte statement of my own, but it was intended to be stated as a stipulation between the parties.

Mr. Weil: That stipulation was by counsel on both sides.

C. E. KREBS resumes the stand.

Direct examination (continued).

Mr. Blue:

Q. Mr. Krebs, referring to the large map, West Virginia Exhibit No. 30, there appears thereon a legend with certain colors, eight in number, yellow, carmine, blue, purple, brown, green, orange and scarlet. You may explain, please, whether these colors were the colors used by Mr. Wyer or whether they are the arbitrary colors used by you in making the composite map so as to distinguish one line from another.

A. They were the arbitrary colors adopted by us to establish the distinction between the different pipe lines.

Q. You have also indicated in the legend compressor stations, drying plants, measuring stations, distributing plants, by certain signs

or symbols. I will ask you whether you have undertaken to
50 place all of the compressor stations, drying plants and measuring stations or just those as indicated by the maps filed, by
r. Wyer.
A. As indicated by the maps filed by him.
Q. If there are other compressing stations, drying plants and measing stations in the state, owned, operated and used by the several mpanies, you have not attempted to show them on this map?
A. We have not.
Q. You also have on the legend a sign or symbol for gas pipe line, nich in the symbol is black, while these different lines are indited in different colors. Please explain why this symbol designan under legend for "gas pipe-line."
A. It is shown in the legend in black to show simply the symbol, ow it is marked on the map, and naturally under the different ownship of the different pipe lines it is marked the color indicated in at index or legend.
Q. Does Exhibit map No. 30 and the small photographic copy ereof, Exhibit No. 30-A, show or indicate all of the counties of the ate of West Virginia?
A. It does not.
Q. Explain why it does not.
A. For the reason that there are no gas lines in other counties expt those shown on this map, or at least none of importance; nor e there any important gas wells in any counties left off in this map in the State of West Virginia.
51 Q. Are you not mistaken in this, that the line of the Eastern Oil Company goes into or through the County of ineral?
A. Mineral? It is not shown. It has an extension as to may one or two counties, or say, two or three counties, in which the s line passes through in going into Maryland from West Virnia.
Q. Where is the County of Mineral in respect to the County of ucker?
A. The County of Mineral is east of the County of Grant and e County of Grant is just east of the County of Tucker; that is, rant County lies between the County of Tucker and the County Mineral.
Q. Do you remember whether the maps introduced through Mr. Tyer included the counties of Grant and Mineral and indicated the tension of the line of the Eastern Oil Company through those o counties or in those counties?
A. It does.
Q. Is there any oil or gas produced in the counties of Grant and lineral or any of the other counties not shown on this map No. 30?
A. There is not.
Q. Do you have personal knowledge of the use of natural gas in he State of West Virginia, particularly in the counties of Wetzel, lonongalia, Marion, Marshall, Tyler, Pleasants, Doddridge, Harson, Taylor, Lewis, Ritchie, Wood, Wirt, Roane, Calhoun, Gil-

mer, Kanawha, Putnam, Boone, Lincoln, Mingo, and Cabell
2452 and Wayne?

A. I have.

Q. For what time, what number of years, would you say, you have personal knowledge of the use of natural gas in the counties indicated in the preceding question?

A. The first use I know of natural gas was at Morgantown in Monongalia County about 1888 or 1889, when gas was piped for domestic purposes into Morgantown, and later I remember when gas was piped and utilized in Wetzel County, in Marion and Tyler, Pleasants, and the counties named by you coming on at a later date.

Q. When was gas utilized in the Counties of Wetzel and Marion and that section of the state?

A. I would say that the gas was utilized commencing with about 1890 in a small way and increased yearly as gas wells were being drilled and the gas territory developed, pipe lines laid, etc.

Q. Asking you a more general question, state if you can, the parts of the state in which natural gas for fuel, both domestic and industrial, was first had, or about when it was first used and the general trend from that time in the use of gas in the state.

A. Natural gas was first used along the Ohio River and the Pan Handle. I think that possibly as early as——

Q. (Interrupting.) What do you mean by the Pan Handle?

A. The eastern Pan Handle, Brooke, Ohio, Hancock and
2453 Marshall counties. I think carbon black was possibly manufactured before 1870 near Wellsburg, and later on gas was utilized in the counties of Wetzel, Marion, Tyler, Pleasants, Wood, Ritchie, Doddridge, Harrison, Lewis, Gilmer and Wirt counties, and the development later on into Roane County, and gradually into Kanawha County, and then into Putnam, Cabell, Wayne, Lincoln counties, or in other words, the development in the use of natural gas was first along the northern and eastern part of the state.

Q. Do you mean northern and western?

A. Northern and western, it should be, part of the state.

Q. Are you personally acquainted with the country itself and the conditions in the counties of Marshall, Wetzel, Monongalia, Marion, Tyler, and Doddridge, and Ritchie, and Wood and Wirt?

A. I am.

Q. Roane and Kanawha and other counties to which you have already referred?

A. I am.

Q. Have you been around over them and through them?

A. I worked on the West Virginia Geological Survey in a number of those counties, and while on said Survey as assistant geologist to Dr. I. C. White, and later have made personal examination of a number of plants and oil and gas territory for different clients of mine.

2454 Q. As an engineer and geologist did you have occasion to go into these counties so as to become familiar with the use of natural gas in them?

A. I have.

Q. For what purpose has natural gas been used in these counties and to what extent by the people living in them and the industries in them?

A. It has been utilized for domestic purposes and for industrial purposes and the manufacture of carbon black.

Q. To what extent do the people living in the counties particularly named depend upon natural gas for fuel?

A. They are almost entirely dependent upon natural gas for fuel in the counties along the Ohio River and in the western part of West Virginia.

Q. Particularly, to what extent do the people of Marshall and Wetzel, Monongalia, and Marion, and Tyler, Pleasants, and Doddridge and Harrison, Taylor, Ritchie, Wood, Wirt, and Roane, Kanawha, and Cabell, Wayne and Lincoln, Mingo and Boone and Clay counties, depend upon natural gas as a fuel, and including cooking and also illuminating?

A. Wherever they can obtain natural gas they prefer it to any other fuel, and along the western part where the surface coals are thin and impure, they are dependent on it for fuel practically altogether; while in some of the eastern counties where the coals are not impure, they could utilize coal, but they naturally use natural gas in preference.

2455 Q. You stated in these western counties that the coal is thin and impure, I wish you would indicate the counties you have in mind where the coal is of such character.

A. The surface coal in the counties of southern Marshall, Wetzel, Tyler, eastern Marion, Doddridge, Ritchie, Wood, Wirt, Gilmer, Calhoun, Roane, Jackson, and Cabell and Lincoln counties, are particularly where the surface coals are impure and do not have the highest heating values.

Q. How are those people situated in respect to wood?

A. The timber is practically all cut. There is very little wood left for fuel.

Q. Now particularly as to the counties of Marshall and Ohio and Wetzel, Monongalia, Marion, Harrison, Doddridge, Tyler, Pleasants and Wood, and Ritchie and Wirt and Roane, and Cabell, to what extent do the people living in those counties have to depend upon natural gas for domestic purposes?

A. Well, the people in Ohio County and a portion of Marshall could utilize coal that is being mined in those counties.

Q. I am not asking you what they could do but what they are doing.

A. They are depending almost entirely upon natural gas for fuel.

Q. How long have they been so depending upon natural gas for fuel?

A. From the northern part they have more than 30 years but in the southern part possibly—probably, for 20 or 25 years.

2456 Q. As I understand your statement, it is that the development of the gas fields of West Virginia having begun

in the northern part of the state, has gone southward. Is that right?

A. That is correct.

Q. Where are today what you might call the largest, best or reserved gas fields of the state?

A. Probably in the southern portion of the state.

Q. In what counties?

A. Taking the counties of Roane, Clay, Kanawha, Boone, Raleigh, a portion of Fayette, Mingo, Logan, Wyoming, Wayne, Lincoln, Putnam, and probably Mason counties.

Q. Do you know whether there are towns of importance and villages in the counties a' out which I have been particularly asking you and naming the counties, other than the cities shown on the Exhibit map No. 30?

A. There are.

Q. I want to know whether you know that there are?

A. Yes, I know that there are. On this map we have only attempted to show the cities of the different counties and a few places where we want special attention in regard to some pipe line connections.

Q. Can you state whether the United States Geological Survey reports show the state having the largest production of natural gas?

A. It does.

2457 Q. Will you state, please, from the information you obtain from that source, the state having the largest production of natural gas? I am not asking the quantities, but just the fact.

A. Since 1909 West Virginia has been the first in the production of natural gas.

Q. You mean beginning with 1909 or after the year 1909?

A. I think it is beginning with 1909.

Q. I thought it was 1910.

A. I thought so too until this morning.

Q. I will ask you to refer to the United States Geological reports and state the quantities shown by such reports to have been produced in the State of Pennsylvania for the year 1909 and the quantity produced in the State of West Virginia for the same year.

A. In the year 1909 there was produced in Pennsylvania 127,697,104 M cu. ft. and in West Virginia there was produced 166,435,092 M cu. ft.

Q. What state is the next largest producer of natural gas?

A. In 1909 Kansas was the third.

Q. I mean the next, the second.

A. Pennsylvania.

Q. What is today the next largest producer of natural gas, I mean next to the State of West Virginia.

A. I cannot give you beyond the year 1918.

2458 Q. Then you may state what state was the second largest producer of natural gas in the year 1918.

A. Oklahoma.

Q. What was the third?

A. Pennsylvania.

Q. What was the fourth?
A. Ohio.
Q. The fifth?
A. California.
Q. On yesterday in reply to questions you stated the production of natural gas—the production and consumption of natural gas in the State of West Virginia, including the gas sold in Maryland, and also the production and consumption of natural gas in the State of West Virginia, exclusive of Maryland. Have you prepared or had prepared under your charge and supervision, a diagram showing the production and consumption of natural gas in the State of West Virginia, including gas sold in Maryland and a diagram of the production and consumption of natural gas in the state of West Virginia exclusive of Maryland?
A. I have.
Q. From what sources did you obtain the information upon which you made the diagrams of production and consumption of natural gas in the State of West Virginia including gas sold in Maryland and exclusive of gas sold in Maryland?
A. From the published reports of the United States Geological Survey for the natural gas including sold in Maryland and
2459 from the published reports of the United States Geological Survey and the Public Service Commission for natural gas excluding sold in Maryland.
Q. When you refer to the United States Geological Survey, you mean the same volumes you referred to and identified yesterday?
A. I do.
Q. I hand you a diagram of production and consumption of natural gas in the State of West Virginia, including gas sold in the State of Maryland, which for the purpose of identification will be marked West Virginia Exhibit No. 31, and a diagram of production and consumption of natural gas in the State of West Virginia exclusive of Maryland, which for the purpose of identification will be marked West Virginia Exhibit No. 32, and will ask you if these are the same diagrams made by you or under your direction and supervision and based upon the sources of information stated by you.
A. They are.

The State of West Virginia now offers and files as part of the record Diagram of Production and Consumption of Natural Gas in the State of West Virginia (including gas sold in Maryland), marked West Virginia Exhibit No. 31, and Diagram of Production and Consumption of Natural Gas in the State of West Virginia (exclusive of Maryland) marked West Virginia Exhibit No. 32.

Q. You have stated that you have information respecting the use of natural gas by people living in the county of Wetzel,
2460 Monongalia and other counties inquired about. I will now ask you if you know whether the people living in those counties and using gas, have built their homes and equipped them

for the use of natural gas therein as fuel and for illuminating pu
poses.

A. I do.

Q. You may state what the fact is in this respect.

A. The new buildings and buildings constructed for the past fe
years, were constructed particularly for the use of natural gas f
fuel.

Q. Do you know whether the industries in—or certain industri
in these counties are using and have been using natural gas f
fuel?

A. I do.

Q. You may state what the fact is in respect thereto.

A. A number of industries have been built and are producing—
were so located for the reason that they could utilize natural g
for fuel. That is especially true in the counties of Ohio, Marshal
Wetzel. Marion, Monongalia, Harrison, Doddridge, Tyler, Pleasant
etc., Wood.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Krebs, beginning the cross-examination as usual at th
bottom instead of the top, taking up the last testimony which yo
gave, calling your attention to Exhibits 31 and 32. It is a fac
is it not, as shown by those Exhibits, that the industri
2461 consumers in the State of West Virginia consume about fou
and a half times as much as the domestic consumers, in roun
numbers, not being accurate?

A. It is.

Q. And for each of the years, 1914, 15, 16, 17 and 18.

A. It is.

Q. Those counties in West Virginia which you testified were de
pendent upon natural gas for fuel, before natural gas was discovere
in those counties, burned either wood or coal, didn't they?

A. Yes, sir.

Q. And within those counties where coal is not produced in th
county, coal can be shipped therein as in other sections of the Unite
States?

A. It can.

Q. If I remember your testimony correctly, you stated that yo
obtained practically all of your figures in these respective exhibit
that have been offered in evidence by the State of West Virginia
from these reports of the United States Geological Survey for th
respective years.

A. Yes, sir.

Q. And also some figures that you obtained which each tim
you have specifically named, from the Public Service Commissio
records of West Virginia?

A. Yes, sir.

Q. Now you gave us in all of these reports—from this repport

for example, of the State of West Virginia, Nos. 20 and 21,
2462 to illustrate, Chart Showing Consumption of Natural Gas for Industrial Purposes in the State of West Virginia, including and excluding, respectively, Maryland, and the same with reference to Pennsylvania, Ohio, Indiana and Kentucky, a certain item marked "Field, Power (boilers, gas engines, etc.)"?

A. Yes, sir.

Q. Will you point out to us anywhere in these reports of the United States Geological Survey for the years 1914, 15, 16, 17 or 18, anything which shows that this item included the use of gas in the field for power by the respective producing companies or by the natural gas companies in their compressing stations, etc., etc. or in connection with their operations for the production of gas?

A. On page 1073 of the report of 1917 of the United States Geological Survey for "The Mineral Resources of the United States," published September 20, 1919, is the following quotation: "It is estimated that in all about 70,771,137 M. cu. ft. of natural gas sold at and for the rate of 6.98 cents a thousand cubic feet, was consumed for manufacturing purposes in West Virginia in 1917, and that 23,459,446 M. cu. ft. sold at and for the rate of 6.91 cents, was consumed in the oil fields in the direct development of power."

Q. Is that your answer to my question?

A. That is the specific answer to a portion of your question.

2463 Q. Well, did you have—did you rely upon the statement as contained in this report as showing the amount of gas used by the oil and gas companies in their own operations and which was not sold to anybody but used by themselves?

A. I took up that matter further with the Chief Clerk of the United States Geological Survey and from his statement inferred that this—the industrial gas consumed contained the field, the amount consumed in the field.

Q. Then as a matter of fact these figures are not obtained, that you have given us, wholly from these reports of the Geological Survey, but from what somebody told you was included in some of these figures?

A. From the officials of the Survey.

Q. I do not care who it was, but from what somebody told you?

A. Yes, sir.

Q. And it is not contained then in these reports?

A. Yes. Take the same report referred to, on page 1061 is the following notation: "Under other industrial (power) there was consumed in the year 1917 in West Virginia 23,459,046 M. cu. ft. of gas."

(Mr. Blue:)

Q. You mean that appears in the table?

A. In the table.

(Mr. Blue:)

Q. Appearing at that page?

A. Yes.

2464 Q. Does that show—that table shows average price cents per M. cubic feet, 6.91. Does not that show that that gas was sold to somebody by these respective producing companies or gas companies, and not such gas which they themselves produced and used in their own operations?

A. It shows the average price obtained for that gas whether it is sold to themselves or to other individuals.

Q. Do you not know as a matter of actual practice from your knowledge of the operations in the field that both the natural gas companies and the producing companies, do not measure the gas which they supply to themselves for their own use in their own operations and make no charge to themselves for the use of that gas?

A. I know that very few of them measure it.

Q. Yes?

A. But I know of a number of them that estimate the amount used and so include — in their statements in making out their financial reports.

Q. Do they make any charge to themselves at any rate for the use of that gas in their own operations?

A. I think that most of them are utilizing it in making out their financial reports.

Q. None of that is contained in these geological surveys, are they?

A. Not specifically.

Q. Now I call your attention to the statement contained in the Report of Natural Gas in 1915 of the United — Geological
2465 Survey, following, page 927: "The term 'production' as applied to the output of natural gas is used in this chapter in a restricted sense to designate only that portion of the natural gas that found commercial utilization during the year in review. Production as here employed is properly considered synonymous with consumption and were there no interstate transportation of natural gas, the use of the former term would be unnecessary." Does that not show that the production as used in the report is that production which finds commercial utilization by sale to consumers?

A. Yes, sir, it may also include themselves.

Q. If it was intended to include that quantity of gas which was used by the producers themselves or the natural gas companies in their own operations, would it not have been so stated when the terms were being thus defined?

A. It does state in what I read to you at page 1073.

Q. Now calling your attention to Exhibit No. 31, as to the source of your figures, you have given here and read into the record in your former testimony the quantity of industrial consumption in the state of West Virginia and the domestic consumption in West Virginia, and the total of those amounts. You also gave the amount of production in West Virginia and also gave the amount exported or sold from West Virginia. In exam-ing that exhibit we find that the figures given for the exported or sold is the difference between the total consumption in the state and the total production in the state.

A. Yes, sir.

2466 Q. There is nothing in the Geological Survey or reports which gives this quantity thus exported from the State of West Virginia and your figures are obtained, as stated, by deducting what you have given here as the total consumption from the total production. That is the fact, is it not?

A. Taking on page 949 in The Report of Natural Gas in 1915 of the Mineral Resources of the United States, published December 29, 1916, we have the following notation: "Of the total volume of natural gas produced in West Virginia in 1915 about 92,135,038 ft. was consumed within the state in that year, the remaining 151,869,-121 cu. ft. valued at $29,583,792, being marketed at Pennsylvania, Ohio, Indiana and Kentucky."

Q. Calling your attention to your Exhibit 31, the consumption which you give there of gas in West Virginia instead of being 92,135,038 M. cu. ft. as consumed within the state, you have given us 94,976,705 M. cu. ft. and instead of giving us the amount exported from the state as given in the passage which you have just read, 151,869,121 M. cu. ft., you have given us 149,027,454 M. cu. ft. Why did you not use the figures that were given in this report instead of the figures given here?

A. Exhibit No. 31 includes the gas shipped from West Virginia to Maryland and naturally includes that gas that was consumed in Maryland.

2467 Q. Well, why did you not use then in Exhibit No. 32 the exact figures as given in this report instead of the figures which you give, which differ therefrom?

A. The figures given in Exhibit No. 32 are as follows: The amount of gas consumed in West Virginia in 1915 is 92,215,662 M. Cu. ft., and the figures as given on page 949 are 92,135,038 M. cu. ft., and the total amount of gas shipped out of West Virginia in the same year is given in Exhibit 32 as 151,788,497, and the amount shown on page 949 gives 151,869,121 M. cu. ft., showing a very little difference in each one. In making up these reports I have utilized the tables given on page- 938 and 939 of this report.

(Mr. Blue:)

Q. What report, and state it there.

A. The report referred to in my previous answer, that is, The Report of Natural Gas in West Virginia, 1915, published December 29, 1916 by the United States Geological Survey.

Q. Now returning to my question, from examinations of these Exhibits 31 and 32, is it not the fact that you ascertained the amount exported by deducting the total consumption in West Virginia from the total production in West Virginia, and gave us the exact difference between the two as the amount exported or sold?

A. Yes, sir.

Q. That is the fact?

A. Yes, sir.

2468 Q. Whether or not that corresponded with the statements in the Geological Survey or not?

A. I took these figures from the Geological Survey reports in the tables published by them.

Q. Calling your attention to this same report from which you have quoted, I call your attention to the following statement. In the Exhibit 22 you have given for the year 1915 the amount of gas produced in Pennsylvania as 113,691,690 M. cu. ft. and consumption as 176,367,235 M. cu. ft., and the amount purchased 62,675,545 M. cu. ft., being the exact difference between the production and consumption in the state. And that is where you obtained that figure of the amount purchased, is it not?

A. It is.

Q. Now I call your attention to this same statement, to this same book of the Geological Survey, Natural Gas in 1915, to which we have heretofore referred, and to the following statement, page 946: "Of the total quantity of natural gas consumed in Pennsylvania in 1915 about 75,981,315 M. cu. ft., valued at $12,850,131, was piped into the state from outside sources, the greater part from West Virginia, a small quantity from New York supplied as a matter of convenience to consumers residing on the Pennsylvania side of the state boundary." Why did you not use that quantity as given by the report of the Geological Survey of about 76,000,000 M. cu. ft. instead of the 62,675,545 M. cu. ft. which you actually used?

2469 A. I used the same table tabulated on page- 934 and 935, 936 of a state report of the United States Geological report.

Q. But those tables do not show the amount exported, do they?

A. They do not.

Q. You simply took the amount of the total consumption and deducted from it the amount of the total production and thus obtained the amount purchased?

A. I did, and as obtained from pages 934 to 936, inclusive, of the report quoted in my former answer.

Q. But that only shows the amount of production and consumption but not the amount exported?

A. You mean imported?

Q. Imported or exported, as the case might be.

A. That shows the amount of production and the amount of consumption.

Q. But it does not show what quantity was either exported or imported by any of the states?

A. It does not.

Q. Now as further affecting the accuracy of these figures given by you, let me ask you if you do not know that from its production Pennsylvania in the year 1915 exported to consumers in New York, Ohio and West Virginia a considerable volume of gas, and I call your attention to page 945 of the same report of the Survey to which we have referred, to the following paragraph, quoted:

2470 "Although the quantity of gas produced in Pennsylvania was insufficient for the needs of gas consumers within the state, a considerable volume of gas was piped out of the state to supply consumers in New York, Ohio and West Virginia. The distri-

bution of Pennsylvania gas in Ohio and West Virginia is to consumers in cities and towns adjacent to the Pennsylvania border who can be supplied more conveniently from Pennsylvania sources than from sources in their own states."

A. What page was that?
Q. 945.
A. Yes, sir.

2471 Q. Those figures given by you on these Exhibits, and particularly on No. 22, would have to be further corrected by adding to the amount imported, or purchased, the quantity exported from the State into West Virginia, Ohio, and New York, whatever that amount might be?

A. Yes, sir.
Q. Now, you do not know, do you, calling your attention to your Exhibits 20 and 21, chart showing the consumption of natural gas for industrial purposes in the State of West Virginia, that the users of natural gas producing their own supplies, such as carbon black manufactures and other industrial enterprises producing their own supplies of natural gas—you know they do not measure the gas supplied to themselves for their own uses?
A. Some of them do.
Q. How is it as to the carbon black?
A. Some of them do.
Q. Is not that true as to the vast majority of them, that they do not?
A. Yes, sir.
Q. Is not the same true, as to the vast majority of the industrial consumers who produce gas for their own uses, that they do not measure?
A. They do not.
Q. And all such figures are simply estimates then, made by whosoever is making up these reports?

A. It is. If you will allow me to make an explanation,
2472 I discussed that with one carbon black man, and asked him particularly, if that was not an estimate of the amounts of gas that they actually consumed. He said "It is, and it is not, because we have enough knowledge to believe that our estimate is approximately correct."

Q. I call your attention to page 949. Report of 1915, to which we have already referred, and to the following figures: "One industry that is almost entirely confined to West Virginia is the manufacture of carbon black, for which a large supply of gas, that can be obtained at a low price, is requisite. It is estimated that 18,988,070,000 cubic feet of natural gas valued at $445,455.00 an average of $2.34 a thousand was used by carbon black factories in West Virginia in 1915. It is estimated from the burning of this volume of gas 17,262,000 pounds of carbon black was recovered." Does that paragraph, showing the amount of gas used for carbon black manufacture, represent purely an estimate?
A. It does.

1127

Q. And that it is the fact, is it not?
A. It is.
Q. You know from your knowledge of the operation of the natu gas industry, that the gas produced as it comes from the wells into t lines, is not measured, but is only measured as supplied to consum or sold to wholesalers, that is, to other companies—natural gas co panies—by the natural gas producing companies?
2473 A. Yes, sir.
Q. And the only way in which an accurate, or substantia accurate, statement of the amount of gas produced could be tained, would be by placing meters or measuring stations, as t case may require, at each well where it put its production into t lines?
A. Yes, sir.
Q. And this system of measuring has never been adopted he tofore by the natural gas companies?
A. It has not, but a number of new wells now have natural where the gas is sold at so much per thousand by the owners of land as a royalty, that being the case, they will sooner or later h to come to this meter system.
Q. They will only have to come to that meter system on th properties where the leases so require hereafter?
A. Yes, sir.
Q. You know, do you not, from the knowledge of the busin that the amount of gas consumed by producers, in connection w their wells supplying power and light in their operations by natural gas companies in the operation of their power stations a compressor stations, aggregates an enormous quantity of gas, d it not?
A. It does.
Q. And if it should appear as a fact that that quantity of gas not included in the amount of gas used in the general designati in the Geological Survey reports, under the subject "Other Ind trial" (power) after giving the gas consumed, domestic,
2474 dustrial, manufacture and other industrial, it would add the amount of consumption an enormous quantity of annually, would it not?
A. It would.
Q. Calling your attention, again, to Exhibits 22, 23, 24, 25, 27, 28, 29 and 31, you show on Exhibit 31, the amount of gas ported from West Virginia, as determined by, as you have alre stated, deducting the amount consumed in West Virginia from total production? West Virginia exports to Indiana, Kentuc Ohio and Pennsylvania, does it not?
A. It does.
Q. And also to Maryland?
A. It does.
Q. But, in Exhibit 31, is included Maryland?
A. Yes, sir.
Q. Now, then, does it export to any other States?
A. Not to my knowledge.

Q. In the Exhibits which you have given us of Indiana, Kentucky, Ohio and Pennsylvania, the figures show that Pennsylvania, in 1917, imported 68,862,292 M. cubic feet; Ohio 96,865,138 M. cubic feet; Indiana 4,055,012 M. cubic feet; Kentucky 9,251,366 M. cubic feet. Now, these aggregates imported by those States from all sources amount to 179,033,478 M. cubic feet, that is correct is it not?

A. I think it is.

Q. And yet, you report, as exported from West Virginia, including Maryland, on Exhibit 31, in the year 1917, 193,128,909
2475 M. cubic feet, or 14,095,101 M. cubic feet, more than all of those States imported from all sources. Does not that indicate to you that this method which you adopted of obtaining the amount of gas exported from the State of West Virginia into other States is not reliable?

A. There appears to be some discrepancy in the total amount. On page 1072 of the Natural Gas Report of the United States Geological Survey, published September 20, 1919, we have the following——

Q. (Interrupting.) That is for the year 1917?

A. That is for the year 1917 yes. "In addition to supplying the greater part of its own requirement of natural gas in 1917, West Virginia supplied a volume of natural gas estimated at 196,924,922,000 cubic feet, and having a market value of $47,745,196 to consumers in Pennsylvania, Ohio, Indiana, Kentucky and Maryland."

Q. That shows that the gentleman making the estimate in the Geological Survey is also wrong, does it not?

A. It does.

Q. Now, is it not possible, as explaining this discrepancy which is admitted, and which, apparently, we are unable to explain, that whatever the production in West Virginia, before we estimate the amount exported, we must deduct a large amount of gas used for some purposes and possibly, in the operation of these companies, to which I have already referred?

A. It is possible.

Q. Now, taking the amount of production, as given in
2476 all these Exhibits made by you, for Pennsylvania, for example, you did not take into account, as I already asked, the gas exported to other States, and the same is true of Ohio, is it not?

A. Yes, sir.

Q. Calling your attention to page 952 of the 1915 Report to which we have already referred, "Of the natural gas produced in Ohio in 1915, practically all was consumed within the State, a small volume in the aggregate, being piped into contiguous parts of West Virginia and of Indiana, to supply consumers adjacent to the State boundaries." That shows that some part of that gas was exported, does it not, from Ohio?

A. It does. It further shows, reading the remainder of the same paragraph, "Of a total volume of natural gas consumed in Ohio in 1915, about 68,186,364,000 cubic feet, valued at $14,729,341 was piped into the State from West Virginia, Pennsylvania, and Indiana;

the greatest portion coming from West Virginia. My exhibit shows that Ohio imported 67,214,757 M. cubic feet, slightly less than 1,000,000 feet than the figures just read.

Q. The same report of the Geological Survey, as to Indiana, shows, page 958, that Indiana imported some of this gas from Ohio, does it not?

A. It does.

Q. And the same volume, at page 961, shows that Illinois supplied domestic and industrial consumers in Vincennes, Indiana?

A. It does.

2477 Q. If, then, we add to the gas imported into Indiana, Kentucky, Ohio and Pennsylvania, from another State, and deduct that from the total amount of gas imported into those States, during the year 1917, which I have used as an illustration, then that will increase, by that amount, the difficulty of explaining what became of the gas you report as exported from West Virginia, in the year 1917, which, as shown by the figures, is already over 14,000,000,000 feet more than the total amount imported into those respective States?

A. It will, by using those figures.

Q. And if, in addition to that, we deduct form the total production, in those several States, the amounts of gas which those respective States exported to other States, it will still further emphasize these discrepancies, will it not?

A. It will, unless you take into consideration what they imported from other States, excepting West Virginia.

Q. Now, you know, do you not, as a fact, that the Wheeling District is supplied by the Natural Gas Company of West Virginia, with its natural gas?

A. I do.

Q. And that the Natural Gas Company of West Virginia obtains its supply of natural gas from other States than West Virginia?

A. Yes, sir.

Q. And supplies that district with gas brought into West Virginia, from other States?

A. Yes, sir.

2478 Q. That section of West Virginia, the Wheeling District, is one of the most populous sections in West Virginia, is it not?

A. It is.

Q. And has the largest number of industrial plants in operation?

A. It has.

Q. And some of them very large plants?

A. Yes, sir.

Q. And some of them using gas in some of their operations?

A. Yes, sir.

Q. You gave us some history of the lamp black industry. Before the discovery of natural gas, lamp black was used, was it not?

A. It was.

Q. And what fuel was used then?

A. They used a great deal of the same fuel they use today. They sed bone black; they used coal or coke and carbon.

Q. And there are lamp black manufacturers in different parts f the United States which are making lamp black from other uels?

A. There are some.

Q. Do you know also, as a matter of fact, that the manufacture f carbon or lamp black, as it is commonly called, from natural gas, is a most extravagant and wasteful use of natural gas, do you
479 not, if the gas can be used for any other purpose?

A. If they are getting the amount of black out of the as which they have recently reported to me, I do not see that there s such an enormous wast-. If 1,000 cubic feet of natural gas will ake one pound of carbon black, there is no waste to that.

Q. And if it would make two pounds, it would be less waste?

A. Still less waste. There are places, where they claim that 500 ubic feet will make one pound. The only waste there would be he heat.

Q. Do you know, as a matter of fact, that the Federal Committee n Conservation of Natural Gas, connected with the Bureau of Mines, as recommended that no natural gas be used for carbon black manfacture as a part of its program of conservation?

A. I do not know officially, whether that is a fact or not, but I o know, that during the winters of 1917 and 1918, when all ndustries were stopped by the Fuel Administration, that the carbon lack plants were permitted to go ahead and were not stopped. It as the only industry, practically, that was not stopped.

Q. Was not that because they needed carbon black in connection ith the making of powder and other explosives, and in connection with the activities of the war?

480 A. They needed it for the manufacture of rubber tires and printing Liberty Bonds. Every morning, in reading our orning papers, we have the carbon black before us. They use it r printing, and there has no substitute been found thus far with hich they can make printers' inks as fine, and print on as fine aper as can be done with carbon black.

Q. You know, as a fact, do you not, that the carbon black manufacturers of West Virginia are moving out to Louisiana and other laces?

A. I do, for the reason that the natural gas is much cheaper in ouisiana than in West Virginia.

Q. Calling your attention to these maps, 30 and 30A, which you ay were reproductions in composite form of the Wyer Exhibits; ou do not mean that, do you, that you reproduced all of those aps in composite form, because you have only included in these xhibits such portions as cover portions of West Virginia?

A. That is all.

Q. And those portions, showing these lines as contained on those espective maps running into other States outside of West Virginia, re not included in your Exhibit?

A. Nor are the explanations that are on Mr. Wyer's maps in-

cluded. Our aim in showing that, was to show the interlacing of the different pipe lines running through a portion of the State.

Q. And in order to show that more effectively—the inter-
2481 lacing—you have put upon your Exhibit 30, the gathering lines and other lines, such as branch lines, etc., in just as heavy ruling as you do the main transportation line of these respective companies?

A. We had to make it heavy enough so that the ink would take effect on the map; having different colored ink it was not practicable to draw a very thin fine line. Otherwise, it would not have been visible to the eye.

Q. Was the ink that you were using made out of carbon black?

A. Yes, we used the best possible ink that we could get.

Q. I notice upon these maps some lines that may be misleading to the Court, unless explained. I assume they occur by reason of the fact, as you explained yesterday, that you used maps that had been upon your drawing tables for some years, as, for example, all through the southern portion of this map mor- particularly, a lot of lines in Kanawha, Lincoln, Nicholas, Wayne, Fayette, Boone, Logan, Mingo, Raleigh and Wyoming and McDowell Counties, which lines do not purport to represent, do they, any gas lines or any pipe lines?

A. They do not. They represent streams of water.

Q. Those were on the map which you used to represent streams, etc.?

A. Yes.

Q. Do not they also represent the County lines and the township lines?

2482 A. Yes. Just right there, our draftsman started to put all those in. When I came to it I asked him not to exhibit the county lines.

Q. Therefore, the northern half of the map, I should say, substantially, does not contain those stream lines and others?

A. It does not.

Q. While the southern part of it does?

A. It does.

A recess was here taken until 2:00 o'clock p. m.

3 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Afternoon Session, Friday, January 7, 1921.

Defendant's Testimony.

4 Friday Afternoon, January 7, 1921.

And now, the hour of 2:00 o'clock, p. m., having arrived, hearing ımed, pursuant to adjournment.

C. E. KREBS resumes the stand.

Redirect examination.

Mr. Blue:

Q. I hand you published report of the United States Geological rvey, showing production of natural gas in 1914 and 1915, cover- the mineral resources of the United States—Part 2—pages 927-5, published December 25, 1916, and being one of the reports re- red to on your direct and cross-examination, and call your atten- n to pages 934 to 936, inclusive, and particularly to the tables pearing thereon, headed, "Natural Gas Produced and Consumed the United States in 1914 and 1915," "Distribution of Natural s Consumed in the United States in 1914," and "Distribution of tural Gas Consumed in the United States in 1915," and will ask ı if those tables at those pages, have the figures from which you ained your information and the figures which you used in stating l setting forth the quantities of gas produced in the states of nnsylvania, Ohio, Indiana, Kentucky and West Virginia, and the lustrial consumption thereof in those states, for the years 1914 l 1915?

A. They have.

Q. And do the same figures appear thereon for the production in the states named, and the consumption in the states named 35 of gas for the different purposes stated in the previous question?

A. They do.

Q. In the tables, to which I have referred, do the tables appear to give the amounts consumed for industrial and domestic purposes, as well as the total amount of consumption in the State of Pennsylvania?

A. They do.

Q. Are your figures on Exhibit No. 22, in reference to the State of Pennsylvania, as to the production of gas therein and the consumption thereof therein for industrial and domestic purposes, the same as the figures set forth in the tables appearing at the pages of the book handed you for the years 1914 and 1915?

A. They are.

Q. In the same tables, at the pages of the book handed to you, are there the figures showing the production of gas in the States of Ohio, Indiana, Kentucky and West Virginia, for the years 1914 and 1915, and the consumption in those states of gas for industrial and domestic purposes?

A. Those figures are there.

Q. Are the figures before set forth in West Virginia Exhibit No. 24, of the amount of gas purchased in Ohio and consumed in that State, for industrial and domestic purposes, the same as the figures in the tables in the book handed you?

A. They are.

Q. Are the figures in West Virginia Exhibit No. 26 in
2486 respect to the State of Indiana for the years 1914 and 1915, showing the production of gas in that State for those two years and the consumption thereof for industrial and domestic purposes the same as appear in the book handed to you?

A. They are.

Q. And are the figures for the State of Kentucky for the year 1914, as appears in West Virginia Exhibit No. 28, showing the production of natural gas in that State for the years 1914 and 1915, and the consumption thereof for industrial purposes, the same as appear in the tables in the book handed to you? I refer also to the year 1915, as regards West Virginia Exhibit No. 28.

A. They are.

Q. Do the same figures appear on West Virginia Exhibit No. 31, showing the production of natural gas in the State of West Virginia for the years 1914 and 1915, and the consumption thereof in that State for industrial and domestic purposes, as appear and are set out in the tables of the book handed to you?

A. They do.

Q. I hand you a publication of the United States Geological Survey covering "Mineral Resources of the United States, 1916—Part 2—published May 4, 1918," and call to your attention tables appearing at pages 590 to 591, inclusive, showing "Natural gas consumed in the United States in 1915" "Distribution of Natural Gas Consumed in the United States in 1916," and will ask you to state if those are the tables from which you got your information in making up your charts and diagrams in the record as West
2487 Virginia Exhibits Nos. 22, 24, 26, 28 and 31, for the year 1916?

A. They are.

Q. Are the figures showing the amount of gas produced and consumed in the States of Pennsylvania, Ohio, Indiana and Kentucky, in the year 1916, as shown in the Exhibits referred in the immediately preceding question, the same as appear in the tables appearing at pages 590 and 591?

A. They are.

Q. I hand you United States Geological report covering "Mineral Resources of the United States, 1917—Part 2—pages 1051-1136, published September 20, 1919," and call your attention to the tables herein appearing at 1056-1058, and will ask you if it was from those tables that you got your figures of the production and consumption of gas for industrial and domestic purposes in the States of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, for the year 1917, as shown in West Virginia Exhibits Nos. 22, 24, 26, 28 and 31?

A. It was.

Q. Are the figures showing the production of natural gas in the year 1917, in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the consumption thereof in the several states for industrial and domestic purposes, the same as the figures in the book last handed you?

A. They are.

Q. I hand you an advance sheet of the United States Geological Survey showing "Natural Gas produced and consumed in
2488 the United States in 1918," "Distribution of Natural Gas Consumed in the United States in 1918," "Distribution of Natural Gas Consumed in the United States for Industrial Purposes for 1918," and I will ask you if it was from such advance sheets that you obtained the information and the figures showing the production of natural gas for the year 1918 in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the consumption thereof in said states for the year 1918 for domestic and industrial purposes, as you have set the same out in West Virginia Exhibits Nos. 22, 24, 26, 28 and 31?

A. It was.

Q. Are the figures appearing in West Virginia Exhibits Nos. 22, 24, 26, 28 and 31, showing the production of natural gas in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the consumption thereof for industrial purposes and domestic purposes in those states, the same as those appearing in the advance sheets of the United States Geological Survey for the year 1918?

A. They are.

Q. I hand you again United States Geological Survey publication of "Mineral Resources of the United States, 1915—Part 2—pages 927-1015, published December 29th, 1919," and will ask you to read into the record the paragraph thereof appearing at page 927, a part of which paragraph was read to you on your cross-examination by Mr. Weil.

A. "The term 'production' as applied to the output of natural gas is used in this chapter in a restricted sense to designate only

2489 that portion of the natural gas that found commercial utilization during the year in review. No attempt has been made to compile data concerning the volume of gas, amounting to many millions of cubic feet, that reached the surface and escaped without performing any useful service. 'Production' as here employed is, broadly considered, synonymous with 'consumption', and were there no interstate transportation of natural gas, the use of the former term would be unnecessary. As, however, natural gas can readily be transported from productive localities in one State to markets in adjacent States, production and consumption in a given area rarely balance and the necessity for a distinction becomes apparent, as is evident from following example: The State of New York produced, in 1915, nearly 8,000,000,000 cubic feet of natural gas, whereas its consumption in the same period was in excess of 18,700,000,000 cubic feet, showing that more than one-half the natural gas supply of New York was obtained from fields outside the State. The term 'consumption', as the term implies, designates the quantity of natural gas utilized within a specified area, usually a civilian division, irrespective of the source of the gas."

Q. I will ask you to look at publication of the United States Geological Survey covering "Mineral Resources of the United States, 1915—Part 2—pages 585-678—Published May 4, 1918," and will ask you to read into the record a paragraph thereof appearing at page 586.

A. "The term 'production,' as applied in this report, is used in a restricted sense to designate only that portion of the natural
2490 gas actually produced during the year specified which found commercial utilization during that year. In this sense it is synonymous with 'consumption,' and, were there no interstate transportation of natural gas, the use of the former term would be unnecessary. As natural gas is freely transported from one State to another, however, the term 'production' is convenient for designating the output of natural gas in a given State, irrespective of its place of consumption, and the term 'consumption' is appropriate for designating the natural gas utilized in a given State, irrespective of its place of production."

Q. I will ask you to read into the record paragraph appearing at page 1051 of the United States Geological Survey publication of "Mineral Resources of the United States, 1917—Part II (pages 1051-1136), Published September 20, 1919."

A. The term 'production,' as applied in this chapter, is used in a limited sense to designate only that portion of the natural gas actually produced during the year specified which found commercial utilization in that year. It excludes the large volume of gas (of which there is no reliable gage) that finds its way to the surface of the earth in the oil and gas fields of the country and escapes without performing any useful service. In a national sense it is synonymous with 'consumption', and, were there no interstate transportation of natural gas, its use would be inexcusable. As natural gas is freely transported from one State to another, however, the term
2491 'production' is convenient for designating the output of gas in a given State irrespective of its place of consumption, and

the term 'consumption' is appropriate for designating the gas utilized in a given State irrespective of its place of production."

Q. In making up the charts or diagrams introduced by you did you make the same up, in the sense of production and consumption, that you understood those terms to mean in the Geological Survey Reports?

A. I did.

Q. On your cross-examination you were asked respecting lamp black and carbon black? Is there any distinction between lamp black and carbon black?

A. There is.

Q. Is carbon black made out of natural gas?

A. It is.

Q. What is the distinction between lamp black and carbon black?

A. Lamp black is usually impure black, which can also be made of natural gas. It is that portion of the natural gas that escapes in the way of smoke. It is also made out of coal and other materials and is not as pure as carbon black.

Q. Can carbon black be made from coal?

A. Lamp black can be but I doubt very much if carbon black can be, owing to the impurities of the coal such as sulphur and other impurities in our coal.

Q. Which is used in the manufacture of automobile tires
2492 and printers' ink, lamp black or carbon black?

A. Carbon black.

Q. On cross-examination you were asked by Mr. Weil yesterday whether there was gas piped from Pennsylvania, and probably also from Ohio, into the State of West Virginia, and you answered that your information was to the effect that there is some gas piped into the State of West Virginia from the State of Pennsylvania and, it may be, also, from the State of Ohio. I am not sure whether you were asked that or not. I will ask you to state now whether the United States Geological Reports to which your attention has been called, particularly the table to which your attention has been called, indicate that the gas piped from Pennsylvania into West Virginia, and in case any is piped from Ohio into West Virginia, appears by any foot note to be charged to the consumption of gas in Pennsylvania or Ohio?

A. It does not. The only foot note is this: "It includes gas piped from West Virginia and consumed in Maryland". That is the only foot note I see in regard to gas consumed in West Virginia or produced in same.

Q. Mr. Weil on your cross-examination inquired of you yesterday whether facetiously or not, I do not know,) why your lines were so heavy on Exhibit Map 30. I will ask you to state whether or not the lines, as you placed them on Exhibit Map 30, are heavier relatively, or, indeed, as heavy, as the lines shown on Mr. Wyer's may, introduced by the State of Pennsylvania?

2493 A. They are not as heavy relatively as those introduced by the State of Pennsylvania.

Q. Are there any lines on West Virginia Exhibit No. 30, or the

photographic copy thereof other than the lines as appear on the maps introduced through Mr. Wyer?

A. None as far as I know.

The witness then withdrew.

J. S. LAKIN, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

Mr. Blue:

Q. Where do you live, Mr. Lakin?

A. 1409 Virginia Street, Charleston, West Virginia.

Q. What official position, if any, do you hold in the State of West Virginia?

A. I am a member of the State Board of Control of West Virginia.

Q. How long have you been a member of that board?

A. Since June 30th, 1909.

Q. State in a short, concise way the general duties of the State Board of Control of West Virginia.

A. The State Board of Control has charge of the financial and business affairs of the state educational institutions, and has full power to govern, manage and control all the penal, charitable and correctional institutions. It has charge of the property of the state owned away from the Capitol. It has charge of the financial
2494 and business affairs of any officer, board or agent of the State of West Virginia not having offices at the Capitol. It has charge of the state insurance, among other business matters of the state. In fact, it has charge of all the business of the state away from the Capitol.

Q. Of the several state institutions under the jurisdiction and supervision of the State Board of Control, how many of them use and have been using natural gas for heating, cooking, illuminating or any other purposes?

A. Seventeen of the state institutions use natural gas for some one or all of those purposes.

Q. Can you state the name of the utility that has been and that is now furnishing natural gas to the institutions under the control and supervision of your Board?

A. I have a list of them here that I could furnish. I do not know that I could name them all from memory. I think I can name them mostly from memory but I will furnish the list.

Q. I will ask you to furnish a list and read that list into the record, showing the institutions under your control which have used or may be now using natural gas and the utility furnishing the same.

A.—

"*West Virginia Institutions under Supervision of the State Board of Control.*

Educational Institutions.

West Virginia University, Morgantown, W. Va.
West Virginia Utilities Company, Morgantown, W. Va.
2495 Preparatory Branch West Virginia University, Keyser, W. Va.
West Virginia & Maryland Gas Company, Keyser, W. Va.
West Virginia Trades School, Montgomery, W. Va.
Montgomery Gas Company, W. Va.
Marshall College, Huntington, W. Va.
Huntington Development & Gas Company, Huntington, W. Va.
Fairmont Normal School, Fairmont, W. Va.
Monongahela Valley Traction Company, Fairmont, W. Va.
West Liberty Normal School, West Liberty, W. Va.
Manufacturers Light & Gas Company, Wellsburg, W. Va.
Glenville Normal School, Glenville, W. Va.
Glenville Natural Gas Company, Glenville, W. Va.
West Virginia Collegiate Institute, Institute, W. Va.
Charleston-Dunbar Natural Gas Company, Dunbar, W. Va.

Penal, Charitable, and Correctional Institutions.

Weston State Hospital, Weston, W. Va.
Keener's Oil & Gas Company, Weston, W. Va.
Spencer State Hospital, Spencer, W. Va.
G. L. Cabot, Spencer, W. Va.
Huntington State Hospital, Huntington, W. Va.
United Fuel Gas Company, Huntington, W. Va.
Fairmont Hospital No. 3, Fairmont, W. Va.
Monongahela Valley Traction Company, Fairmont, W. Va.
West Virginia Penitentiary, Moundsville, W. Va.
Manufacturers Light & Heat Company, Pittsburgh, Pa.
West Virginia Industrial School for Boys, Grafton, W. Va.
Comet Oil & Gas Company, Wheeling, W. Va.
2496 West Virginia Industrial Home for Girls, Industrial, W. Va.
Pittsburgh & West Virginia Gas Company, Pittsburgh, Pa.
State Tuberculosis Sanitarium, Terre Alta, W. Va.
Northern Natural Gas Company, Oakland, Md.
West Virginia Children's Home, Elkins, W. Va.
West Virginia Gas Company."

Q. Take them in the order in which you have just stated them, I will ask you to say the purposes for which you have been using, or may now be using, natural gas at the State University.

A. Until the Fall of 1919 we used natural gas at West Virginia University for heating, for cooking in the dormitories, for experiments in the agricultural experiment station work and for engines in the mechanical engineering department.

Q. The University has a mechanical engineering college as a part of the University?

A. It has. In 1917 the University was notified by the company then serving it, which I recall to be the West Virginia Traction and Electric Company, that that company desired to take out heating plant off their lines and burn coal. We declined to do this for the reason that to burn coal would require an additional outlay, additional equipment and additional firemen, and we had no funds to pay for this extra expense. But in 1918 the request was made again for us to use coal at this institution. In the Summer of 1918 we complied with their request by installing boilers. The boiler connections cost $17,000 additional expense. We began in the Fall of 1919 to use part coal and part gas and in the Fall of 1920 used coal entirely.

2497 Q. Well, then, for what purposes are you now using natural gas?

A. Using natural gas for heating water, heat for domestic science department and chemical plant, the green-houses and dormitories, cooking—and most of our equipment is arranged for gas.

Q. Do you know how long the university has geen using gas for general purposes?

A. It had abandoned its switch, and was using gas in 1909—I don't know; have no personal knowledge back of 1909, but it at one time used coal—and in 1909 the switch was abandoned and——

Q. And this notice to you—to your Board. When you got that notice you changed, or prepared to change, from the use of gas as a fuel to coal as a fuel in your boilers?

A. Yes, sir.

Q. For what purposes were those boilers used? I mean, what was the steam made in those boilers used for?

A. For heating all the buildings at the university, which I suppose, at that time, would be about 15—15 buildings to heat.

Q. And the amount you have already expended in changing your method of heating, or rather the amount you have expended in the change from gas as a fuel to coal as a fuel, has cost the State $13,000.00?

A. $13,000.00, and it also involved an increase on account
2498 of firemen from $125 00 per month to $600.00 per month, and when we have an efficient coal-burning plant there—as efficient as it was for gas—it will necessitate a cost of $40,000.00 additional.

Q. What is the attendance at the university?

A. The attendance at the university, and the professors, and other employes of the university, number about 2,000 at this time.

Q. You mean 2,000, including the faculty and the student body?

A. Yes, that is right.

Q. Do you know, within your own knowledge, whether the conditions applying to the university which required you to change from gas as a fuel to coal as a fuel extended to the community of Morgantown—to the City of Morgantown?

A. The request came from the West Virginia Traction & Electric Company, by Mr. Joseph McKinnon—stated that we were using

15,000 cubic feet of gas hourly, and that if we were cut off from the line they could then give better service to the domestic users of the town of Morgantown.

Q. The university is located at the town or city of Morgantown, in Monongalia County?

A. Almost in the City.

Q. In the County of Monongalia?

A. In the County of Monongalia—at the same time that we were asked to change from gas to coal there were three plants using large amounts of gas within a very short distance of the university,
2499 within the City of Morgantown, which could just have easily been asked to change—and may have been for all I know.

Q. Well, then, you had knowledge, or have knowledge, that they were? Or were they asked?

A. I know nothing of it.

Q. The next institution, in the order as you have stated them, is the Preparatory Branch of the West Virginia University, at Keyser. That institution is located at the town or city of Keyser, in the County of Mineral, is it not?

A. Yes, sir.

Q. Have you used, or do you use, natural gas as a fuel at the Preparatory Branch of the West Virginia University at Keyser?

A. We began using natural gas as a fuel at the Preparatory Branch as soon as the West Virginia & Maryland Gas Company built its line into Keyser, and are using it to-day, at least, as much as we can get—at this time.

Q. For what purposes have you been using, or do you use, natural gas now as a fuel at the Preparatory Branch of the University of West Virginia at Keyser?

A. For heating buildings, for heating water, for cooking, and for aiding in pumping.

Q. What has been your experience with natural gas there from the standpoint of the service rendered you by the company supplying you with gas?

A. The last three years the supply has been decreasing, so much so that, at times, we have not had gas enough to cook with,
2500 and one or two times it has been necessary to dismiss classes on account of poor gas supply, and we have recently enlarged our chimneys in one of our buildings for the purpose of enabling us to burn coal, at a considerable expense; and we have increased our heating plant with the same idea in view,—the chimney, having been built for gas, was not sufficient for coal to be——

Q. You mean you had put in gas equipment and built your chimneys for gas equipment?

A. Built chimneys for gas equipment—and the sudden change came. After the plant was prepared and the building erected, we found it necessary to use coal, and the chimneys did not give sufficient draught for the heating plant that was installed, and it was claimed that it was because it was too small.

Q. Does the change from your equipment to use gas at the Preparatory Branch at Keyser mean any expense to the State?

A. If—we are using at this time both gas and coal. If it becomes necessary for us to abandon gas as a fuel it will necessitate changing practically all of our equipment—every bit of it, pumping, heating, cooking, heating water——

Q. What do you mean by "pumping"? Do you mean that you pump your own water—furnish your water?

A. The water pressure at Keyser is not sufficient to run our building, and we get behind the water with an engine and pump it on up there through the buildings.

2501 Q. Do you know whether the West Virginia & Maryland Gas Company furnishes gas to the City of Keyser, and to that community, or whether it simply furnishes gas at that point to this State institution?

A. I don't know, personally. I know there is a gas company there, but I don't know whether it is under that name; they change the name; this company is under three different names to our different institutions.

Q. What are the different names?

A. At Elkins—we have a State institution there known as the West Virginia Children's Home—it is called there, the West Virginia Gas Company; at Keyser, we have the Preparatory Branch of the West Virginia University, and they are called the West Virginia & Maryland Gas Company; and at Terra Alta, we have the State Tuberculosis Sanitarium, and it is called the Northern Natural Gas Company.

Q. The fact about the matter is, these are sort of separate companies and constituent companies of the Eastern Oil Company, are they not?

A. I am not familiar with that company. I would like to make an explanation on my testimony, regarding the West Virginia University, and that is that I referred there to a different company from the one now serving us; the one now, as you will note from the memorandum I have filed, is the West Virginia Utilities Company. They have changed——

Q. What was the name of it formerly?

A. West Virginia Traction & Electric Company.

2502 Q. I will ask you to be a little more specific, if you can, as to your experience with reference to shortage of gas at the university before you changed from gas to coal as a fuel.

A. It is my recollection that we had very good service until we were ordered off the lines.

Q. That was prior to 1917?

A. Prior to 1917—but while they were serving us they gave us very good service.

Q. I wish you would be more specific as to the times when you have been short of gas at Keyser for the preparatory school there.

A. We were short of gas whenever there was a storm on; whenever we had extremely cold weather, we were short of gas; that might happen three or four times a week—and half a month be short; whenever the cold weather—unusually cold weather—we are short of gas; when we need it the most, in other words.

Q. When you wanted it, you did not have it. The next institu-
n you named was your West Virginia Trades School at Mont-
nery; I will ask you to state in what county this school is located.
A. Fayette County.
Q. About how far from the City of Charleston?
A. About 20 miles, but I am not sure of that.
Q. Are you using natural gas there, and, if so, for what purposes?
A. We use natural gas there for heating, cooking, heat-
03 ing hot water, for domestic science school, and part of the time we use it for lights.
Q. What has been your experience with natural gas at that point?
A. Until about a year ago we had a very good gas supply; since
at the supply has been—about a year ago it was—very poor, and
is a little better now. Whenever we had cold, stormy weather,
were without gas, and it was sometimes necessary to dismiss the
nool; the school was dismissed a number of times there—and at
nes there wouldn't be enough gas there to cook with.
Q. What, if anything, has the State been required to do, or does
contemplate doing, in respect to providing itself with fuel for
ur institution at Montgomery?
A. We will change the heating plant there to coal as soon as the
gislature (which will meet in this month) appropriates sufficient
oney to make the change.
Q. Your Board is recommending that to the Legislature and
aking provision in the budget for that purpose?
A. We are making recommendation to take care at that.
Q. What will it cost the State to make the change from gas as a
el to coal as a fuel for the school at Montgomery?
A. I would estimate that it would cost about $4,000.00.
Q. Will the change from gas to coal mean an increased cost
the State for operating its heating plant there?
A. It will mean the employment of an additional man; $150.00
a month.
504 Q. The next institution you have named is the Marshall College, in Huntington. In what country is Marshall College
cated?
A. City of Huntington, and Cabell County.
Q. What is the Marshall College?
A. Marshall College is a school for the education of teachers;
rimarily for the education of teachers.
Q. What is your attendance there?
A. About 500.
Q. What fuel do you use, and have you been using at Marshall
ollege?
A. We have used gas there as the fuel since 1909, to my personal
nowledge, and still use it as fuel; also for cooking, and for heating
ater, and for domestic science class, and for scientific apparatus,
work of that kind in connection with the science hall.
Q. Have you dormitories there?
A. Cooking—yes, we have dormitories; also do the cooking there
or the boys, in the "cafeteria" style.

Q. How many buildings have you in connection with that?
A. Have three buildings—one a very large one.
Q. Have the buildings at Marshall College been equipped for th purpose of using gas?
A. Yes, gas equipment throughout.
Q. You have no equipment there for the use of coal.
A. Have not.

Q. What has been your experience in respect to the suppl
2505 of gas at Marshall College?

A. The supply of gas there has been very good, indeed.
Q. Would it mean any increased cost to you if you were require to make a change at Marshall College from gas as a fuel to coal as fuel, or something else as a fuel? If so, in what way?
A. It would cost us $50,000.00 in equipment, and $500.00 $600.00 a month for additional labor.
Q. The next institution named by you is the Fairmont Norm School at Fairmont. Will you state the county in which this inst tution is located?
A. Marion County.
Q. What do you use, or what have you been using, at the Fai mont Normal School, for fuel?
A. Fairmont Normal School is equipped for the use of gas: g heating plant, gas cooking plant, gas for heating water.
Q. What is this institution?
A. It is a training school for teachers; has about 200 student
Q. How many buildings do you have there?
A. Two buildings.
Q. Are both of them equipped at present for the use of gas f heating, and otherwise?
A. Both of the buildings are equipped with gas for heating an otherwise, and have no other heating equipment.

Q. If you were compelled to change from gas as a fu
2506 to coal as a fuel, or some other fuel, at Fairmont, would mean any additional cost to the State, and if so, how much

A. It would mean, at least, an additional cost of $30,000.00.
Q. When you answer these questions, do you include lighting, just merely that for heating purposes?
A. I am thinking largely of the heating plant; main heating plan and the—providing for storage of coal, and for storage of ashes an for cooking.
Q. Are you including illuminating?
A. None of these plants are now using gas for illuminating pu poses, I have mentioned up to this time.
Q. You are using electricity for light?
A. Yes.
Q. The next institution you have named is West Liberty Norm School. Where is that located?
A. That is in Ohio County, 12 miles from Wheeling.
Q. How long have you been using natural gas there for heatin lighting and other purposes?

A. We have been using natural gas there for—in 1909 when I first visited that institution.

Q. You do not know how much longer they have been using it.

A. No, sir.

Q. All the time since 1909?

A. All the time since 1909.

Q. What are your buildings equipped there to use?

2507 —. We have two buildings there; they are equipped for the use of gas: for heating and cooking, and for domestic science work; we pump our water with gas.

Q. If you were required to change from gas to coal, or some other fuel, would it mean any expense to the State?

A. It would mean an expense there of $15,000.00.

Q. How are you situated at West Liberty in respect to facilities with which to obtain coal, wood or other fuel?

A. It would be necessary to haul all coal about five miles, by wagon or truck.

Q. The next institution you named is that of the Glenville Normal School, at Glenville. In what county is this institution?

A. Gilmer County.

Q. How long have you been using gas at Glenville Normal School, and for what purposes?

A. We have been using gas at the Glenville Normal School since I first visited the—Board; at least, I don't know how much longer—since I first visited Glenville, and that was in 1909. We have been using gas at Glenville Normal School since 1909, to my knowledge.

Q. For what purposes do you use gas at Glenville Normal School?

A. We have two buildings there. We use gas for heat in the main school building, and for domestic science work, and we use gas for heat, and for cooking in the dormitories: the dormitories for girls.

Q. Are your buildings there equipped for the use of gas?

2508 A. They are.

Q. If you were to change from gas to coal, or any other fuel, would it mean any expense to the State?

A. It would mean an expense of $10,000.00.

Q. What has been your experience in respect to gas at Glenville from the standpoint of the service?

A. The supply there has been very poor; during cold, and even during moderate weather, not enough—frequently not enough to heat the buildings, and many times not enough to do the cooking; and at times it has been necessary to dismiss the school there on account of the shortage of gas—for short periods.

Q. When have you experienced the necessity of dismissing the school on that account?

A. I think it was in 1918—I don't mean at the students' homes, but dismissed them from classes, because they were not comfortable—in 1918 and 1919.

Q. You said there were times when you did not have enough gas to cook with. When was that, and what did you do under the circumstances?

A. Well, we would go out in the yard and build a fire of wood and cook in the yard.

Q. When was that?

A. That was 19—I should say that was in 1919, it was necessary to do that.

2509 Q. The next institution named by you is the West Virginia Collegiate Institute. In what county is that located?

A. Kanawha County.

Q. How far from the City of Charleston?

A. It is about eight miles, I would say.

Q. What sort of an institution is this?

A. This is a preparatory school and college for the colored.

Q. Is it equipped for the use of gas?

A. It was equipped solely for the use of gas up until this last summer, when we changed the heating plant so we could use coal; installed a new heating plant.

Q. Why did you change from the use of gas to the use of coal?

A. The supply of gas was so irregular that we could not depend upon it.

Q. For what purposes did you use gas at the Collegiate Institute?

A. We used gas for heating, for pumping of water, for lights, for the mechanical school, the green-houses, for cooking at the dormitories, and heating water.

Q. Did the change from the use of gas as a fuel to the use of coal as a fuel involve any expense to the State?

A. We changed the plant, and it cost approximately $25,000.00—we are using gas as a fuel, but we are prepared to use coal.

Q. What has been your experience there?

2510 A. The supply of gas has been very irregular; at times we were not able to cook meals; when we were not able to cook the meals, we had gas for no other purposes.

Q. When did you have that experience?

A. That was, I think, 1917, 1918 and 1919; the gas supply later has been better, much better.

Q. The next institution named by you is the Weston State Hospital, at Weston. State the county in which this institution is located.

A. Lewis County.

Q. What is this institution, the Weston State Hospital?

A. The Weston State Hospital is a hospital for white and colored insane, male and female.

Q. What do you use, and what have you been using, for fuel at the Weston State Hospital?

A. When I became a member of the Board of Control in 1909 we had our own fuel from our own wells.

Q. Your own gas wells?

A. Our own gas wells on the Hospital farm. We had two wells. These wells supplied us with all the gas we needed; shortly after the pumping station was built our wells began to run down so we couldn't supply ourselves, and we drilled another well at the expense of $5,000.00; got a very good well, but it shortly began to run down,

nd we began supplementing our supply from a carbon company that wasn't far from our farm. I don't recall the name of the car-
2511 bon company—and the supply continued to decrease until it was necessary to supplement our supply from the Keener's Oil & Gas Company—the carbon people couldn't furnish us with sufficient gas, and finally our own wells were entirely abandoned, and we now get the supply from the Keener's Oil & Gas Company, I believe. I would like to correct my testimony as to the second source of supply, which was the Weston Gas Company, as I recall it now, instead of the Keener's, and we are now buying from the Keener's Oil & Gas Company.

Q. The Keener's supplies the town of Weston locally with gas?

A. It does.

Q. Was the institution there at Weston (the State Hospital) built and equipped for the use of gas?

A. When I found it—the building of the Weston State Hospital, if you recall, was started, when this was the old State of Virginia. When I became a member of the Board in 1909 I found the institution equipped for gas. Of course, in the "old days" they had no gas. The supply of gas has never been adequate since we lost our own supply. Within the last few days it was necessary to shut down our laundry—shut down all of our activities there in order to have gas enough to run our ice plant. The reason we protected the ice plant first of our different activities, other than heating the building, is the quantity of meat stored would spoil on our hands. There have been times at this institution when it was necessary to
2512 shut down all activities and put the patients to bed, or the patients have been ordered to bed by the hospital physicians, in order to keep them warm; that was last year.

Q. You have just said that within the last few days you have been so short of gas that you had to close down there except to keep the building warm to run your refrigerating plant. We have had no cold weather within the last few days, have we?

A. No, sir, no unusually cold weather.

Q. This last experience of the shortage of your supply has not come, therefore, from any cold, stormy weather, or any moderately cold weather, has it?

A. We have had no unusually cold weather in that part of the State this year.

Q. The fact is, there has been a very open and moderate winter, and is now, and was at the time you experienced this recent shortage?

A. Yes.

Q. For what purposes do you use gas at the Weston State Hospital?

A. We had gas for heating our buildings, numbering about 20; we use gas for manufacturing, light, in making our own electricity; we use gas for water supply, pumping our water out of the west fork of the river to a reservoir in the hill in the rear of the State institution; we use gas for our bakery; we use gas for our laundry;
2513 we use it for cooking; in fact, all the activities of the institution—gas has been—except when it was necessary to supple-

ment it with wood or coal—the only fuel used, and then we furnish all our own utilities there, all run by gas.

Q. This shortage that you have just recently experienced has been experienced while you are being supplied by the Keener's Gas Company, the local supply, or distributing, company of the City of Weston?

A. Yes, sir.

Q. If you are required to change from gas as a fuel to coal or wood or some other fuel, will the change mean any expense to the State of West Virginia?

A. To make the change of all of our activities there from gas to some other fuel will cost $200,000.00.

Q. Do you mean that, whether you have an adequate supply of gas or even an inadequate supply of gas, if you are forced to change from gas to coal it means an expense to the State of $200,000.00.

A. We might cripple along, as we are doing now: with part gas and part coal and part wood, without any great additional expense but to make an actual change from gas to coal for our various activities there—our various institutions—it would cost not less than $200,000.00. Once we have had gas in an institution, we have never given it up voluntarily, it being the cheapest and the easiest fuel to handle.

Q. And your equipment there for all of your activities you
2514 have named was put in with a view to the use of natural gas as a fuel.

A. Our equipment there is now arranged for natural gas as a fuel. There may be some old equipment there that has been changed from coal equipment to gas equipment. Of that I have no knowledge.

Q. The next institution named by you is the Spencer State Hospital, at Spencer. In what county is Spencer?

A. Roane County.

Q. What is the nature of this institution?

A. It is a hospital for white insane, male and female.

Q. What fuel do you use?

A. We use gas exclusively.

Q. For what purposes?

A. For all our institution utilities; for heat; for our water supply; our light supply; our laundry; for every utility in the institution, we use gas as a fuel; even use it in disposing of our sewage.

Q. Do you have any equipment there for the use of coal?

A. This institution at one time seems to have been equipped for coal, but not in my time. There was one time a switch from the railroad to this plant; that switch was abandoned, and there are now houses built across the right of way; it would be impossible to build a switch there to handle coal economically; it would have to be hauled all the way there, from a quarter or half a mile, by truck, to
2515 get coal to the plant.

Q. Would it mean any expense to the State to change from gas as a fuel to coal?

A. In order to have our utilities served as well as they are now it would mean an expense of $100,000.00.

Q. What has been your experience at Spencer in respect to your supply of gas?

A. We have had an excellent supply of gas at Spencer at all times.

Q. The next institution you named is the Huntington State Hospital, of Huntington. In what county is this located?

A. Cabell County.

Q. What is the nature of this institution?

A. This is a hospital for insane, for epilepties, idiots and imbeciles, male and female; idiotic children, white only.

Q. What do you use at this institution for fuel?

A. We use gas exclusively at this institution.

Q. For what purposes?

A. We use it for heating the buildings there, all the buildings there, for lighting them; we use it for running our laundry; our bakery; our central kitchen; our fire-fighting apparatus; in fact, all the activities—even to the moving pictures—run it with gas. We manufacture our electricity there. We have a moving-picture machine for the patients.

Q. This plant, then, is equipped throughout for the use of
2516 natural gas?

A. Yes.

Q. What is your location in respect to the railroads and railroad switches?

A. This institution—we have—has never used any other fuel than gas, and for that reason was located at a point where the State does not own land over which they could reach the power plant with coal, either by railroad, or wagon or truck. It would be necessary to buy very expensive land to reach the power plant.

Q. What would it cost the State to change from the use of gas as a fuel at this institution to coal, or some other fuel?

A. I would say, $100,000.00.

Q. The next institution you named is the Fairmont Hospital at Fairmont. This institution is also in the County of Marion.

A. This is in Marion County.

Q. In the City of Fairmont?

A. In the City of Fairmont.

Q. What is the nature of this institution?

A. This is an emergency hospital furnished by the State to care for those actually injured while in their regular employment.

Q. How is that institution equipped from a power and fuel standpoint?

A. Until, I think, two years we used gas there for heat-
2517 ing, lighting, and for water supply; we use gas as a fuel for producing electricity—for manufacturing our own electricity, and pumping our own water, and running our own laundry. Now the supply became so poor there about three years ago that it was necessary for us to abandon our electrical equipment and pumping equipment, to buy our electricity, and buy our water, and we use coal as a fuel, but we still use gas for cooking. We do not always have enough gas to cook with there. We have to supplement

that with wood. I want to say that, in that connection—it is a strange thing—on the east side of the river in Fairmont we have one institution and we have very poor gas supply; on the west side of the river—in the Fairmont Normal School—we have very good gas supply—in the town of Fairmont.

Q. Has the State been required to expend any monies in changing from the use of gas at the hospital at Fairmont to the use of coal?

A. We simply lost many conveniences we had, making it necessary to junk our electrically lighting plant, and our pumping plant, and also our ice-making and cold-storage plant we had there. Because we didn't have sufficient gas supply, we took it out and sold it or junked it. We have no ice-making plant; we buy our ice, and we buy our power for water, laundries, which was formerly run by gas.

Q. Does that mean a loss, or not, to the State?

A. Increased the cost——

2518 Q. And on account of your poor supply of gas at Fairmont Hospital, you are using gas now only for the purpose of cooking?

A. Yes; when we don't get quite enough for cooking, we have to supplement that with wood or coal.

Q. The next institution you named is the West Virginia Penitentiary, at Moundsville. In what country is this institution located?

A. Marshall County.

Q. What have you been using, or what do you use, at this institution for fuel?

A. In 1909 gas was used almost exclusively for fuel, and that fuel was used for many purposes, but either in the year 1909 or 1910, the company then furnishing—which, according to my recollection, was the Wheeling Natural Gas Company, with offices in Pittsburgh—declined to renew their contract they had with us at what our board thought was a fair rate. They started off with a 25 cent rate and ran down as low as 14 cents. At the same time we were buying gas for 5 cents, and we thought that rate was exorbitant, and we would not pay it, and they, in a friendly way, said, "We would rather you get off our line; we can make better use of our gas", and we got off their line, as much as we could. We couldn't take it, because coal was very cheap then. We made a five-year contract for coal at $1.00 a ton, and we got off the line with as much equipment as we could, but there was a good deal of equipment we could not leave the line with; that is to say, once we start to

2519 use gas we have not given it up at any institution, for the reason it is more economical than coal at $1.00 a ton—both as to the original cost and the labor cost and machinery cost.

Q. For what purposes do you use gas at this institution?

A. We use gas for all purposes there, except for the purposes of heating; we use coal for heating; we use gas for all other purposes there; that is to say, we use gas for furnishing power for all the contractors who employ the prisoners in the penitentiary—we sell them power; we use gas for our bakery; our laundry; our kitchen equipment; our lighting equipment.

Q. If you were required to change from gas as a fuel to coal, for the purposes you use gas at that institution would it mean any expense to the State?

A. It would mean an expense of at least $100,000.00. We have power for gas engines there, and we have equipment there that we couldn't—get coal to the engines, and would have to relocate them and make considerable change in our mechanical department.

Q. Are you making any preparations to get coal at the penitentiary for heating purposes?

A. We are sinking one shaft there on our own farm for supplying ourselves with coal.

—. ——.

A. Between 80 and 90 feet deep.

2520 Q. The next institution you named is the West Virginia Industrial School for Boys. In what county is this institution located?

A. In Taylor County.

Q. What is the nature of it?

A. It is a reform school for boys, white and colored.

Q. How long have you been using gas there?

A. I found they used gas at this institution in 1909, and we used gas for all purposes there until about three years ago, when the supply ran down, and we changed our heating plant to coal.

Q. To be a little more specific, why did you change your heating plant from gas to coal?

A. Because of the inadequate supply. We use gas for cooking, and for bakery, and some of the other little activities about the institution.

Q. The next institution you named is the West Virginia Industrial Home for Girls. In what county is this institution?

A. Harrison County.

Q. How far from Clarksburg?

A. I should say about 12 or 14 miles from Clarksburg.

Q. What is the nature of this institution?

A. It is a reform school for wayward girls.

Q. How long have you used gas at that institution?

2521 A. This institution is equipped solely for the use of gas, used for heating, lights, laundry work, cooking, domestic science work, water supply, pumping water.

Q. The fact is, this institution is located just a short distance from the town or City of Salem, is it not?

A. Yes, sir.

Q. Are you using gas for all purposes at the institution now?

A. We are using gas for all purposes, and we are preparing, however, to change to coal.

Q. Why are you preparing to change from gas to coal at this institution?

A. If you will permit me—we formerly purchased gas from the Salem Gas Company, and that company gave us a very poor supply of gas; it was necessary there—it was frequently—at time- there

there would not be enough there to light the gas, and the girls had to be put to bed there—to keep warm—and one of the big gas companies' lines passed through our State farm, and we were allowed to tap that line, and the supply has been very good since that time; but just this fall one of the managers of this company came along and asked us to get off the line—change to coal for heating—and we are prepared to do that—as soon as we have the money to do it—as soon as the Legislature makes the requisite appropriation.

Q. What company is that?

A. That is the company serving us now—the Pittsburgh
2522 & West Virginia Gas Company.

Q. And that is the company which gave you notice?

A. The man, representing himself to be manager of that company, came along and asked us to get off the line.

Q. And pursuant to that request or notice you got off——

A. Immediately——

Q. You are prepared to put in the coal——

A. (Continuing:) We called up a plumbing company at Clarksburg, and asked them if they could make the change at once, and we found that the plumber, after looking over the plant—it would be very dangerous to make the change—the chimneys decayed—not open—and we might burn our buildings down if we changed at that time—and that we would, therefore, have to rebuild the chimneys, and re-cement them, so they would stand heavy firing of coal.

Q. When was it that you were requested by the company, whose line goes through your farm, to discontinue the use of gas?

A. I should say it was about eight weeks ago; I don't recall exactly; we were called over the long distance phone in regard to it; the notice was given at the institution.

Q. You mean the written notice?

A. No; verbal notice.

Q. Verbal notice? I want to find out specifically about that. Were you yourself called to the telephone?

A. The Superintendent called me, as I recall it—that I
2523 talked to her about it, over the long distance 'phone—not the manager; I got it second-handed. I recollect now she called me, because I instructed the plumbing company to go over and see if they could make the change.

Q. Will that mean any expense to the State—to change from the use of gas at the Salem institution to the use of coal, or some other fuel?

A. If we would have to change entirely it would cost us $50,000.00. We have a wonderful pumping plant there; we have our yard lighting plant; all our cooking arrangements; all our laundry arrangements, and have all our equipment there for gas; they only asked us to change the heat—if we were required to change our heating plant, it will be necessary, as the report shows, to rebuild the chimneys, and also to install heavier boilers—the boilers are too small; it will mean several thousand dollars change——

Q. The next institution you named is the State Tuberculosis Sanitarium at Terra Alta——

A. This institution is located two miles over at a little station called "Hope Mount," in Preston.

Q. And you are served there by the Northern Natural Gas Company?

A. We are served there by the Northern Natural Gas Company.

Q. What is the nature of this institution?

2524 A. This institution is a sanitarium for the treatment of those afflicted with tuberculosis, who are residents of West Virginia, white.

Q. When was it built?

A. It was started in February, 1913—admitted the first patient February, 1913.

Q. Have you used gas there for any purposes?

A. One of the reasons for locating it on that particular ground was that a gas line ran through the farm; it is the only location in the State where we could get the altitude and have natural gas; it was considered by the two committees who had charge of the locating of this institution.

Q. This institution, then, was built and equipped for the use of natural gas?

A. Only.

Q. And for no other fuel?

A. For no other fuel.

Q. What has been your experience at that institution in respect to the supply?

A. The supply began to diminish about three years ago, and we have about 13 buildings there; the first winter the gas went off, I would say—three years ago, and caused a lot of our plumbing to freeze up; the second winter the gas supply was poor—and there would be a week at least where I would not be able to have any hot water. We had no heating plants; we depended entirely at this

2525 institution on gas for heating—with gas stoves, and heating with gas lines, and what pumping of water we did was with a gas engine—and the cooking—all the cooking, and the baking—and about two years ago the gas supply became so poor—in stormy weather, in very cold weather—and that is a very cold climate at times—we would be almost without gas, almost without lights—would have to use candles or lanterns; in the last year the gas went off on one Sunday, on a cold day—it went off entirely; the patients would actually have frozen to death if it had not been for the fact that the Superintendent got out with his employes and erected stoves and built fires—and put the pipes right out through the windows with no chimneys for—installed coal stoves on Sunday—I think that was in January of last year.

Q. January of 1920?

A. Yes—as soon as the weather would permit—we have nine heating plants there now for coal; we use gas whenever we have it—we have not abandoned gas; we use it for heating; we have nine heating plants now for coal and we have—we have put in an electric light plant—we still depend on gas for cooking entirely; of course—our equipment would have to be changed entirely—we would have

to erect the power plant to furnish hot water if we lose the gas entirely; have more trouble there with gas than at any other point in the State—the weather is colder and the supply is poorer.

Q. Do you know whether the gas company serving this tuberculosis sanitarium at Terra Alta also serves the community of Terra Alta?

2526 A. The community at Terra Alta and Oakland, Maryland.

Q. Do you know the nature of the service given to the community at Terra Alta?

A. The service is poor in both of these communities, according to what little knowledge I have in this matter. This is the same company that is serving Cumberland, Maryland.

Q. The gas goes out of West Virginia over into Maryland, however, and them comes back into West Virginia?

A. No, this line is a branch off from the West Virginia line, which is serving Oakland and Terra Alta; the main line runs down from Keyser and then to Cumberland—branch off the main line that runs down over the mountain from Mineral and on to Oakland. I understand that, now, under our maximum charge we pay now 82 cents a thousand for gas at this institution; that is the maximum. You know the amount increases according to the amount you use—I have not seen the bill; the Superintendent told me that was under the new rate.

Q. The more you use the more you pay?

A. The more we use the more we pay.

Q. The last institution named by you is the West Virginia Children's Home, at Elkins. In what county is this institution located?

A. In Randolph County.

Q. City of Elkins?

2527 A. City of Elkins.

Q. What is the nature of this institution?

A. This is the home for white orphans; white orphan children.

Q. For what purposes do you use gas in this institution?

A. For heat and for laundry, and cooking and baking.

Q. What has been your experience at that institution in respect to the supply?

A. The supply has been very poor at times, and this winter we attempted to change—became so poor this winter that we attempted to change from gas to coal—and did so in a make-shift sort of way—without having money to pay for the work. We have not made the change, but we are using some coal there, a thing we have never done before, in order to supplement the supply; we will change there just as soon as we can have the Legislature appropriate the money necessary to make the change.

Q. To make the change requires the expenditure of some money by the State?

A. Yes, about $2,000.00.

Q. As a member of the State Board of Control, do you visit all

of the State institutions, and particularly including the 17 you have been interrogated about?

A. We visit the institutions frequently; we are in full charge of these institutions. As I stated in the beginning, we have full power to manage, govern and control them.

2528 Q. Do you visit them personally?

A. I visit them personally. I have just made a visit to all of the institutions in the State except two.

Q. You are personally acquainted, then, with the conditions at all of the State institutions?

A. I am entirely familiar with the grounds and the buildings of all of these institutions.

Q. And have you informed yourself as to the requirements which will fall upon the State with reference to the additional cost thereof if you are required to change from gas as a fuel to coal?

A. I am in entire charge, direct the repairs and improvements which would cover this particular subject.

Q. There are three members of your Board?

A. There are three members of the Board.

Q. And you sort of divide this work up among yourselves, do you, and particular charge of the buildings and equipment, which would include the heat and light, belongs to your particular work as a member of that Board?

A. Yes, part of my work is the building of the buildings; repairs and improvements, and anything having to do with buildings; all land—anything that would become attached to the buildings or real estate is my personal work.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Lakin, the West Virginia Utilities Company that supplies the West Virginia University at Morgantown is a local com-

2529 pany, is it not?

A. It is, as I understand it.

Q. And the Montgomery Gas Company, at Montgomery, that supplies the West Virginia Trades School is also a local company?

A. It is.

Q. The Huntington Development & Gas Company, of Huntington, W. Va., that supplies Marshall College at Huntington, W. Va. is also a local company?

A. It was a company of considerable size, and was afterwards taken and now owned, as I understand it, by the United Fuel Company.

Q. You are not mistaken about that?

A. That is just as I understand it; that it has been bought by the United Fuel Gas Company; it is far from being a local company, however.

Q. Does it take any gas out of the State—the Huntington Development & Gas Company?

A. Its gas is taken out of the State—I imagine it is.
Q. Have you information upon that subject?
A. I have not.
Q. You have no information upon that subject?
A. I have no information upon that subject.
Q. The Monongahela Valley Traction Company, at Fairmont, West Virginia, that supplies the Fairmont Normal School
2530 is a local company, is it not?
A. It is.
Q. The Glenville Natural Gas Company that supplies the Glenville Normal School at Glenville, West Virgina, is a local company?
A. It is.
Q. And the Charleston-Dunbar Natural Gas Company that supplies the West Virginia Collegiate Institute is a local company?
A. It is.
Q. The Keener's Oil & Gas Company, of Weston, that supplies the Weston State Hospital is a local company?
A. Yes, sir.
Q. The Monongahela Valley Traction Company, at Fairmont, that supplies Fairmont Hospital No. 3 at Fairmont is a local company?
A. It is.
Q. The Comet Oil & Gas Company, of Wheeling West Virginia, that supplies the West Virginia Industrial School for Boys at Grafton is a local company?
A. It is.
Q. The West Virginia Gas Company that supplies the West Virginia Children's Home at Elkins, West Virginia, is also a local company, is it not?
A. It would seem that that company has many local companies; they change their name in every town—it would seem that
2531 way from our dealings with them; they are called one name at Elkins; another name at Keyser and another name at Terra Alta.
Q. Well, do you know whether or not they are separate and distinct local companies, owned by, perhaps, some general company?
A. I do not.
Q. Then you could not state as to that?
A. Except that one of my friends is a director of one of them, and he reports to Buffalo, and I imagine from that his company—the branch at Oakland, Maryland, is part of the parent company. That is the home of this company, isn't it.
Q. Then, there might be a holding company, for example, that would own the West Virginia Gas Company, or other companies of like nature?
A. I have no knowledge——
Q. These companies we have described as local companies—of course, you know what they are. Now the service that was given by the West Virginia & Maryland Gas Company—that is not a local company, as I understand.
A. I don't know whether it is or not.

Q. You do not know whether it is or not. That is the one that erves the Preparatory Branch of the West Virginia University, as I emember it?

A. Yes, sir.

532 Q. And how has the service been there?

A. Very poor service.

Q. Do you know whether or not that is a local company or not?

A. I don't know; its name would indicate it was serving Maryland. know that line serves Maryland; I don't know whether we are uying from the owners of that line of from the local company erving——

Q. Now, the service at West Liberty Normal School—that school s served by the Manufacturers Light & Gas Company, Wellsburg, West Virginia—you mean by that the Manufacturers Light & Heat Company, or do you mean this company that is here named?

A. I imagine that is a typographical error; that is the Manufacurers Light & Heat Company.

Q. Well, that Manufacturers Light & Heat Company is an interstate company; it buys in other states as well. What is the service at the West Liberty Normal School?

A. The service is very good there.

Q. Take the service at the Spencer State Hospital, Spencer, West Virginia. You formerly obtained the gas for that from the United Fuel Gas Company, did you not?

A. We did.

Q. What was the character of the service from the United Fuel Gas Company?

A. The service was excellent.

Q. And that was for how many years?

2533 A. I made as President of the Board, I think, two contracts, with them covering a period of several years; anyhow from 1909 up to the time the new contract was made by Cabot.

Q. And when was that made?

A. I think that was made about a year ago, as I recollect, possibly just about a year ago.

Q. About a year ago or a little more, perhaps?

A. Yes.

Q. And is Cabot a local operator?

A. I am not familiar with the operation of it; don't know.

Q. Well, how has the service been under him?

A. Excellent, under him.

Q. All the gas you require?

A. All the gas we require.

Q. The service at the Huntington State Hospital—you obtain that from the United Fuel Gas Company—how is the service there?

A. Excellent service.

Q. And the service at the West Virginia penitentiary at Moundsville—you obtain that from the Manufacturers Light & Heat Company—how is the service there?

A. Very good service there, except that for what activities we have we have not had all the service there we wanted—but we had a good supply for such service as we could get at——

2534 Q. Was not — the reason why you did not take the other service on account of the price?

A. Well, it was largely on account of the indifference of the parties who were furnishing it—they told us they would be glad for us to get off the line, and in a *peak* we got off the line; we thought if they were as independent as that——

Q. And you got off the line with your heating apparatus, as I understand?

A. Yes, as much as we could; we got off all we could.

Q. And the notice that you received, as I understood you, from the Pittsburgh & West Virginia Gas Company at the West Virginia Industrial Home for Girls at Industrial was that you should take the heating boilers off, I believe?

A. We have four heating boilers on those lines.

Q. They wanted you to take that off and offered to continue to supply you for the other activities?

A. Yes, just asked that; we asked that——

Q. The only thing they asked you to take off was your heating plant?

A. Yes.

Q. And the service there from that company—how has that service been?

A. The service from the new company—the main line—has been very good.

Q. Then, as a matter of fact, the service you have obtained from all of these companies that are engaged in shipping gas out-
2535 side the State has been good, except that you describe with reference to the Northern Natural Gas Company?

A. We felt that we had never been able to make contracts with the parent companies; that—all the time—it required all the time to buy our gas at retail instead of from the parent company, and whenever we got a line on a parent company where we were sure of a good gas supply, we were very careful not to do anything that would cause them to shut us off their line.

Q. Well, now then, the Manufacturers Light & Heat Company, the United Fuel Gas Company, G. L. Cabot, Pittsburgh & West Virginia Gas Company were all "parent", as you call them, or original companies. That is a fact, is it not?

A. So far, as I know, it is.

Q. And from all of those companies you have obtained good service, as you have already stated.

A. We obtained good service at the institutions I have named; I have gone into detail as to that, and, of course, I would not want to say we have obtained good service—in blanket form, that way—without specifying the institutions.

Q. Well, you have given us the details as to most of those institutions. Now, where was it you said you had your own wells, in the first instance?

A. At Weston, on the State hospital farm.

Q. That is the Western State Hospital.

A. Weston State Hospital, Weston, W. Va.

Q. Is that one of your large hospitals?

2536 A. That is next to the largest institution we have in the State; the University is the largest.

Q. Now at that institution you had, you say, I believe, wells in the first instance, on your own property, which supplied you with all the gas you needed, and as the gas supply diminished in those wells or the gas production from those wells diminished, you drilled one or more additional wells.

A. We drilled another well——

Q. And I suppose that increased your supply temporarily, or did it?

A. Well, it came in very good, but didn't stand up but for a month or two, when we were buying just as much gas as we had to start with.

Q. And then you quit drilling or operating for gas and bought your gas from the Keener's Oil & Gas Company?

A. Bought our gas first from the carbon company, and then from the Weston Gas Company, and then later from the Keener's Oil & Gas Company.

Q. Well, you bought it from some other company after that?

A. Yes, some other company—we consumed gas from 1910, when our gas cost was nothing, to 1920, when our gas cost us $32,000.00 a year.

Q. The price of gas since you began using gas for these various institutions has gone up steadily from that time to this has it not?

2537 A. It has.

Q. For example, you had a contract at one time at the Spencer State Hospital by which your gas cost you at the rate of 5 cents a thousand, and with a minimum charge which reduced that cost very much, did it not?

A. I was president of the State Board of Control at the time, and I made the contract at Spencer for all the gas we needed for that institution at $4,000.00 a year; it was based on 5 cents—cost—it would actually cost 4 cents—at Huntington State Hospital—we got a contract there for 5 years——

Q. At 5 cents?

A. At 5 cents.

Q. Flat?

A. 5 cents flat. About the same time made contract with the Dunbar—with that gas company—Charleston—Dunbar—at 6 cents, and these were for a period of five years, and they all expired, I should say, in—I think they all expired in—I should say in 1917.

Q. In other words, you made those contracts about 1912?

A. Yes.

Q. Now where—in all of these plants, as I understood your testimony in chief, you use gas for heating these respective institutions, having heating plants at all of them for that purpose. Now, how do you use the gas at these various places, if they are substantially the same? Do you use it under boilers?

A. We use it with the most approved burners we can
2538 get, under the boilers. Well, not all of them; some places we have direct gas engines.

Q. I am talking about the heat; I am not talking about the power.

A. Yes.

Q. And those are coal-burning boilers, are they not, but equipped with gas burners in the boilers?

A. They might be used for coal. We have never been able to use them, because they have not been bought large enough——

Q. But they were in furnaces designed originally and exclusively for the burning of natural gas?

A. Some of them, and some not.

Q. I mean the furnaces themselves.

A. Some of the furnaces, and some not.

Q. Where did you have any boiler installed that was?

A. At the State Tuberculosis Sanitarium, at Terra Alta, we had three boilers installed.

Q. I understand that, but were the boilers built exclusively——

A. I don't know what——

Q. But do you not know that there are manufactured boilers designed and built exclusively for the burning of natural gas therein, and in which nothing else could be burned?

2539 A. I never saw one, Mr. Weil.

Q. Now, for example, did you ever hear of the Bryant natural gas burner?

A. I did not.

Q. Have you been informed in connection with these institutions, by some of the representatives of some of these natural gas companies, that on account of the wasteful use of gas in boilers for the purpose of heat that, in the interest of conservation of the gas supply, they are endeavoring to discontinue such use just as fast as possible, everywhere, and especially in large plants?

A. I have not.

Q. Did you ever read the suggestions and recommendations of the National Committee on Natural Gas Conservation, issued through the Bureau of Mines of the United States, in which they make their recommendations for the conservation of the gas supply, and in which they especially comment upon and urge the abandonment of the use of natural gas in boilers for the heating of buildings?

A. I am not aware of such an organization; never have seen any of its publications; a part of my work is with the State Geologist, Dr. I. C. White, and I have frequently talked to him about the waste of gas, and I am entirely unfamiliar with the publications you refer to.

Q. Could you give us approximately the quantity of gas, for example, that you consumed at the Spencer State Hospital un-
2540 der the contract with the United Fuel Company—what was your total payment?

A. $4,000.00 a year, and the cost at that rate was four cents a thousand.

Q. Well, now, at that rate that would be 100,000,000 feet for the year. That is correct, is it not.

A. Yes.

Q. Now, how much less do you use in summer than in winter? ou use half as much in summer as you use in winter?
A. Yes, fully; you see all of your activities go ahead except heat-g.
Q. Would you say that would be a fair estimate?
A. Yes, sir.
Q. And would you divide the year into six summer and six winter onths, or seven summer and five winter months——
A. I would say just half and half.
Q. All right—six months each. Then, for the six months in mmer you would use 33,000,000 feet, and in the winter 67,000,000 et. That would be a fair estimate, would it not?
A. That would be a mere guess, and I don't think that ought to o into the record as coming from me; that is a mere guess; I don't now.
Q. Well, then, if the 100,000,000 feet per annum were divided qually per day for the 365 days you would have been burning in e neighborhood of 274,000 feet a day, would you not?
A. I could not tell; I should have said right at the
541 start, I don't know the quantity consumed, although our records would show that, and I don't have them with me.
Q. Well, if those figures which I have given are correct, you ould be burning over 10,000 feet an hour for the whole year?
A. Well, the gas company at the university notified us—when ey asked us to get off the line, they notified us and also the Pub-c Service Commission—we understood we were using 15,000 feet n hour, so I imagine that is about right. We are not using a bit ore than we can help now.
Q. Do you know the fields from which these local companies tain their gas?
A. I do not.
Q. Do you know anything as to their equipment for the andling——
A. I am not familiar with the gas business.
Q. At the Spencer State Hospital do you use hot water or steam r heat?
A. We use gas to make steam; we had heavy fans that drove e cold air—fresh air—over the steam pipes—and we had that rt of steam; I don't know what that steam is called.
Q. You use hot air?
A. We use hot air.
Q. Now, in the West Virginia Industrial Home for Girls—how o you heat that?
A. Steam heat.
542 Q. In the Weston State Hospital—what is the character of that steam?
A. That is high-pressure steam, with fans so arranged as to ange the air and heat the air.
Q. And at the West Liberty Normal School—what is your heat-g steam there?
A. I think one building is steam-heated, and the other one is ot-water; I am not sure about that.

Redirect examination.

(By Mr. Blue:)

Q. Without asking you to go into particulars, I will ask you t question—whether the rate at which you are paying for gas now higher than that you paid at the time Mr. Weil was asking y about, in respect to Spencer State Hospital, the Huntington St Hospital, and others, when you were getting gas at four and 5 cen a thousand?

A. Very much higher.

Q. Is the State paying the same for gas now that the consume pay in the State of West Virginia?

A. In all cases, we are paying the same rate for gas.

Q. In other words, you are paying the rate prescribed by t Public Service Commission—the tariff rate—as fixed by that Co mission—as the rate for gas consumers?

A. Yes, sir.

The witness then withdrew.

2543 H. E. NEASE, a witness who has heretofore testified, w recalled for further examination, and testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. Mr. Nease, I believe you heretofore testified in this case, a with an understanding that we should recall you with reference certain other small matters?

A. Yes, sir.

Q. At the conclusion of your former testimony did you have course of preparation schedule, to be prepared at our request, sho ing the rates prescribed by the Public Service Commission of W Virginia and in force in this State in respect to the seven gas co panies?

A. I did.

Q. Have you completed that statement now, and have you with you?

A. I have.

Q. Does this statement show the presently existing and prescrib rates for the seven companies?

A. It does.

Q. I observe that the domestic rate for the Hope Natural G Company has five differe amounts in cubic feet. Can you expla that variance?

A. That is accounted for by the company having different ra in different localities.

Q. And I presume that the same is true where more th
2544 one rate appears with reference to any one of the seven co panies listed?

A. Yes.

Q. Will you read that statement into the record?

Statement Showing Rates at Which Natural Gas is Furnished to Consumers Within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company as of December 15, 1920.

	Domestic rate.		Industrial rate.
Hope Natural Gas Company	40¢ per M cu. ft. less—		1st 500 M cu. ft. 29¢ less 1¢
	27¢ " " " " "	2¢	Over 500 M " " 24¢ " 1¢
	22¢ " " " " "	2¢	
	20¢ " " " " "	2¢	
	15¢ " " " " "	..	
Pittsburgh & West Virginia Gas Company	32¢ " " " " "	2¢	32¢ M cu. ft. less 2¢
	30¢ " " " " "	2¢	25¢ " " " " 2¢
United Fuel Gas Company	33¢ " " " " "	3¢	1st 150 cu. ft. 26, 22, 21 & 17 less 1¢
	28¢ " " " " "	3¢	Next 150 M " 19, 19, 20 & 15¢ " 1¢
	27½ " " " " "	2½¢	Over 300 M " 13, 18, 16, & 13¢ " 1¢
	25 " " " " "	2¢	
	17¢ " " " " "	2¢	
Reserve Gas Company	28¢ " " " " "	2¢	28¢ M cu. ft. less 2¢
			1st 150 M cu. ft. 27¢ less 1¢
			Next 150 M " " 21¢ " 1¢
			Over 300 M " " 18¢ " 1¢
Carnegie Natural Gas Company	27¢ " " " " "	2¢	1st 250 M cu. ft. 21¢ " 1¢
			Next 250 M " " 16¢ " 1¢
			Over 500 M " " 12¢ " 1¢
Columbia Gas & Electric Company	30¢ " " " " "	5¢	1st 50 M cu. ft. 23¢ less 5¢
	23¢ " " " " "	5¢	Over 50 M " " 15¢ " 5¢
Manufacturers Light & Heat Company	47¢ " " " " "	2¢	1st 1000 M " " 36 & 34 " 1¢
	45¢ " " " " "	3¢	Over 1000 M " " 19 & 19¢ " 1¢
	37¢ " " " " "	3¢	

2546 Q. In your former testimony you filed West Virginia Exhibits Nos. 7 and 8, being the two forms prescribed by the Commission for monthly reports by all the public utilities. I find that those blank forms do not indicate the various details which we desire to elicit, and I will ask if you have available a copy of the monthly report of any one of the seven companies, made at our request, showing the details as filled out and filed?

A. I have.

Q. I hand you now such a paper, and will ask you to state for what company that monthly report is, and for what month of what year?

A. This is the report of the Hope Natural Gas Company for the month of July, 1919.

Q. I believe it is the largest or next largest of the seven companies and the details there shown would be full, or a full sample, of the details represented by the various reports, would they not?

A. Yes, I would consider this a representative statement or report.

Q. Was that copy made by you, or under your supervision or direction?

A. It was made under my supervision.

Q. And is correct?

A. Yes.

Mr. Weil: If this report of the Hope Natural Gas Company is offered as a report of the Hope Natural Gas Company, we have
2547 no objection to the same being offered, in any way that counsel may desire; but if it is offered as a report typical of other companies, then we object to it, because there is no evidence of that fact; and, as a matter of fact, each company makes its report entirely differently. And, particularly, some of the companies differ from the Hope Company: not having measuring stations, etc., and not being able to make such report, by arrangement with the Public Service Commission, agree to make certain estimates, instead of a statement, yearly as appears from the Hope report; the Manufacturers Light & Heat Company, for example, being one such.

Q. Will you please now read this statement into the record?

A. —

"Form 56—P. S. C., W. Va.

Monthly Report of Gas Production of the Hope Natural Gas Company, Pittsburgh, Pa.

Month of July, 1919.

To the Public Service Commission of West Virginia:

1. Cities & towns:

Gas consumed.	Active industrial consumers.	Active domestic consumers.	Total of meters in use.	Number of thousands cu. ft. gas.	Total.
Parkersburg, W. Va.	35	6,630	7,544	254,296	
Williamstown, W. Va.	2	414	455	11,075	
Sistersville, W. Va.	3	931	1,065	14,163	
Friendly, W. Va.	0	85	102	396	
St. Marys, W. Va.	2	498	556	33,638	
Paden City, W. Va.	5	357	409	43,859	
Pine Grove, W. Va.	0	192	206	749	
Smithfield, W. Va.	0	173	187	762	
Manningtown, W. Va.	5	1,009	1,106	24,823	
Littleton, W. Va.	0	186	203	835	
Wileyville, W. Va.	0	0	0	0	
Fairview, W. Va.	0	217	247	826	
					385,422

Monthly Report of Gas Production of the Hope Natural Gas Company.—Continued.

2548

Gas consumed.	Active industrial consumers.	Active domestic consumers.	Total of meters in use.	Number of thousands cu. ft. gas.	Total.
2. Field & Main Lines:					
Parkersburg Field	28	2,792	3,295	32,218	
Sistersville "	16	1,028	1,189	19,466	
Mannington "	10	1,201	1,369	17,289	
Drg. & Ppg. Wells, &c	509	....	....	397,142	
Free Gas	0	1,709	1,361	31,253	
					497,368

3. Gas Sold to Other Utilities:

	Location of measuring station.	Kind & size of meter.		
The East O. G. Co	Clarington, W. Va	3—6" Pitot T		
"	" "	0—5" " "	1,182,164	
"	Round Bottom, "	1—6½" Orifice		
"	" "	0—5½" "		
"	" "	2—3" "	158,583	1,340,747
The Peoples N. G. Co	Glover Sta., "	1—5" Pitot T		
"	" "	1—4" " "	48,313	
"	Brave, Sta., "	7—6½" Orifice	420,381	
"	Eldersville, Pa	1—25 West	634	
" Petit	Littleton, W. Va	1—15 "	12,287	
" Fordyce	" "	1—1½" Orifice	1,842	
			12,302	495,759

Fayette Gas Co	Wade Station, Pa	1—4" Pitot T		
"	" "	1—3" " "	72,454	72,454
The River Gas Co	Marietta, Ohio	5856 Meters	60,969	60,969
Export				1,969,929
Mfrs. Lt. & Ht. Co	Bates Sta., W. Va.	2—5" Pitot T 1—4" " "	317,766	
"	Morgan Sta. "	1—5" " "	31,328	
"	Smith " "	1—5" " "	154,311	
"	Misc. Dr. & Ppg. &c		44	503,449
Lt. Fuel & Pr. Co	Sutton, W. Va.	1—1" Orifice	7,647	7,647
Clarksburg L. & H. Co.	Clarksburg, W. Va.			
"	Lynch Farm			
"	Union Land Co			
"	"			
"	Atkinson Farm	1—2½" Orifice	321	
"	Southern Farm	1—2" "	3,040	3,361
"	N. Goff Farm			
"	Rector Farm			
"	W. L. Cole Farm			
Reserve Gas Co	Wilsonburg, W. Va.			
Keeners Oil, Nat. Gas & Fuel Co	Weston, W. Va.			
Marion Oil Co	Clay Dist., Monongalia County	1 #6 Equit	848	848
Comet O. & G. Co	Clarksburg, W. Va.	1—2" Orifice	41,720	41,720
Daybrook O. & G. Co.	Fairview, "			
W. Va. H. & Lt. Co.	Pennsboro, "			
"	Cairo, "	1 #4 Equit	7	7

Monthly Report of Gas Production of the Hope Natural Gas Company.—Continued.

	Location of measuring station.	Kind & size of meter.		
Carnegie N. G. Co.	Drg., Ppg. & Etc.		286	286
2549				
Imperial O. & G. Products Co.	Drg., Ppg. & Etc.		0	0
Jennings Oil Co.	" " "		9	9
Delmer Oil Co.	" " "		94	94
South Penn. Oil Co.	" " "		16,305	16,305
Total gas sales (Items 1, 2, & 3)			3,426,445	3,426,445
4. Gas purchased from other utilities in State (Sta. Att.)			829,953	829,953
Gas purchased from other utilities not in State			499,144	499,144
Total gas purchased			1,329,097	
5. Produced by utility—number of wells used, 1332				2,097,348
Total production of utility & others not utilities, in State				2,596,492
Total gas produced and purchased in State				3,426,445
Total gas exported to other states			1,969,929	

2550 Q. Do I correctly understand you to say that the form of report—being the blank forms heretofore filed as West Virginia Exhibits Nos. 7 and 8 and in the same form followed in your present statement for the Hope Natural Gas Company—is prescribed for all of the public service corporations marketing natural gas in West Virginia?

A. Yes.

Q. And do each of those public service gas companies make their reports on that form?

A. They do.

Q. There would be, however, a variance with respect to the details shown in the statement, depending on the size of the company and the amount of its equipment and the nature thereof?

A. Necessarily so—there would be.

Q. While some might export and others would report no exports.

A. Yes; some might have field service and city service, and others might not have city service.

Q. Are you able to say whether the seven companies complied with the Public Service Commission law when it went into effect, in the year 1913, with respect to filing their schedules of rates?

A. They did.

Q. And have rates for each of the seven companies been prescribed by said commission for those companies to the present time?

2551 A. Companies were required, among others, these seven, to file rates that were in effect at the time the Public Service Act became effective, and those rates became the prescribed rates.

Q. And any changes that have been made with respect to the seven companies have been after proceedings before the Commission?

A. Yes.

Q. In the cross-examination of Mr. Sullivan at Pittsburgh there was shown to him a certain deed which I now hand you, and will ask you to produce for the inspection of the Commissioner and counsel—or rather an attested copy of deed—dated June 27, 1911, made between Wheeling Natural Gas Company, Tri-State Gas Company and The Manufacturers Light and Heat Company, all West Virginia corporations, parties of the first part; The Manufacturers Light and Heat Company, a Pennsylvania corporation, party of the second part; and Hope Natural Gas Company, a West Virginia corporation, party of the third part. Please take this attested copy of deed and give us an idea of its physical appearance, with respect to size.

A. 25 pages, about 12 by 18 inches in size, are required to hold the contents of this deed.

Q. Is the copy typewritten?

A. It is.

Q. How does the size of those pages compare with the ordi-

2552 nary typewritten page?

A. About three times as large.

Q. That would be substantially equivalent to 75 pages or more of typewritten matter on the ordinary size of typewriter paper?

A. It would.

Q. Have you examined that deed with reference to making a state-

ment as to the acreage of the various leases conveyed by it and the number of rights-of-way and the number of wells transferred, and pipe lines?

A. I have.

Q. Are you able to give a calculation of those items?

A. I am.

Q. In view of the bulk of the paper and its cumbrousness, I will now ask you to give us your calculation taken from that attested copy of deed of the acreage transferred by the parties of the first and second part to the party of the third part.

Mr. Weil: This question is objected to as incompetent, a deed being the only evidence of its contents. This method of proving its contents being wholly irregular and improper, in any proceeding, in any court.

The Commissioner: Note the objection, and let the witness answer.

Mr. Weil: We except to this ruling on the part of the Commissioner. I believe, under the general powers—this exception is taken, because, even under the restricted powers of the Commissioner,
2553 it is submitted that so gross a violation of every rule of the admissibility of evidence, before the same is permitted to be offered, it should, if necessary: if the Commissioner has any doubts as to his power in the premises, be submitted to the Court; and the Commissioner is respectfully requested, before the contents of the deed is put in evidence in this case to affect the conclusion of the Court on the pending issues by permitting a witness to give his summary, and his conclusions, and his estimates, or his construction, or his deductions, or his innuendoes or insinuations as to the contents of the paper—that the paper itself must first be introduced in evidence, so that the Court itself can determine whether or not the witness is truthful or untruthful, or is fair, is just, reasonable or decent in his testimony.

Mr. Steptoe: In reply to the exception, it is pointed out that the deed itself is not in issue, and its evidence is collateral to the issue, or is part of a collateral fact, or evidence that the deed itself is here in the form of a true and attested copy, inspection of which by counsel is invited; and the truth or untruth of the calculations which we seek to elicit from the witness may readily be verified or checked up; and it is submitted that to introduce a deed of this size into the record for the purpose of eliciting one or two collateral facts would be a burden upon the record not justified. What we propose to show by the witness with respect to the contents of this deed is simply this: The number of leases transferred; the several counties in which they are located, and the acreage; the number of gas-purchase contracts, and the acreage of the tracts from which the gas is purchased; the number of wells transferred; the number of rights of way; that is to say
the number of points over which the rights-of-way extend,
2554 and the total mileage of pipe lines, as set forth in the deed.

Mr. Weil: This statement of counsel only emphasizes the objectionable character of the evidence offered. The very facts which he proposes to show have not the slightest bearing or relevancy

or materiality as to the issue that is or can be before the Court in the pending litigation. Whether or not in transactions between some of these companies conveyances have been made from one to the other of certain tracts of land, or wells or pipe lines, it has no relevancy or materiality as affecting any issue in this controversy; and if the record is to be cumbered up — any such irrelevant and immaterial matter, we do not propose that it shall be done with our consent and in violation of the rules of evidence. We, therefore, not only insist upon the objection made, but also respectfully request the Commissioner, if he has any doubts as to the propriety of this procedure, in view of our objection and this method of conducting the examination, that a certification of the question at issue be made to the Supreme Court and its order taken in the premises.

The Commissioner: I will dispose of the matter in this way: Objection was first made by counsel for the State of Pennsylvania to the witness, Nease, giving a tabulation of the contents of the indenture, as to acreage, leases conveyed, pipe line mileage leased, and of other statistical contents of the indenture, the witness having been directed to answer, with the objection being noted. Counsel for the State of Pennsylvania then insisted that the entire document could be placed upon the record, and now moves that the question upon motion be referred to the Court for ruling. It seems unnecessary to take
2555 that action, in view of the fact the full rights of the complainant can be preserved by having the indenture marked as an exhibit, not to be printed in the record, but to be preserved as an exhibit in the case in the same way that certain maps are being preserved—without preparation to have the same printed or copied into the record. Counsel for the complainant can then have access to the exhibit as part of the case to make any correction of the conclusions which the witness, Nease, is prepared to draw from the document in his condensed form. Will counsel offer the indenture to be marked?

Mr. Steptoe: Counsel for the State of West Virginia accept the suggestion of the Commissioner and now here offer in evidence the attested copy of deed above referred to, being a deed from the Wheeling Natural Gas Company, Tri-State Gas Company and The Manufacturers Light and Heat Company, West Virginia corporations, parties of the first part; The Manufacturers Light and Heat Company, a Pennsylvania corporation, party of the second part; and Hope Natural Gas Company, a West Virginia corporation, party of the third part, dated June 27, 1911, attested as a true copy by W. Guy Tetrick, Clerk of the County Court of Harrison County, West Virginia, and recorded in that office in Deed Book #202, page #375, marked for identification West Virginia Exhibit No. 33.

Mr. Weil: This is objected to as irrelevant and immaterial to any issue in this controversy.

The Commissioner: Note the objection.

Q. Now, Mr. Nease, to restate the question, let me ask you what is the total number of leases of gas land transferred by that deed to the Hope Natural Gas Company from the parties of the first
2556 and second parts?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection, and let the witness answer.

A. Approximately 892.
Q. What is the total acreage of those leases, according to your calculation?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection, and let the witness answer.

A. 65,205.15 acres.
Q. In what counties of West Virginia are those leases located?

Mr. Weil: Same objection.
The Commissioner: Note the objection, and let the witness answer.

A. Harrison, Lewis, Marion, Upshur, Braxton and Gilmer.
Q. How many gas-purchase contracts are sold and transferred by the parties of the first and second parts to the Hope Natural Gas Company?

Mr. Weil: Same objection.
The Commissioner: Note the objection, and let the witness answer.

A. 20.
Q. And what is the acreage of the lands from which the gas is purchased or produced?

Mr. Weil: Same objection.
2557 The Commissioner: Note the objection, and let the witness answer.

A. 9,839.75 acres.
Q. In the schedule of rights-of-way shown in that deed—how many rights-of-way are shown over how many farms?

Mr. Weil: Same objection.
The Commissioner: Note the objection, and let the witness answer.

A. Over 100.
Q. And what is the mileage of pipe lines conveyed by that deed?

Mr Weil: Same objection.
The Commissioner: Note the objection, and let the witness answer.

A. 177,867 feet.
Q. The question says, number of miles; I intended feet. Is your answer of 177,867 feet correct?
A. It is.
Q. Now, I hand you what purports to be an attested copy of deed, bearing date April 1, 1910, by and between Mountain State Gas Company, a West Virginia corporation, of the first part, and

Hope Natural Gas Company, a like corporation, of the second part, signed by Mountain State Gas Company, by John Tonkin, Vice-President, and recorded in the office of the Clerk of the County Court of Ritchie County, West Virginia, in Lease Book No. 30, pages 423 to 481, inclusive. Will you state the size of that deed with respect to the number of pages and size of the pages?

2558 A. This deed consists of 62 pages, in size about 10 by 16 inches.

Q. About how many pages of ordinary typewriting paper would it make?

A. About twice the number—from two to two and a half times.

The Commissioner: From two to two and a half times of what?

A. Of the pages shown in this deed.

Q. In a general way, what was the character of the property transferred by that deed, and in what form?

Mr. Weil: This is objected for the same reason as that given with reference to the other deed, and the same motion is made with reference thereto.

The Commissioner: The same disposition will be made of this matter as was made of the Wheeling Natural Gas, Tri-State Gas Company and The Manufacturers Light and Heat Compny indenture.

Mr. Steptoe: You need not answer the last question, then, Mr. Nease, and on behalf of the State of West Virginia, I now offer in evidence the deed just referred to, in the same manner and to the same extent in which the preceding deed from the Wheeling Natural Gas Company, et al., to the Hope Natural Gas Company was put in evidence, and to be marked for identification West Virginia Exhibit No. 34.

Mr. Weil: This is objected to as irrelevant and immaterial to any issue involved in this controversy.

The Commissioner: Note the objection.

2559 Q. Have you made a like calculation with reference to this deed so as to give us the total number of leases transferred, the acreage, the number of rights-of-way, franchises, etc., conveyed by the deed?

Mr. Weil: This whole line of examination, this and subsequent question, as to the contents of this deed, or any summaries, recapitulations, or interpretations thereof, is objected to as incompetent, irrelevant and immaterial, and in violation of the ordinary rules of evidence.

The Commissioner: Note the objection, and let the witness answer.

A. I have.

Q. Please state the number of leases of gas territory transferred under that deed to the Hope Natural Gas Company by the Mountain State Gas Company.

A. 180.

Q. State the acreage of those leases.

A. 23,610 acres.

Q. And in what counties are those leases located?

A. Ritchie, Gilmer, Pleasants, Wirt, Tyler, Wetzel and Calhoun Counties, West Virginia.

Q. How many rights-of-way for pipe lines are transferred; that is to say, rights-of-way over how many farms and in what counties?

A. Over a thousand.

Q. In round numbers, something over a thousand.

A. Yes, sir.

Q. In what counties?

2560 A. The counties of Ritchie, Gilmer, Pleasants, Wirt, Tyler, Wetzel, Calhoun, Lewis, Harrison, Doddridge and Wood—all West Virginia counties.

Q. How many wells are transferred by that deed, and where are those wells located?

A. 101 wells—in Pleasants, Ritchie, Tyler, Wetzel, Calhoun, Gilmer and Wirt Counties, West Virginia.

Q. Are there any franchises transferred under that deed?

A. There are.

Q. Can you find that section of the deed transferring any franchises, and will you read into the record the exact language of the deed relating to the franchises transferred?

Mr. Weil: The same objection is made to this as the questions heretofore.

The Commissioner: Note the objection, and let the witness answer.

Mr. Steptoe: In view of the objection made, I will withdraw the question.

Q. I will ask you how many franchises are transferred?

Mr. Weil: I understand all of this examination is taken on the same objection.

The Commissioner: Note the objection and let the witness answer.

A. There are eight such franchises.

Q. And by what municipalities or counties, would you say?

A. By the municipalities of Parkersburg, St. Marys, and Sistersville,—County Courts of Wood and Pleasants Counties.

2561 Q. And what is the date of the franchise in Parkersburg, and to whom granted?

A. The franchise in Parkersburg was dated the 14th day of March, 1892, to E. Strong.

Q. Now to whom was the franchise in St. Marys granted and when?

A. To S. T. Mallory, on the 28th day of September, 1893.

Q. And to whom was granted the franchise in the Town of Sistersville, and when?

A. The Mountain State Gas Company was granted the franchise in Sistersville on the 22nd day of August, 1892.

Q. And the other of the eight franchises were granted by county

courts, or were additional franchises in the three cities you have mentioned?
A. Yes.

An adjournment was here taken until Saturday, January 8, 1921, at 9:00 o'clock A. M.

2562 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Saturday, January 8, 1921.

Defendant's Testimony.

2563 Saturday Morning, January 8, 1921.

And, now, the hour of 9:00 a. m. having arrived, hearing was resumed, pursuant to adjournment.

Mr. Blue: Counsel for West Virginia desire to ask Mr. Nease some questions in connection with a line somewhat different from that about which he has just testified on being recalled, and respectfully suggest on the record to counsel for Ohio and Pennsylvania that if they desire to cross-examine Mr. Nease on the matters testified to by him on yesterday afternoon when recalled that they do so now and let us take up the line that we want to examine him further about after such cross-examination.

H. E. NEASE resumes the stand.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Nease, you produced yesterday in response to questions by counsel for the State of West Virginia a return made by the Hope Natural Gas Company for the month of July, 1919, and I think, unwittingly you stated that those were typical of the returns made by other companies. Now it is the fact, is it not, that some of the companies, practically all of them, make their returns on the general form or in accordance with the general form prescribed by the Public

Service Commission, but that there are variations in each one of these returns as to the information given in those returns?

A. Well, there would be such variations in the returns made by the various companies as the conditions would warrant. Some companies, of course, are more extensively engaged in the busi-
2564 ness for which report is made than others and would have use for the entire form, while others would use just such portions of the form as would be necessary.

Q. For example, the Manufacturers Light and Heat Company, you will recall*ed* perhaps, by arrangement with the Public Service Commission, made their returns by estimating certain quantities because the gas was not measured by metering stations at certain points, which would enable them to make their returns otherwise than by calculations and estimates.

A. I understand that such reports as the Manufacturers Light and Heat Company made on these forms or in connection with these forms was under those conditions and circumstances.

(Mr. Steptoe:)

Q. You mean by that that they estimated the gas?

A. Yes, I mean they estimated the quantities of gas which may have been produced within the state and the exportations and importations.

Q. Take for example the Hope Natural Gas Company of West Virginia, they produced no gas whatever and transported no gas whatever out of the State of West Virginia but were engaged in transporting gas into the State of West Virginia to supply their consumers in the Wheeling District and they made their returns, of course, accordingly?

A. They did.

Q. Have you any recollection of the quantity of gas that they brought into the State of West Virginia, say, for the calendar
2565 years 1918 and 1919?

A. I would be unable to answer that question right at this time. I have such information at my office and could answer the question by referring to my data there.

Q. Well, then, perhaps before we conclude the examination you may be able to get that for me and I can get that then?

A. I will do so if you desire.

Second direct examination.

(By Mr. Blue:)

Q. Mr. Nease, I desire to examine you along a line different from that on which you were examined by Mr. Steptoe on yesterday afternoon. Mr. James S. Lakin, witness for the State of West Virginia, on yesterday testified in respect to certain public institutions of West Virginia under supervision of the State Board of Control. He stated that the West Virginia University is located at Morgantown in the County of Monongalia. Can you state and will you state how many

the companies known as the seven large companies have leaseolds and pipe lines in the County of Monongalia?

A. I will have to refer to the papers here. The Hope Natural Gas ompany, Pittsburgh and West Virginia Gas Company, Manufacrers Light and Heat Company, and the Carnegie Natural Gas Comany.

Q. Can you state the acreage held by these companies in the ounty of Monongalia, either by lease and otherwise; I mean particularly, held by them for oil and gas purposes.

566 A. I have such information.

Q. Will you please state it?

A. You just want the total for all of such companies?

Q. For each company.

A. The Manufacturers Light and Heat Company has 5,951 acres, he Hope Natural Gas Company 41,285 acres, the Pittsburgh and Vest Virginia 8,662 acres, Carnegie 7,648 acres, making a total of 3,546 for the four companies.

Q. Do you know from your knowledge—can you state from your nowledge of the records in the Public Service Commission of West Virginia, whether these companies have pipe lines in the County of Monongalia through which they transport gas?

A. They do have such pipe lines in Monongalia County.

Q. Can you state the size of the lines, particularly the larger lines, f these companies, and the length of the lines in the County of Monongalia?

A. At this time I would not be able to give you the length of the ines, but I can give the various sizes.

Q. Why can you not give the length of the lines?

A. Well, I have not made an estimate, it would be a matter of omputation, and I have not gathered it together.

Q. Give the size of the lines, particularly the larger lines.

2567 A. The Hope Natural Gas Company has lines running all the way from 6 inches to 16 inches; that is, it has 6″, 8″, 10″, 12″ and 16″ lines. The Carnegie has 6″, 8″, 10″ and 12″ lines. The Pittsburgh and West Virginia has 8″, 10″ and 12″ lines, and the Manufacturers Light and Heat Company has 4″, 6″ and 12″ lines.

Q. Do you know whether these companies or any of them have producing wells, I mean by that wells producing natural gas, in Monongalia County?

A. They do have gas wells in Monongalia County, or at least some of them do.

Q. Are you able to state the number of gas wells that the four companies or some of them have for the County of Monongalia?

A. I can so state.

Q. Will you do so, please?

A. Carnegie Gas Company has 56 gas wells in Monongalia County. The Pittsburgh and West Virginia Gas Company has 55 wells. The Hope Natural Gas Company has 138½ wells.

Q. How do you get that half well on there?

A. Well, one well is likely owned jointly with some one else.

Q. Of, yes.

A. The Manufacturers Light and Heat Company has 49 wells.

2568 Q. Making a total of how many wells, natural gas wells, of these companies named by you in the County of Monongalia?

A. 298½.

Q. What local utility or distributing company or companies furnish gas at the City of Morgantown?

A. Two of them, the Randall Gas Company and the West Virginia Utilities Company, until lately, the West Virginia Traction and Electric Company.

Q. Is that the same company?

A. The West Virginia Utilities Company and the West Virginia Traction and Electric Company is the same.

Q. Do you know whether the Randall Company or the West Virginia Traction and Electric Company have heretofore obtained or now obtain natural gas from any of these large companies named by you, for sale and distribution in the City of Morgantown?

A. The Randall Gas Company purchased gas from the Hope Company during the year 1918, not since that time.

Q. Had it a physical connection with one of the pipe lines of the Hope Natural Gas Company?

A. Yes, it purchased gas from the Hope Company as recently as 1918. The West Virginia Traction and Electric Company purchased gas from the Hope Company for the years leading up to 1918, as far back as 1915. The West Virginia Traction and Electric Company at this time has connection and purchases gas from the Carnegie Natural Gas Company.

2569 Q. Do you know whether any of these companies now purchase gas from the Hope Company for distribution in Morgantown?

A. I am advised that they do not.

Q. That physical connection that formerly existed no longer exists?

A. I cannot state as to the physical connection. They at least are purchasing no gas.

Q. You mean you do not know whether the physical connection still exists but that the local distributing companies at Morgantown are not getting gas for distribution there from the Hope Company?

A. I so stated, I think, in my answer.

Q. Mr. Lakin testified that the Preparatory Branch of the West Virginia University is located at Keyser, in Mineral County, West Virginia, and that the gas is delivered to that branch, to that institution, by the West Virginia and Maryland Gas Company. Who is or what is the West Virginia and Maryland Gas Company?

A. The West Virginia and Maryland Gas Company is a subsidiary of the Eastern Oil Company or group of companies known as the Eastern Oil Company group. It has a trunk line extending from the West Virginia gas field through and across the state line to Cumberland, Maryland.

Q. The Eastern Oil Company is not one of the companies that we enerally refer to in this record as the seven large companies?

A. It is not.

570 Q. What business is this Eastern Oil Company engaged in?

A. Well, its business is quite extensive. It is not even onfined to this section of the country. It has holdings, I know, n Texas and other sections of the country. Locally, or in this section, it is engaged in the business of producing and marketing atural gas, and also in the business of manufacturing gasoline, and hat of producing oil.

Q. Is the Northern Natural Gas Company one of the constituent ompanies of the Eastern Oil Company?

A. It is.

Q. Does the Eastern Oil Company have oil and gas leases in the State of West Virginia or hold property for oil and gas purposes in the State of West Virginia?

A. It does.

Q. Could you state the acreage of the leases of that company and the information in respect to the lines, length of them, size of them.

A. It would be necessary for me to refer to the reports of the West Virginia Central Gas Company, which is the company that has the production of the holding company, but I do not have the return before me, Mr. Blue.

Q. When you leave the witness stand, will you make up a statement showing the acreage of that company for oil and gas purposes in the state, the number of gas wells in the state of West Virginia and the several counties in which they are located?

2571 A. I will.

Q. And the size of its pipe lines in the State of West Virginia.

A. I will. As I understand, you want the pipe line- of all the constituent companies.

Q. I want the statement to show all of the wells and the pipe lines of all of the constituent companies of this Eastern Oil Company so far as it is operating as a gas company, either in its own name, Western Maryland Gas Company or any other of its constituent names, or any other names of its constituent companies; and if you can, also show the quantities of gas that it produced for the latest year available. To make it clear on the record, as to what I want, I will ask you for the name of the company in which the Eastern Oil Company does its gas business in the State of West Virginia, its producing, and in which it owns its wells and its pipe lines in this state.

A. Well, all of its constituent companies would necessarily be embraced. The West Virginia Central Gas Company has leases and production, or controls leases and production. None of the other constituent companies have leases or production, but they do have pipe lines and market gas.

Q. I asked that question so as to get clear into the record for the purpose of making up your statement. I want your statement to show the leases owned by the West Virginia Central Gas Company

and the number of wells, and its pipe line, and then the
2572 pipe line of the several different constituent companies which distribute this gas to various places.

A. Yes, I think I understand your statement.

Q. And you may state on the record now, if you will, the name of these several constituent companies delivering gas to the differen localities and communities.

A. West Virginia Central Gas Company, West Virginia and Maryland Gas Company, Northern Natural Gas Company, Salem Natural Gas Company, West Union Gas Company. There is another small local company which I do not just recall the name of now however, it has a detached operation and has no connection with the main system—Glenville Natural Gas Company.

Q. Did you not mention the Northern Natural Gas Company?

A. I did.

Q. Then your statement will cover all these constituent companies as well as the main parent companies?

A. Yes.

Q. You clearly understand now how I want you to make up the statement?

A. I do.

Q. Mr. Lakin also stated that Marshall College is situated at Huntington, in Cabell County, and served by the Huntington Development and Gas Company. What is or who is the Huntington Development and Gas Company?

2573 A. It is a local gas company serving the vicinity of Huntington.

Q. It is not a part of the United Fuel or any of the seven large companies?

A. It is not, it is an independent company, doing business for itself.

Q. Do you know whether it has been furnished with any gas by the United Fuel Gas Company? Do your records show?

A. Yes, it was supplied or furnished with gas by the United Fuel as late as 1916, not since.

Q. Mr. Lakin testified that the Fairmont Normal School is located at Fairmont, in Marion County, West Virginia. Can you state whether any of the seven large companies have leases, pipe lines etc. in the County of Marion?

A. Four of such companies operate in Marion County.

Q. Will you give the names of the ones operating there?

A. Carnegie, Pittsburgh and West Virginia, Hope Natural Gas Company, and Manufacturers Light and Heat Company.

Q. What is the respective acreage held in lease or otherwise by the four companies for oil and gas purposes in the County of Marion?

A. The Carnegie Company has 8,638 acres, Pittsburgh and West Virginia 15,273 acres, Hope Natural Gas Company 47,63
2574 acres, Manufacturers Light and Heat Company 3,148 acres making a total of 74,698 acres.

Q. Can you state the size of the mains, particularly the size o

the larger mains of these companies in the County of Marion and through which natural gas is transported by them?

A. The Hope Company has 10 and 16 inch lines traversing the county. The Manufacturers Light and Heat Company has 12 inch line near Fairmont. Pittsburgh and West Virginia Company has 10, 12 and 16 inch lines crossing the county, and the Carnegie a 12 inch line running through the central part of the county.

Q. Have these four companies any gas wells or wells producing natural gas in the County of Marion?

A. They do.

Q. Will you state the number of gas wells of these companies in that county?

A. The Manufacturers Light and Heat Company has 32 wells in Marion County, the Hope Natural Gas Company has 312 wells in the county, the Pittsburgh and West Virginia Gas Company has 135 and the Carnegie Natural Gas Company 105, making a total of 584.

Q. What is the name of the local distributing company in the City of Fairmont?

A. Monongahelia Valley Traction Company.

Q. Do you know whether that company is now being furnished or has been furnished natural gas by any of the large
2575 companies named by you as doing business in Marion County?

A. It has had and does have such connections. Up until 1917 it had such connection with the Hope Natural Gas Company. It now has a connection and acquires gas from the Carnegie Natural Gas Company.

Q. If I may lead you for a moment, has it now or has it had connection with the Pittsburgh and West Virginia Gas Company?

A. Oh, yes, I should have stated that; it now has a contract, I think, with the Pittsburgh and West Virginia Gas Company for the purchase of gas.

Q. And is receiving and has been receiving gas from the Pittsburgh and West Virginia Gas Company?

A. Yes.

A. Mr. Lakin further testified that the Glenville Normal School is located at Glenville in Gilmer County. Do any of the seven large companies operate in Gilmer County?

A. Yes, four of them.

Q. Give their names.

A. United Fuel Gas Company, Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, and the Carnegie Natural Gas Company.

Q. Will you state, please, the acreage held for gas purposes by these four companies, either by lease or otherwise, in the County of Gilmer, and the size of the main pipe lines of the companies in that county?

2576 A. The United Fuel Gas Company has 19 acres of leases, the Hope Natural Gas Company 95,490, the Pittsburgh and West Virginia 53,217, the Carnegie Natural Gas Company 12,793, making a total of 161,519 acres for the four companies.

Q. What are the sizes of the main lines of these companies in Gilmer County used in the transportation of gas?

A. The Hope Natural Gas Company has a 14 inch line running through the county, the United Fuel Company has a 20 inch line connecting it with the Hope Natural and the Pittsburgh and West Virginia Company systems. The Pittsburgh and West Virginia has a 12 inch line connecting it up with the United Fuel Gas Company system; the Pittsburgh and West Virginia Company also has 10 inch and 8 inch lines. The Carnegie Company has no lines—pipe lines.

Q. Have these companies, or any of them, producing natural gas wells in the County of Gilmer, and if so, how many?

A. I think I should refer back to my answer to Mr. Weil in connection with the Carnegie Natural Gas Company. I do not have before me the mileage of pipe lines or the size of the pipe lines operated by the Carnegie Natural Gas Company in Gilmer County, if it has any such lines. I am lead to believe that it has because it has both acreage and wells within the county.

2577 Q. Now you may state the number of wells of these companies in the County of Gilmer producing natural gas.

A. The Carnegie Natural Gas Company has 10 wells, the Pittsburgh and West Virginia Gas Company 27 wells, the Hope Natural Gas Company 107½ wells.

Q. How do you get the half?

A. One well is owned jointly with somebody else.

(Mr. Weil:)

Q. The United Fuel?

A. The United States Fuel has no gas wells in the county.

Q. Did you give the number of wells, the total number?

A. Of the three companies, being 144½.

Q. What is the name of the local distributing company supplying the town of Glenville?

A. Glenville Natural Gas Company.

Q. And that you say is a constituent of some other company?

A. It is owned by the Eastern Oil Company, by the Eastern Oil Company group.

Q. Do you know whether the Glenville Natural Gas Company has at this time or has had a physical connection or whether it is being supplied or has been supplied with natural gas by any of the large companies?

A. It is now being supplied by the Pittsburgh and West Virginia Gas Company.

2578 Q. Mr. Lakin further testified that the West Virginia Collegiate Institute is located at Institute, in Kanawha County, West Virginia. Do any of the seven large companies operate in the County of Kanawha?

A. They do, the United Fuel Gas Company operates within Kanawha County.

Q. Can you state and will you state, if you can, the acreage held

by lease or otherwise by that company in the County of Kanawha for oil and gas purposes?

A. The United Fuel Gas Company controls 283,194 acres of gas territory in Kanawha County. The Manufacturers Heat and Light Company and the Hope Natural Gas Company, to a very limited extent, are also within Kanawha County, the Manufacturers Light and Heat Company controlling 275 acres, and the Hope Natural Gas Company one acre, making a total of 283,470.

Q. Does the United Fuel have—do these companies named by you have any gas wells, natural gas wells, in the County of Kanawha?

A. The United Fuel does.

Q. How many?

A. 174.

Q. Has it any large mains for the transportation of gas in the county; if so, give the size thereof.

A. Well, it has quite a net work of lines in the county; more than 400 miles of all sizes, running up to 20 inches.

2579 Q. Do you know whether the local distributing company there or the company that delivers gas to the West Virginia Collegiate Institute, the Charleston-Dunbar Natural Gas Company, has received or receives now, gas from the United Fuel Gas Company?

A. It has had a connection with the United Fuel. I am not advised as to whether it is now getting any gas from the United Fuel, but up until quite recently it has.

Q. Mr. Lakin testified that the Weston State Hospital is located at Weston in the County of Lewis. Do any of the large gas companies operate in the County of Lewis, and if so which ones?

A. The Carnegie Natural Gas Company, the Reserve Gas Company, the Pittsburgh and West Virginia Gas Company, and Hope Natural Gas Company, operate within Lewis County.

Q. Do they or any of them own, by lease or otherwise, territory for oil and gas purposes in the County of Lewis?

A. All the four named do.

Q. State the acreage held by them respectively.

A. The Carnegie Natural Gas Company controls 4,321 acres, the Reserve 33,206 acres, the Pittsburgh and West Virginia Gas Company 47,774, and the Hope 91,439, making a total for the four companies of 176,740 acres.

Q. Do the four companies just named by you have producing gas wells in the County of Lewis?

A. They do.

2580 Q. Will you state the number of wells owned by them respectively in that county?

A. The Hope Natural Gas Company has 444 wells within the county, the Pittsburgh and West Virginia Gas Company 240, the Reserve Gas Company 396, and the Carnegie Natural Gas Company 26, making a total of 1,106.

Q. What is the name of the local distributing company at the City of Weston?

A. Keeners Oil, Natural Gas & Fuel Company.

Q. Do you know whether that company has now or has had a physical connection with any of the four companies named by you and whether or not it is being furnished or has been furnished gas by any of the four larger companies, for sale and distribution to Weston?

A. It had a physical connection and was furnished gas by the Hope Company until May, 1919. Since that time it has not been furnished any gas by any of the seven companies.

Q. Mr. Lakin testified that the Spencer State Hospital is located at Spencer, Roane County. Do any of the seven large companies operate in that county?

A. They do. The United Fuel Gas Company operates in Roane County.

Q. Can you state the acreage held by it in Roane County for oil and gas purposes?

A. I can.

Q. State, please, the acreage so held.

2581 A. 146,604 acres. The Hope Natural Gas Company also controls 1,772 acres within the county, making a total of 148,376 acres held by the two companies.

Q. Does the United Fuel Gas Company or the Hope Natural Gas Company either have pipe lines for the transportation of gas in Roane County, and if so the size of the main lines?

A. The Hope Company has no such line. The United Fuel has 296 miles of lines traversing the county, of various sizes. I do not have the sizes before me.

Q. And you do not recall the size of the largest line?

A. I am reasonably sure they have a line as large as 20 inches any way it is a very large line.

Q. I omitted to inquire of you when asking about Lewis County whether any of the large companies there have pipe lines in or through that county for the transportation of natural gas.

A. They do. The Hope Company has lines from 6 to 16 inches 6, 8, 12 and 16 inch lines, and the Reserve Company 8, 10, and 12 inch lines. The Pittsburgh and West Virginia Gas Company has 8, 10, 12 and 16 inch; and smaller lines are owned by all of the companies mentioned.

(Mr. Weil:)

Q. What about the Carnegie?

2582 A. The Carnegie does not seem—I am not advised as to the lines owned by the Carnegie Company in Lewis County or at least, do not have the information right at hand.

Q. State the number of gas producing wells of the United Fuel Company, if it has any, in the County of Roane?

A. It has 354½.

Q. Has the Hope Company producing wells over there in that county?

A. It does not.

Q. Mr. Lakin testified that the West Virginia Penitentiary is

located at Moundsville in Marshall County. Do any of the seven large gas companies operate in Marshall County?

A. The Manufacturers Light and Heat Company does. The Pittsburgh and West Virginia Gas Company has a small acreage also in Marshall County, and the Hope Natural Gas Company operates within the county.

Q. Do these companies or any of them, own by lease, hold by lease or otherwise, acreage for oil and gas purposes in Marshall County? If so, how much?

A. The Manufacturers Light and Heat Company controls 68,455 acres, the Pittsburgh and West Virginia Gas Company controls 256 acres, the Hope Natural Gas Company 9,885 acres. I also notice that the Carnegie Natural Gas Company has 3,922 acres within the county.

Q. Do these companies, or any of them, have gas wells producing natural gas in the County of Marshall?

A. They do.

2583 Q. Can you state the number thereof?

A. The Carnegie Natural Gas Company has 51 wells, the Hope Natural Gas Company has 44 wells, the Pittsburgh and West Virginia Gas Company has none, and the Manufacturers Light and Heat has 192, making a total of 287.

Q. Do these companies or any of them have pipe lines in the County of Marshall for the transportation of natural gas? If so, the size of the lines?

A. The Carnegie Natural Gas Company has about 28 miles of lines in the county.

(Mr. Weil:)

Q. Will you give the size?

A. I am not able to give the size of the lines at this time. Pittsburgh and West Virginia Gas Company has no lines in Marshall County. The Hope Natural Gas Company has 93 miles of lines of various sizes. The Manufacturers Light and Heat Company has 223 miles of lines of various sizes. I am unable at this time to give the sizes of these various lines. The information is available and I can readily get it. I might state that I did have it compiled and it was burned, at the capitol fire.

Q. What do you mean when you say it was burned at the capitol fire?

A. Well, I had gathered together the various sizes of lines just as I have testified to in connection with the other companies, but two or three sheets of my papers were destroyed.

Q. Destroyed when?

2584 A. In the capitol fire.

Q. I am trying to get into the record what you mean by the capitol fire.

A. The fire that destroyed the capitol.

Q. When?

A. On Monday, January 3rd.

Q. 1921?

A. 1921.

Q. Mr. Lakin testified that the West Virginia Industrial School for Boys is located, he said, at Grafton, in Taylor County. Do any of these seven large companies operate in the County of Taylor?

A. Two of them, the Hope Natural Gas Company and the Pittsburgh and West Virginia Gas Company.

Q. Do these two companies have lines or hold territory for oil and gas purposes in the County of Taylor, by lease or otherwise?

A. They do.

Q. What is the acreage of each of them?

A. The Hope Natural Gas Company controls 14,260 acres, and the Pittsburgh and West Virginia Gas Company 9,376, making a total of 23,636 acres.

Q. Do these companies own producing gas wells in that county?

A. The Hope Company has 12 gas wells in Taylor County, and the Pittsburgh and West Virginia Gas Company has 40.

2585 Q. Have either of these, gas pipe lines in the County of Taylor for the transportation of natural gas?

A. They both have pipe lines in Taylor County.

Q. Of what size, if you can say?

A. Well, from 6 inches down.

Q. Does either of these companies sell gas at the City of Grafton?

A. No, neither of them sells directly to the public.

Q. Do you know whether either of them sells to the distributor of gas?

A. The Pittsburgh and West Virginia Gas Company sells gas to Grafton.

Q. Where does the Comet Oil and Gas Company sell gas, if you know?

A. It operates in Taylor County in the vicinity of Grafton and Pruntytown.

Q. The fact is the Industrial Farm is located at Pruntytown and the shipping point of it is at Grafton?

A. Well, the institution is at Pruntytown.

Q. Off of the railroad?

A. I am not advised as to the exact location of Pruntytown.

Q. Now you say the Comet Oil and Gas Company sells gas to Pruntytown and in the vicinity of Grafton?

A. Yes.

Q. Do you know whether it has now or has had a physical connection with either of the two large companies operating in Taylor County?

2586 A. Yes, it has had a connection with the Hope Natural Gas Company since the latter part of 1916.

Q. You mean the Comet Oil and Gas Company has had a connection—physical connection, with the Hope Natural Gas Company since 1916?

A. Yes.

Q. And was furnished by the Hope Natural Gas Company with natural gas?

A. Well, I am not advised as to whether—it has a physical connection, I am not advised as to which way the gas passes.

Q. Mr. Lakin testified that the West Virginia Industrial Home for Girls is located at Industrial, Harrison County. Do any of these seven large companies operate in the County of Harrison?

A. Yes, five of them do.

Q. Name them.

A. Carnegie Natural Gas Company, Reserve Gas Company, Pittsburgh and West Virginia Gas Company, Hope Natural Gas Company, and the Manufacturers Light and Heat Company.

Q. Do any of these five companies have territory for oil and gas purposes, by lease or otherwise, in the County of Harrison?

A. They do.

Q. State the acreage thereof for each of them respectively.

2587 A. The Carnegie Natural Gas Company controls 2,586 acres, the Reserve Gas Company 22,854 acres, Pittsburgh and West Virginia Gas Company 15,273 acres, the Hope Natural Gas Company 130,648 acres, and the Manufacturers Light and Heat Company 635 acres, making a total of 171,996 acres.

Q. Do these five large companies, or any of them, have producing gas wells in the County of Harrison?

A. Yes, they do.

Q. How many respectively?

A. The Hope Natural Gas Company has 1,059, the Pittsburgh and West Virginia Gas Company has 207, the Carnegie Natural Gas Company has 66, the Reserve Gas Company has 339, the Manufacturers Light and Heat Company 3, making a total of 1,674 for the five companies.

Q. Do these five companies, or any of them, have pipe lines in the County of Harrison for the transportation of gas; if so, which ones; and if you can, the size of the lines?

A. The Manufacturers Light and Heat Company have some 8 inch and 10 inch lines in the county. The Reserve Gas Company has 8, 10 and 12 inch lines and smaller lines. The Carnegie Natural Gas Company has a 12 inch line running through the central part of the county, but very few smaller lines. The Pittsburgh and West Virginia Gas Company has 8, 10 and 16 inch lines and smaller lines, and the Hope has 8, 10, 12, 16 inch lines and a great many smaller lines.

2588 Q. Mr. Lakin testified that the State Tuberculosis Sanitarium at Terra Alta, Preston County, was served by the Northern Natural Gas Company. Is the Northern Natural Gas Company one of the constituent companies of the Eastern Oil Company?

A. It *has*.

Q. He also testified that the West Virginia Children's Home at Elkins, Randolph County is served—is that the West Virginia Gas Company? Is that company one of the constituent companies of the Eastern Oil Company?

A. That is either the West Virginia Central Company or the West Virginia and Maryland Gas Company. Whichever it is, however,

it will be a constituent company of the Eastern Oil Company group.

Q. It is at this point that I will ask you to make part of your examination the statement in respect to the Eastern Oil Company group of gas companies, heading that in proper form and letting it go into the record as part of your direct examination.

2589 *Statement Showing Leases, Wells, and Pipe Lines Within West Virginia of "Eastern Oil Company Group" of Natural Gas Companies.*

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
West Virginia Central Gas Company	34,067	161	260
West Virginia and Maryland Gas Company	None	None	220
Northern Natural Gas Company.	None	None	10
Totals	34,067	161	490

Leases are located within the counties of Lewis, Harrison, Upshur, Barbour and Gilmer.

Gas Wells are within the counties of Lewis, Harrison and Braxton.

The Eastern Oil Company also owns the following local gas companies operating within West Virginia. These companies are not connected with the company's general system:

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
Salem Natural Gas Company	386	6	57 miles, 1 to 8¼ "
West Union Gas Company	367	3	20 miles, 1 to 6¼ "
Glenville Natural Gas Company.	200	1	17 miles, 1½ " to 5⅝ "

The Salem Natural Gas Company operates within the counties of Doddridge and Harrison; the West Union Gas Company within Doddridge County and the Glenville Natural Gas Company within Gilmer County.

2590 Second cross-examination:

(By Mr. Weil:)

Q. You obtained this information that you have given us, I presume, with reference to these operating companies in these respective counties from the data obtained from the reports made to the Public Service Commission by these various public utilities?

A. Either to the Public Service Commission or to the Board of Public Works.

Q. And all public utilities in the state were required to make such reports?

A. They are.

Q. But individual operators or those engaged in the oil and gas production that are not public utilities make no such reports?

A. They do not.

Q. Now can you give us with reference to the West Virginia Utilities Company that supplies the West Virginia University at Morgantown, West Virginia, the same character of information that was asked with reference to these other companies—the number of acres owned by it, the number of wells, and its pipe-lines and the sizes thereof?

A. I can.

Q. Have you that information available now?

A. No, sir, I do not have it in the court room.

Q. How long would it take to get it?

A. That would depend on the scope, Mr. Weil, most of it could be gotten very readily.

2591 Q. Now I will ask you to get that information as to the West Virginia Utilities Company, the number of acres of territory owned by it in the State of West Virginia, or outside, if it has any, the number of wells, and the size of its main pipe lines. The same with reference to the Montgomery Gas Company. The same with reference to the Huntington Development and Gas Company. The same with refer*nece* to the Monongahela Valley Traction Company. The same with reference to the Charleston-Dunbar Natural Gas Company. The same with reference to the Glenville Natural Gas Company. The same with reference to the Keeners Oil and Gas Company. The same with reference to G. L. Cabot. The same with reference to the Comet Oil and Gas Company. Could you by going to your office get that information for us, so that we could examine you as to these facts in, say, an hour, a half hour, or something like that?

A. I would not have any difficulty in getting the acreage and the wells, but I might have in getting the sizes of pipe line. That was taken from the Board of Public Works records. I had the 1920 records in my office and they were destroyed, all except for these seven companies, destroyed in the capitol fire. I would be able to get that information from the 1919 reports, which were in the custody of the Secretary of State, and I understand were saved intact. I do not know whether those records are available that would ena' le me to get the pipe line reports.

Q. Well, leaving the pipe lines out, for the moment?

2592 A. I could get the acreage and the wells.

Q. Will you do so, so that we can resume the cross-examination then upon that?

Witness complies with request.

Q. Mr. Nease, will you give us the number of acres held by the West Virginia Utilities Company of Morgantown, which supplies

the West Virginia University at Morgantown, West Virginia, and also the city of Morgantown?

A. The West Virginia Utilities Company controls 12,887 acres of leases, upon which are 70 gas wells.

Q. And where is this acreage located?

A. It is in Monongalia and Marion County, West Virginia. I might state, however, that the acreage figures given are for West Virginia. If this company has any acreage outside the state, and it does have, it would not be included in those figures.

Q. You say it does have?

A. I think it does have small acreage outside.

Q. Before we leave that, I believe you stated you could not give the mileage or size of its lines?

A. I cannot.

Q. The Montgomery Gas Company of Montgomery, West Virginia, that supplies the West Virginia Trade School at Montgomery and also the town of Montgomery?

A. The Montgomery Gas Company controls 1,553 acres of leases and has 8 gas wells.

2593 Q. Where located?

A. Its gas wells are in Kanawha County.

Q. Where?

A. Kanawha County.

Q. Is its acreage there also?

A. It might possibly have a little acreage in Fayette County. It is practically all in Kanawha, however.

Q. Now the Huntington Development & Gas Company at Huntington, West Virginia, that supplies the Marshall College at Huntington and some other sections around there. How many acres?

A. 4,844 acres of leases and 162 wells.

Q. Are those its leases only? Does that include the land it owns in fee. Does it not have a large tract of land in fee in addition to those leases?

A. Yes, it does.

Q. Has it not about 100,000 acres or thereabouts?

A. It has a very large acreage.

Q. Is it not approximately 100,000 acres?

A. I would not be in a position to state, but it has a very large acreage in fee.

Q. You have been informed, have you not from time to time that it has somewhere in the neighborhood of between 50,000 and 100,000 acres?

A. Yes, I should say it would be between 50,000 and 100,000 acres.

Q. And you know where that is situated, as well as its leases?

2594 A. Well, it is principally in Lincoln and Wayne counties.

Q. Now, you cannot give us in this, so as to save asking the question each time, or any of the other companies, you cannot give us the size of the pipe lines, for the reasons already explained?

A. Yes.

Q. Now for the Monongahela Valley Traction Company, which supplies the Fairmont Normal School at Fairmont, West Virginia, and also the town of Fairmont, give us the number of acres and wells owned by this company.

A. It has 19,667 acres of leases and 70 gas wells.

Q. Where are they located—in what counties?

A. In Marion, Harrison and Monongalia counties.

Q. Did I ask you for the Glenville Company, Glenville Natural Gas Company?

A. You did.

Q. That supplies the Glenville Normal School and, I suppose, the town of Glenville also?

A. Yes, it does.

Q. Give its acreage and number of wells.

A. It has 200 acres of leases and one well.

Q. In what county?

A. Gilmer County.

Q. Now the Charleston-Dunbar Natural Gas Company that supplies West Virginia College Institute at Institute, West Virginia. Does it also supply the town of Dunbar?

2595 A. Dunbar, St. Albans, and South Charleston, in part.

Q. Give us its acreage and number of wells.

A. It has 27,399 acres of leases and 65 gas wells.

Q. Where is that acreage located? What Counties?

A. Principally in Putnam and Kanawha Counties.

Q. And in what other?

A. I think that is all.

Q. Now the Keeners Oil and Gas Company at Weston, West Virginia, that supplies the Weston State Hospital at Weston?

A. It has no leases or wells.

Q. No leases or wells. Where does it get its gas?

A. Up until recently it has been buying from the Hope and the Clarksburg Light and Heat Company. Now it is getting its gas from a local producer near Weston; I don't recall just who it is; I think though the Columbian Carbon Black people.

Q. The G. L. Cabot that supplies the Spencer State Hospital at Spencer, West Virginia and the town of Spencer?

A. Cabot has holdings in various counties of the state, probably five or six counties. We have not any report, never been able to get any report on the lease held, but he has in all 52 wells, most of which are in Calhoun county.

Q. And he claims that he does not have to report because he is not a public utility, I believe?

2596 A. Yes, but he has always made some kind of reports, they are very incomplete, but he will finally comply by making some kind of a report.

Q. You have already given us the data with reference to the Monongahela Valley Traction Company at Fairmont, I believe, because it has supplied the Fairmont Normal School as well as the Fairmont Hospital. Now the Comet Oil and Gas Company, Wheeling, West Virginia, which supplies the West Virginia Industrial

School for Boys at Grafton, West Virginia. What is the acreage and number of wells and where located?

A. The Comet Gas Company has 4,885 acres of leases, and 18 gas wells in Taylor County. It operates in the vicinity of Grafton and Pruntytown, Taylor County.

Q. Several of these companies, if not all, buy gas from other producers in the same fields in which they operate or adjacent thereto do they not?

A. Yes, substantially, that is the situation.

Q. I believe you stated the Keeners Oil and Gas Company buys all of it from local producers or those in its section or adjacent?

A. Yes.

Q. And pipes it to the hospital at Weston?

A. Yes.

Q. All of these companies that you have named have certain pipe lines and systems, of course?

A. They do.

2597 Q. Now you cannot give us the size, for the reason of the records not being available, as you explained before?

A. Yes.

Q. The records of the Public Service Commission of West Virginia would not contain the number of acres or the number of wells owned by those who are not public utilities and did not accordingly so report?

A. They would not.

Q. Is there any department of the state government that would have such reports, of which you have any information?

A. No, that would not be collected by any state department.

C. E. KREBS (recalled).

Direct examination.

(By Mr. Blue:)

Q. At folio 281, proceedings of yesterday, Friday morning, on cross examination, and in response to a question of Mr. Weil, you made a statement about which I desire to ask you a question. Mr. Weil was inquiring of you the quantity shown as imported into the states of Pennsylvania, Ohio, Indiana and Kentucky and the amounts as stated by you as exported from West Virginia into other states, and then asked you at folio 281 this question: "That shows that the gentleman making the estimate in the G-ological Survey is also wrong, does it not" and to which question you replied: "It does

I desire to ask you whether you meant to state that the gen-

2598 *lt*-men making the estimate in the Geological Survey was or is wrong or whether that there appears to be a discrepancy in using the figures in the manner and for the purpose as used by Mr. Weil on his cross examination?

A. There appears to be a discrepancy which I am unable to ha

monize, but no doubt the man that has compiled these figures would be able to harmonize same.

Q. Then you did not mean when you made the statement, nor do not mean now, as saying, as a matter of fact, that the gentlemen who made the estimate in the Geological Survey was to your knowledge wrong in the figures used by him and in the estimates made by him?

A. I do not.

Cross-examination.

(Mr. Weil:)

Q. Have you not made your statement a little stronger than you intended, when you say that the gentleman who made the estimate, the gentlemen of the Geological Survey who made the estimate "No doubt can reconcile the same." Have you any information whatever as to whether he can or not?

A. I have not, but as that was part of his work, my natural inference would be that he would be able to harmonize same.

Q. Inasmuch as so many of these figures are frankly stated in the report of the Geological Survey to be estimates, some of them stated to be approximate, does it necessarily follow that these figures
2599 could be reconciled by anybody, whether connected with the Geological Survey or not, giving to them, of course, the intention of presenting the matter as fairly and as nearly accurately as they can.

A. I have no doubt but what they would be able to explain what would seem on the surface were discrepancies.

Q. You think then the average statistician, whether connected with the Geological Survey or not, will be able to reconcile any figures, do you?

A. No, sir.

JOHN J. CORNWELL, Governor of the State of West Virginia, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

(By Mr. Blue:)

Q. You are Governor John J. Cornwell, Governor of West Virginia at this time?

A. Yes, sir.

Q. How long have you been governor of the state?

A. Since March 4, 1917.

Q. Prior to the enactment of the statute in question in this proceeding, were demands and complaints made to you relative to the inadequacy of service by the gas companies operating in the State of West Virginia, and demands and requests made upon you for relief in respect thereto?

Mr. Weil: That is objected to as incompetent, irrelevant and i
material.

2600 The Commissioner: Note the objection and let the witn
answer the question.

A. There were.

Q. Without going into specific dates, but stating generally, at wh
times and to what extent?

Mr. Weil: That is objected to as incompetent, irrelevant and i
material.

The Commissioner: Note the objection and let the witness answ
the question.

A. They began shortly after I came to Charleston.

Q. As Governor?

A. As Governor, and continued more or less until the enactme
of the legislation in question.

Q. What was the general nature of such complaints and request

Mr. Weil: That is objected to as incompetent, irrelevant and i
material.

The Commissioner: The objection is noted and the witness m
answer the question.

A. I think the first I heard of this, other than newspaper discu
sion, was prior to the call I made for a special session of the legis
ture in May, 1917, or perhaps the legislature convened the lat
part of April, 1917, I do not recall. The matter was first brought
my attention by Mr. Steptoe, who represented manufacturers a
other gas consumers at Clarksburg in the northern part of t

2601 state. He brought it to my attention with a view of havi
me include in the call for the special session which it w
known was next to be convened, a provision by which the legislatu
might enact some legislation along the line of this act. I declin
to include that in the call for the special session. And then later
the season, I think, as the following winter approached, there we
petitions and letters and committees—petitions, letters sent in num
ously—and then there were committees that came to call on me
garding this matter, and it had got very acute when the first co
snap came; so much so that I got the heads of several of the gas co
panies to come to Charleston to confer with me about the situatio
with a view of ascertaining whether or not they could provide reli

Q. Do you recall at this time any of the persons you mean by t
representatives of gas companies that you had come to Charleston f
conference with you?

A. I cannot recall the names of the gentlemen, except Mr. Jo
G. Pugh, I think, was one of them, who was at that time with t
Hope Company, I believe, and I think the general manager or he
of one or two of the other large companies. Is there a Carneg
Gas Company?

Q. Yes.

A. I think there was a representative of that company, I am n

sure. I think some gentlemen connected with the United Fuel Gas Company were present.

2602 Q. Were these letters, telegrams and petitions from persons other than manufacturers and manufacturers' associations?

Mr. Weil: The question is objected to as incompetent, irrelevant and immaterial.

The Commissioner: The objection is noted and the witness may answer.

A. Oh, yes. They came from Boards of Trade, Chambers of Commerce, Rotary Clubs, and persons connected with hospitals, from Fairmont, Clarksburg, Morgantown, Parkersburg, and New Martinsville, I think, and all up through the northern, central part of the state.

Q. Were these petitions, letters and telegrams to you, or any of them, preserved by you?

A. They were all preserved. I have them all in possession. I think they are in the vault in my office, which has not yet been opened.

Q. Had you assembled them for the purpose of refreshing your recollection for testifying as a witness as you are testifying now?

A. When you spoke to me about this matter a few weeks ago, I had all those papers and petitions put on my desk by my file clerk, in order that I might look them over and refresh my mind about it. I did not have an opportunity to do so, and when the fire occurred I think they were all put in the vault, taken off the desk and put in the vault there.

2603 Q. When you refer to a fire this week, to what fire do you refer?

A. I mean the fire that burned the capitol building.

Q. In which your office was located?

A. Yes, in which my office was located.

Q. Is it possible for you at this time, or has it been possible up to this time to get into the vault to get these papers?

A. It has not been. It may be a week before I can get in.

Q. You do not know at this time what condition the papers in the vault may be in even when you get in it?

A. No, but I think they are intact; a stream of water played on them; I think they are all right.

Q. Following these petitions, requests and demands upon you for relief, what did you do?

A. I refused to put a provision in the call for the special session in 1917 to deal with this question for several reasons, but I did lay the matter before the legislature or call it to the attention of the legislature at the regular biennial session in 1919.

Q. In what way did you bring this to the attention of the legislature?

A. By a paragraph in my biennial message.

Q. Do you have a copy of that message with you?

2604 A. I have.

Q. Will you read into the record the paragraph of your

message to the legislature bringing to the attention of the legislature this question relative to service of natural gas in the State of West Virginia?

A. The paragraph in question is as follows:

"With the approach of the last winter and the early cold weather there was an acute gas shortage in the central and northern section of the state, especially for manufacturing purposes, which led to a demand of me by gas consumers for a special session of the legislature to enact a measure under which the gas companies could be compelled to furnish an adequate supply of gas to West Virginia consumers. I gave the matter very careful consideration, examining the legislation and judicial decisions in other states, and arrived at the conclusion that inasmuch as the legislature had created a Public Service Commission for the purpose of regulating and controlling all public utilities, and clothed it with certain powers as set out in the statutes, the grievance should properly be presented to the Commission. I made that suggestion to the interested parties, who accepted it and filed their complaints with the Commission. Evidence has been taken, arguments made, and the matter is now in the hands of the Commission for its determination. The Gas Consumers Association requested me to employ counsel to represent the state
2605 in the case. I acceded to that request, not only because of the importance of the particular questions therein involved, but because I felt that the graver and more far reaching question of the powers of the legislature itself, as well as the general regulatory powers of the Public Service Commission were likewise involved, and that they should be settled by the Commission, and if need be by the courts of the land, in order that we might know once and for all, how far the legislature has gone or how far it can properly go in regulating public service corporations through the Public Service Commission. It is unfortunate that these issues have not been raised and determined long ago; but if we are to proceed along orderly lines and make progress in regulating utilities for the public good, it is high time we knew the extent and scope of the power of the legislature and of the Commission in pursuance of the law creating it, to make such regulations."

Q. What action did the legislature take upon your message to it dealing with the subject, which you have just read into the record?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, and because it is impossible for the Governor to state what influenced the legislature in any action they might have taken.

The Commissioner: Note the objection and let the witness answer the question.

2606 A. The legislature passed the act that is involved in this litigation. Of course, I am not able to say whether it did it because of and in pursuance of any suggestion that I made in this message.

Q. It was the only action of the legislature upon your message in

respect to the question of gas and the service thereof to the citizens of West Virginia, however, was it not, the act in question?

A. It is the only act that was passed by the legislature with reference to the regulation or attempt at regulation of the natural gas.

Mr. Hoffheimer: Mr. Commissioner, when Mr. Harry A. Wallace, a witness on behalf of the plaintiff states, was on the stand, a demand was made for the production of certain gas sale agreements to which the United Fuel Gas Company was a party. The question then arose as to the production of those contracts, the refusal at that time of Mr. Wallace having been based principally upon the ground of advice of counsel, Mr. Altizer. Later, as the record in its former parts indicates, there was a conference between Mr. Altizer and counsel for the State of West Virginia with a view of arranging some plan for production of these contracts, without entering into a controversy on the subject or requiring a ruling. Before the plaintiff states closed the evidence, it is fair to state that such an arrangement was made, and the contracts in fact submitted to inspection and produced, but owing to some misdelivery of same we were prevented from reporting the contracts into the record before the plaintiff states closed. I should say also that in order to avoid the necessity for our bringing Mr. Wallace back to the stand, it was arranged that Mr. Wallace might instead make a statement
2607 in explanation of the production of these contracts, in like manner as though Mr. Wallace were present.

The original contracts having been produced, it has been agreed between counsel that copies furnished and now present are to be substituted for the originals as stated by Mr. Wallace. Mr. Wallace in the statement which is to be put in the record mentions that a contract of July 31, 1916 between United Fuel Gas Company, Columbia Gas & Electric Company and Ohio Fuel Supply Company referred to in a communication of July 18, 1918, and modification of original contracts for the sale of gas to the Columbia Gas & Electric Company and the Ohio Fuel Gas Company, have been exhibited to the State of West Virginia and have been conceded by them to be immaterial to the present controversy; and I state on behalf of the State of West Virginia that that statement of Mr. Wallace is correct.

With that preliminary statement and immediately preceding the introduction of the contracts themselves, pursuant to arrangement of counsel, we ask to have read into the record the statement of Mr. H. A. Wallace, which is as follows:

"In Equity.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

and

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

2608 *Statement of H. A. Wallace.*

The undersigned H. A. Wallace, who was examined as a witness on behalf of the complainants on the 30th day of June, 1920, and asked upon cross-examination to produce the contracts referred to in his testimony for the sale of gas by United Fuel Gas Company to Columbia Gas & Electric Company, Ohio Fuel Supply Company, Central Kentucky Natural Gas Company, Louisville Gas & Electric Company, Hope Natural Gas Company, Pittsburgh & West Virginia Gas Company and Portsmouth Gas Company, and who, at that time, upon the advice of his counsel, refused to produce said contracts, now makes the following statement with reference thereto:

Upon further consideration of said request, the undersigned agrees to comply therewith, and now produces and files, as part of his cross-examination, a copy of each of the contracts referred to (copies being satisfactory to counsel for the State of West Virginia in lieu of the originals, such originals being subject to inspection of the counsel for said State). That in connection with said contract for the sale of gas by United Fuel Gas Company to Ohio Fuel Supply Company, the undersigned desires to state that the method therein provided of fixing the price for such gas has not been strictly followed during the time of his connection with said United Fuel Gas Company, and that said contract with the said Ohio Fuel Supply Company, and also the contract for the sale of gas by United Fuel Gas Company to Columbia Gas & Electric Company, were modi-

2609 fied in the manner set forth in a written communication, dated July 18, 1918, from United Fuel Gas Company to said Columbia Gas & Electric Company and Ohio Fuel Supply Company, a copy of which is attached to said contracts, marked "Modification of Ohio Fuel Supply Company and Columbia Gas & Electric Company contracts", and that the price charged for gas to each of said two Companies, during the year 1918 and at all times since, has been

he price stated in said communication of July 18, 1918. The undersigned desires to state further that the contract of July 31, 1916, between United Fuel Gas Company and Columbia Gas & Electric Company and Ohio Fuel Supply Company, which is referred to in said communication of July 18, 1918, was a modification of the original contracts for the sale of gas to said Columbia Gas & Electric Company and Ohio Fuel Supply Company, and the same has been exhibited to counsel for the State of West Virginia and conceded by them to be immaterial in the present controversy, and that said modification of July 31, 1916, will be produced and filed by the undersigned at any time during the pendency of these suits, if required by any party in interest.

(Signed) H. A. WALLACE."

2610 The Commissioner: Let the statement be spread upon the transcript.

Mr. Hoffheimer: The contracts produced by Mr. Wallace and now offered in evidence are the following:

Agreement dated July 5th, 1913, between United Fuel Gas Company and Louisville Gas and Electric Company, to be marked West Virginia Exhibit No. 35.

Agreement dated October 25, 1915, between the United Fuel Gas Company and The Portsmouth Gas Company, to be marked West Virginia Exhibit No. 36.

Agreement dated November 1st, 1912, between the United Fuel Gas Company and the Central Kentucky Natural Gas Company, to be marked West Virginia Exhibit No. 37.

Agreement dated September 19th, 1910, between the United Fuel Gas Company and The Ohio Fuel Supply Company, to be marked West Virginia Exhibit No. 38.

Agreement dated August 25, 1916, between the United Fuel Gas Company and the Hope Natural Gas Company, to be marked West Virginia Exhibit No. 39.

Agreement dated May 1st, 1920, between United Fuel Gas Company and Hope Natural Gas Company, to be marked West Virginia Exhibit No. 40.

Agreement dated August 25th, 1916, between the United Fuel Gas Company and the Pittsburgh and West Virginia Gas Company, to be marked West Virginia Exhibit No. 41.

Agreement dated May 1st, 1920, between the United Fuel Gas Company and Pittsburgh & West Virginia Gas Company, to be marked West Virginia Exhibit No. 42.

Agreement dated January 1st, 1913, between Columbia Gas & Electric Company and United Fuel Gas Company, to be marked West Virginia Exhibit No. 43.

2611 Agreement in the form of a letter dated July 18, 1918, between Columbia Gas & Electric Company, Ohio Fuel Supply Company, and United Fuel Gas Company, to be marked West Virginia Exhibit No. 44.

The production of these contracts having been made as above stated, the motion for an order to produce or for subpœna duces tecum to require the production of the contracts of the United Fuel Gas Company, is withdrawn by the State of West Virginia.

Mr. Weil: The admissibility of all of these contracts in evidence is objected to as irrelevant and immaterial.

The Commissioner: Let the motion be noted and let the exhibits *to* received.

Hearing adjourned to be resumed on the 1st day of February, 1921, in the United States District Court Room, Clarksburg, West Virginia, all other and further notice thereof being waived by counsel for the respective parties.

ORIGINAL, #20 & #21.

2612 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Proceedings of February 8, 1921–February 10, 1921.

2613 Supreme Court of the United States, October Term, 1919.

Nos. 23 and 24, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.
On behalf of the State of Ohio, Freeman T. Eagleson, Esq.
On behalf of the State of West Virginia, Philip P. Steptoe, Esq., W. S. John, Esq., George M. Hoffheimer, Esq.

O. L. Haught and Lawrence Holbert, Shorthand Reporters.

Clarksburg, West Virginia,
Tuesday, February 8, 1921.

Pursuant to notice, the Commissioner and counsel met at the court room of the U. S. District Court for the Northern District of West Virginia.

Afternoon Session—1.30 o'clock.

2614 Clarksburg, West Virginia,
Tuesday, February 8, 1921.

The Commissioner: Pursuant to the adjournment had at Charleston, West Virginia, and to the further agreement and consent of counsel by which the resumption of the hearing was to be had in the United States District Court room at Clarksburg, West Virginia, not on February 1st, the date to which the last adjournment was taken, but to the 8th day of February, 1921, counsel now being present, the hearing is resumed according to the last agreement and consent.

2615 B. F. ROBINSON, called as a witness, on behalf of the defendant, having been first duly sworn, testified as follows:

The Commissioner: Let the record show the following subpœna and return.

"UNITED STATES OF AMERICA, *ss:*

The President of the United States of America to the Marshal of the United States for the Northern District of West Virginia, Greeting:

[Seal of the Supreme Court of the Pnited States.]

We command you to summon B. F. Robinson and Park Bowser, if they be found in your bailiwick, to be and appear before Levi Cooke, Esquire, Commissioner appointed by the Supreme Court of the United States, at Clarksburg, West Virginia, on the 8th day of February, 1921, to give evidence on behalf of the defendant in certain causes now pending in said Supreme Court of the United States, wherein The State of Ohio and The Commonwealth of Pennsylvania are complainants, and the State of West Virginia is defendant.

Hereof fail not, and of this writ make legal service and
2616 due return.

Witness the Honorable Edward D. White, Chief Justice of the United States, this 22d day of January, A. D. 1921, and in the One Hundred and Forty-fifth year of the Independence of the United States of America.

(Signed) JAMES D. MAHER,
Clerk of the Supreme Court of the United States."

(Copy of Return.)

NITED STATES OF AMERICA,
Northern District of West Virginia, ss:

Received this writ at Fairmont, West Virginia, on February 5th, 21, and I hereby certify and return that I executed the same on the within named on February 5th, 1921, by delivering to m in person at Clarksburg within said Northern District of West irginia, a duly certified copy thereof. Not executed as to the thin named Park Bowser by direction of Philip P. Steptoe, at-rney.

C. E. SMITH,
U. S. Marshal for the Northern District of West Virginia,
By HOWARD ADAMS,
Deputy."

617 Direct examination.

By Mr. Steptoe:

Q. Mr. Robinson, will you give us your age and place of residence?

A. My age is, sixty years old, residence, Clarksburg, West Virginia.

Q. How long have you resided in Clarksburg?

A. All my life. I will correct that to this extent, all but one ear of my life, to be accurate.

Q. What connection, if any, have you with the Clarksburg Light & Heat Company?

A. I am President of the Clarksburg Light & Heat Company.

Q. Is that the local company supplying gas to domestic and industrial consumers of Clarksburg and vicinity?

A. It is.

Q. How long have you been connected with that company?

A. Since its organization in 1904.

Q. Prior to that time were you interested in the public service of natural gas to Clarksburg?

A. I was.

Q. In what way?

2618 A. As an officer in the West Fork Oil & Natural Gas Company, a local organization.

Q. Was that company engaged in the service of natural gas for domestic and industrial purposes in Clarksburg?

A. It was.

Q. For what length of time prior to 1904?

A. Four years.

Q. You state that you were an officer of the West Fork Oil and Gas Company, and are now an officer of the Clarksburg Light and Heat Company. Were you, and are you, personally interested as stockholder in those two companies?

A. I am in the Clarksburg Light & Heat Company. The West

Fork Oil & Natural Gas Company has been dissolved and surre
dered its charter.

Q. In the year 1904 or thereabouts?

A. No, in the year 1920.

Q. Did the West Fork Oil & Gas Company preserve its organ
zation and business until 1920?

A. It did.

Q. In what way and where was it engaged?

A. It held interests in certain leases which it had at the ti
of these—in 1904. These leases have been sold to the Pittsbur
& West Virginia Gas Company, retaining a small oil i
2619 terest. It also had one or two pieces of real estate and c
tain odds and ends of interest which had not been sold
the Clarksburg Light & Heat Company, and for that reason t
organization was kept alive to receive any revenues that might co
from their interest in those leases.

Q. But it has not been actively engaged in the service of g
since 1904?

A. No.

Q. Was there any other gas company engaged in serving natu
gas in Clarksburg in the year 1904, or prior thereto?

A. There was.

Q. What company was that?

A. The Mountain State Gas Company.

Q. State briefly what became of the Mountain State Gas Co
pany, in so far as concerns Clarksburg and the old West Fork
& Gas Company.

A. In 1904 the Clarksburg Light & Heat Company purcha
all of the lease-holds and franchises and property of the Mounta
State Gas Company in Harrison, Lewis, and Doddridge Counti
together with all of the property and the franchises of the W
Fork Oil & Natural Gas Company in Clarksburg and vicinity, a
Harrison County, with the exception of those leases that
2620 have referred to as having been sold to the West Virgin
and Pittsburgh Gas Company.

Q. You mean the Pittsburgh & West Virginia Gas Company?

A. Yes, sir, I forget the corporate name.

Q. Now, substantially, that was a merger, was it not, of the t
companies?

A. Substantially so. The stockholders of the West Fork Oil
Natural Gas Company subscribed for stock in the Clarksburg Lig
& Heat Company.

Q. What percentage of the stock in the new company was
signed to the stockholders of the West Fork Oil & Gas Compan

A. Forty-nine per cent.

Q. And what company and interest subscribed for the fifty-o
per cent., the other fifty-one per cent.?

A. E. Strong and C. M. Payne and John Tonkin subscribed f
fifty-one per cent.

Q. Well, did these gentlemen represent themselves, or were th
subscribing for some one else, and if so, whom?

A. They represented the interests of the Mountain State Gas Company.

Q. By what group of financiers, or company, was the Mountain State Gas Company owned?

2621 A. The Standard Oil Company of New Jersey.

Q. And at all times since the merger what company has owned the fifty-one per cent of the Clarksburg Light & Heat Company?

A. The Standard Oil Company of New Jersey.

Q. Does the fifty-one per cent of the Standard Oil Company of New Jersey have representatives on the Board of Directors of the Clarksburg Light & Heat Company?

A. They have.

Q. How many of the directors represent that interest?

A. Four.

Q. And how many the local interests?

A. Three.

Q. Who are the representatives of the Standard Oil Company of New Jersey upon the Board of Directors?

A. Christie Payne, John B. Tonkin and John Tonkin, John Corrin. Your question was as to who represented the Standard Oil?

Q. Yes sir. When was natural gas first used in Clarksburg, Mr. Robinson, for domestic or industrial purposes, or either?

A. I am not quite sure, I think in 1892.

Q. And what company entered the service of Clarksburg
2622 at that time?

A. The Mountain State Gas Company.

Q. Did that company hold a franchise in the City of Clarksburg?

A. It did.

Q. Granted about the year 1892, or before it entered?

A. Before it entered. I don't remember the date.

Q. In what year did the West Fork Oil & Gas Company enter into the business in Clarksburg and vicinity?

A. In 1900.

Q. And did it acquire a franchise before starting business?

A. It did.

Q. What became of these two franchises to the Mountain State Company and to the West Fork Oil & Natural Gas Company; who owns them now?

A. The Clarksburg Light & Heat Company.

Q. And are these the franchises under which the local company is now supplying Clarksburg?

A. They are; that is, the old city.

Q. Does it hold franchises throughout the present city?

A. It operates throughout the present city limits by fran-
2623 chises taken from suburban towns which have since been taken into Greater Clarksburg.

Q. To what extent has natural gas been used in the City of Clarksburg since these companies started supplying it? For what purposes, first, has it been used?

A. For domestic fuel and for manufacturing purposes, fuel.

Q. Now, to what extent?

A. Almost exclusively.

Q. Until about the year 1915 and 1916 was there any other fuel used in any industrial plant around Clarksburg and vicinity?

A. Not to my knowledge.

Q. And how about domestic service?

A. No other fuel was used to my knowledge but natural gas, if it was possible to install it.

Q. During the period you have mentioned as the commencement of the use of gas in this vicinity, and until the present time, the City of Clarksburg has grown very considerably, has it not?

A. It has.

Q. Can you tell us approximately what the increase in growth has been?

2624 A. The present census of the corporate limits of Greater Clarksburg, as taken by the recent census, was a little in excess of twenty-eight thousand. In 1900 it did not exceed six thousand.

Q. And I presume it was still less in 1892 or 1893 when gas commenced to be used?

A. I would think so. I do not remember the census of that time.

Q. What part, if any, has the use of natural gas played in the growth of the community in population and material prosperity?

A. The great increase in the population and growth of Clarksburg can be attributed to the use of natural gas. This cannot be denied. The great abundance of natural gas in 1900, and the great surplus in this vicinity led to the offering of very remarkably low rates of four cents. In fact, it was used as an inducement to encourage factories to come to Clarksburg. I would add to that, there was no other market for the gas at the time and it was used as an inducement, or partially used as an inducement, to bring consumers here.

Q. Well, as a matter of fact, were many industries attracted and did many industries locate here?

2625 A. All the industries that we have, that have been located here, have been induced to come at the extremely low rate of four cents.

Q. And I presume you did not mean to say that all of the industries that located at Clarksburg came in from outside sources, did you? Were not some of the growths of local effort?

A. Some are; very few.

Q. Did the coming in of those industries and their location here bring with them any increase of population in the city?

A. They did.

Q. Any skilled labor?

A. Yes.

Q. Well, give us some idea of the extent of residents brought to Clarksburg by reason of the location of these industries here.

A. You desire me to list the factories that were located?

Q. No sir. The general character of the factories. Would you

estimate for us about how many people were brought to Clarksburg in connection with the location of the industries?

A. I suppose you mean skilled workmen when you say
2626 that?

Q. Yes. I do not expect you to be exact.

A. Well, at least ten thousand.

Q. Many of those skilled workmen and other people connected with the industries located permanently in Clarksburg by the purchase of homes and the location of homes?

A. Many have.

Q. What effect, if any, has the general use of natural gas has upon the construction of dwellings and office buildings and places of business in Clarksburg? Have they been constructed with reference to the use of such fuel to any large degree?

A. I cannot answer that question very intelligently, because I cannot call to mind any inspection report that shows that they have been built solely for the use of natural gas. Some, I would feel safe in saying, have been built without taking into consideration the change of fuel. I have very often been given the impression and understanding by builders that flues have been made regulation size, though not by every builder.

Q. Let me ask you to what extent the dwelling houses in Clarksburg have been equipped for natural gas for heating?

A. All of them have, so far as I have knowledge, been
2627 equipped for natural gas.

Q. To what extent they would have to be changed to adopt themselves to other fuel I understand you are not well posted?

A. I don't know that.

Q. Referring back to the Clarksburg Light & Heat Company, substantially, where is its gas territory located?

A. Within a radius of ten miles surrounding the City of Clarksburg, with a few exceptions of territory running fifteen or twenty miles.

Q. Well, what amount of territory fifteen or twenty miles away?

A. About eight hundred acres.

Q. And where is that located?

A. Big Isaac.

Q. Is that part of the territory acquired from the Mountain State Gas Company?

A. Part of it is and part of it has been acquired since.

Mr. Weil: Do I understand that is the outside territory?

Mr. Steptoe: Yes.

A. (Witness continuing:) In connection with the territory, I will say that we have acquired other leases further away
2628 than that recently, in Wood County, amounting to probably twenty-five hundred acres.

Q. In Wood County?

A. In Wood County. The majority of our acreage is within about ten miles surrounding the City of Clarksburg.

Q. Is the Wood County territory supposed to be gas territory?

A. It has not been sufficiently developed yet. We have drilled one well on it only. A dry hole.

Q. Is it the intention to pipe that gas to Clarksburg, if any is discovered, in Wood County?

A. That has not been decided. The disposition of it has not been decided. We have not discovered any gas.

Q. Has the Clarksburg Light & Heat Company any lines extending to Wood County?

A. It has not.

Q. Would it, in your judgment, be able to transport that gas to Clarksburg?

A. Not unless the volume of gas found was phenomenonally large. That acreage, I do not think, has any bearing on the district of Clarksburg. It was leased for the purpose of developing oil. I only stated that to make my testimony accurate.

2629 Q. What undeveloped territory or reserve acreage, if any, has Clarksburg Light & Heat Company?

A. We do not consider that we have any undeveloped acreage, although we have much that could be possibly explored further with an effort to get all of the gas that might be there in any quantity. And we have recently leased between two and three thousand acres in Sardis District, Harrison County, all of which hha been previously held, with the expectation of trying to see whether or not there are any new fields to be made.

Q. That has been recently acquired?

A. Recently acquired.

Q. Aside from that your company has no reserve acreage, in the sense of undrilled territory?

A. No.

Q. How long since your company has had any undrilled territory?

A. Three to four years.

Q. Has the Clarksburg Light & Heat Company been able, from its own production, to take care of its consumers?

A. Not at all times.

Q. How long since that its own production became unequal to the service of all of its consumers?

2630 A. About five years.

Q. Has it been purchasing gas, and if so, from whom?

A. It has been purchasing gas, and is now, from every source that it can be obtained. We have been buying gas from the Aspure Gas Company, the Pickens farm, Cork and Bowman, Hazel-Atlas Glass Company, recently, R. T. Lowdnes, and Hope Natural Gas Company.

Q. The first five you mentioned are what might be called independent producers, are they not?

A. Yes sir.

Q. Has the amount that you have been able to purchase from these independent producers been sufficient to supply the deficiency in your own production?

A. It has not.

Q. Upon what purchase have you been dependent to make up your deficiency?

A. The purchase made from the Hope Natural Gas Company.

Q. That is the largest, I suppose?

A. The largest.

Q. Considerably larger than all the others together?

A. Yes sir.

Q. And as I understand you, the local company has been buying, and compelled to buy for the last five years from these sources

2631 to make up the deficiency in its own production?

A. It has.

Q. What contract, if any, has your company with the Hope Natural Gas Company; for how long a period, and to what extent or amount?

A. We have a contract with the Hope Natural Gas Company to buy any gas they might have available to sell us from any surplus, after discharging their obligations to other contracts, in no specific amount, and to no definite date, or no definite term of the contract.

Q. If I understand you, it is subject to all prior contracts of sale, and the supply you can get is only out of the surplus?

A. That is right.

Q. And the contract is at the will of the Hope Natural Gas Company?

A. It is subject to cancellation by either party on thirty days' notice.

Q. And what price?

A. Thirty-five cents per thousand.

Q. Let me ask you if the contract with the Hope Natural Gas Company, to which you referred, is verbal or in writing?

A. It is in writing.

2632 Q. Was that contract made as a private contract between the two parties, or did the Public Service Commission of West Virginia have any part in fixing of the price or terms of sale?

A. It was a private contract, a copy of which is now on file with the Public Service Commission in our application for rates.

Q. I meant to elicit this, Mr. Robinson, whether or not the contract as to price, or as to any feature, was advised, directed or had under authority of the Public Service Commission of West Virginia, or was it purely a private arrangement between the parties?

A. It was upon application made by me, as president of the company, to the Hope Natural Gas Company for gas to supply our consumers.

Q. Let me ask you, if, in your efforts to acquire the amount of gas your company needed, you have at any time sought to purchase from the Pittsburgh & West Virginia Gas Company, or from the Reserve Gas Company?

A. We have, in the past, made application to each one of those companies.

Q. With any success?

A. There has been no success. They have no gas to sell.
2633 I would add to that that we made application to each of these companies prior, I think, to our making application to the Hope.

Q. How many connections, if more than one, are there between the systems of the Clarksburg Light & Heat Company and the Hope Natural Gas Company?

A. There are five connections at different points on their line, surrounding the city.

Q. Are there any pump stations located at any one or more of these points of connection?

A. We get our principal supply of gas from the connection made just west of Clarksburg at the Goff pump station, from which we get the majority of our gas, and then we have another connection just a little southwest, at Wilsonburg, near the Reserve pump station. Our gas we get from these two connections, come from the pump pressure, and the other three is made upon gathering lines that are run at convenient points to our system, but our principal supply, as I say, is on those high pressure lines leading direct from the stations.

Q. Has the Clarksburg Light & Heat Company any pump stations of its own?

A. One.

2634 Q. And where is that located?

A. At Big Isaac.

Q. And does it handle any gas except the small amount you get from Big Isaac?

A. None but the gas from that territory.

Q. And that is a very small proportion?

A. Very small proportion.

Q. Upon what pressure does your company rely to market its gas, natural pressure or rock pressure?

A. Yes.

Q. With the exception of that one pump station located out on the edge of Lewis County, all of your gas is marketed by means of natural pressure?

A. All of it.

Cross-examination.

By Mr. Weil:

Q. Mr. Robinson, if I understood you correctly, the Mountain State was supplying Clarksburg, as well as the West Fork Company?

A. They were.

Q. At one time?

A. Yes sir.

Q. And the Mountain State at that time was owned by cer-
2635 tain interests connected, as I understood you, with the Standard Oil interests?

A. It was.

Q. The formation of the Clarksburg Light & Heat Company was

by merging or purchasing, whatever the form of organization, of these two companies, the Mountain State and West Fork?

A. Yes.

Q. And since that formation of the Light & Heat, that company has been supplying this territory of Clarksburg and vicinity with gas, has it?

A. It has.

Q. You obtain your gas in part, from your own production?

A. We do.

Q. And in part by productions from parties, the names of whom you gave us, this is correct, is it?

A. That is correct.

Q. Would you say the larger part of your production is obtained from your own production—or the larger amount of gas, I should say, from your own production, or from purchases?

A. The larger amount of our gas is obtained from our own
2636 production.

Q. And you make this purchase then, to make up for the deficit, whatever it may be, from time to time?

A. We do.

Q. What is your rate to the industrial consumers in this section?

A. Forty cents.

Q. And domestic?

A. Twenty cents at present.

Q. And you pay thirty-five cents to the Hope, I believe you stated, for the gas you purchase from them?

A. Yes sir.

Q. I presume then, that is applied to the industrial consumers?

A. The most of it is. There is part of it which goes to domestic consumers. Our first duty is to the domestic consumer, and we do not stop buying gas if they need a supply of gas.

Q. Even though you lose money in supplying?

A. Even though we lose money.

Q. And, as a matter of fact, you purchase gas, do you not, from any one that is tributary or close enough distant to your lines
2637 to warrant you in laying the lines to obtain the gas?

A. From any source that we can obtain it that is within a reasonable distance to pay us to buy it.

Q. And that has been your practice, has it, since you have been President of the Clarksburg Light & Heat Company?

A. Yes sir.

Q. You have been the president since it was organized?

A. No.

Q. How long have you been president?

A. I have been president for three years. Prior to that time it was John Koblegard, who was president of the West Fork Oil & Natural Gas Company.

Q. And did you have any connection prior to the time you were made president of the Clarksburg Light & Heat Company?

A. I was one of the directors.

Q. Was that the situation then during the whole history of the company?

A. That has been the situation during the whole history of the Clarksburg Light & Heat Company.

Q. How much territory do you own altogether?

A. About sixteen thousand acres.

Q. And how many wells have you?

2638 A. In the neighborhood of two hundred, or a little over two hundred.

Q. And are you drilling your territory so as to develope it all?

A. We have been drilling continuously, drilling wells.

Q. And how many have you been drilling a year for the last three or four years?

A. Between fifteen and twenty.

Q. Every year?

A. Every year.

Q. What does it cost to drill a well now?

A. Between twelve and thirteen thousand dollars.

Q. When was the contract made with the Hope Company?

A. Well, it was made about——

Q. I don't care for the exact date, but about when?

A. About last September, or between August and September; I forgot the date, of 1920.

Q. Prior to that time then you had no contract with the Hope Company at all, or did you have?

A. We had a similar contract at a different price.

Q. And when did you make your first contract with the Hope Company?

A. I cannot give you the date of that, probably 1916 or

2639 1917.

Q. The Clarksburg Company, if I understood you, was organized in 1904?

A. Yes.

Q. So that was twelve, or about twelve years or longer after the organization of the Clarksburg Light & Heat Company that you made your first contract?

A. About that, yes sir.

Q. Were you forced to make that contract on account of a shortage of gas, because you did not have enough to supply your consumers?

A. Yes.

Redirect examination.

By Mr. Steptoe:

Q. You do not mean to be understood as saying that you have, for any considerable length of time, been buying gas at thirty-five cents and selling it at twenty cents to domestic consumers, do you? Isn't that a recent matter?

A. I only meant to say that since the date of the contract in August or September we have been paying thirty-five cents to the

Hope Company for gas. What part of that goes to supplying domestic consumers I do not remember, or what percentage of gas
2640 we buy from any other source goes to domestic, but some of it does. It may not be a matter of importance in this case, ut we are paying thirty-five cents for gas to other people which oes to domestic consumers.

Q. As a matter of fact your company has adhered to the principal f cutting off the industries in order to supply the domestic consumers?

A. Yes sir.

Q. And your purchases from the Hope Company have not been or the purpose of supplying the industrial needs, have they?

A. Largely for that purpose.

Q. Is your own supply sufficient to take care of your domestic onsumers?

A. Well, under certain conditions of temperature it is.

Q. Not at all times?

A. Not at all times.

Q. And you have to buy to take care of your domestic consumers s well as the industrial?

A. As well as the industrial.

Q. Has your company got now pending, an application for increased rates to meet this situation?

A. It has.

2641 Q. And that is before the Public Service Commission at the present time, and undecided?

A. It is.

Q. In your estimate of sixteen thousand acres of territory, do you include your Wood County holdings?

A. Yes.

Q. Do you include any other territory which is unfavorable for marketing to Clarksburg?

A. No.

Q. What was the extent of the acreage which your company acquired from the Mountain State interests in the merger in 1904?

A. I don't remember now.

Q. Could you approximate it?

A. I doubt whether I could.

Q. Do you recall any acreage other than the eight hundred acres you mentioned in Lewis County, as taken over from the Mountain State Gas Company. I mean in Lewis and Harrison Counties?

A. I could only give you a guess at it now. It has been some time ago.

Q. Give us your recollection.

A. About fifteen hundred acres I would say would be proper at that time.

2642 Q. Did your company take over anything from the South Penn Oil Company in the way of acreage or wells or leases?

A. No.

Q. It was stated, I think by Mr. Corrin, in connection with the plaintiffs' direct evidence, that the Mountain State Gas Company

was formed for the purpose of using the gas produced from South Penn leases and developed in the course of searching for oil. Do you confirm that, or is that your understanding?

A. I cannot confirm that from my knowledge of the records. Such leases and wells as were taken over when the Light & Heat acquired the Mountain State was all held in ownership by the Mountain State Gas Company. The title to those may have shown that they came from the South Penn.

Q. But you did not take over any leases owned by the South Penn, or any wells?

A. I have no recollection of any wells that came to the Light & Heat Company at that time that were deeded direct to them by the South Penn Oil Company. If there was such it has been years and I have forgotten it.

2643 Recross-examination.

By Mr. Weil:

Q. That acreage in Wood County was how many acres, did you say?

A. About twenty-five hundred is my remembrance.

Q. Is that included in your sixteen thousand acres?

A. It is.

Q. And I believe you stated you were drilling, or going to drill that?

A. I stated that we had drilled one well.

Q. Are you going to drill any other wells on that territory?

A. We expect to.

Q. And you stated that was some distance from your lines, as I understand it?

A. It is.

Q. Isn't it the custom among the gas producers, if they obtain gas some distance from their line, that it can be turned into the line of other gas companies adjacent to the production; that they swap or exchange gas with each company and thereby obtain the immediate use of the right quantity of gas into their line from that company having lines in proximity to your lines?

2644 A. That is frequently the custom. Or, we can sell the production to that company, which we would doubtless do. We have exchanged territory once in a while, if we can make any exchange that would prove a value to us.

Q. Is your company making an effort to obtain an additional gas supply by looking out for leases and drilling those leases in territory which you think would be available to your purposes?

A. It is, and has been for years.

Q. Has been for years?

A. Has been ever since it was organized.

W. C. ALLMAN, called as a witness, having been first duly sworn, testifies as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Allman, where do you live?
A. Weston, West Virginia.
Q. What official position, if any, have you recently held in connection with the Circuit Court of Lewis County?
A. I was Clerk of the Court for six years.
Q. Your term has expired now, has it not?
A. Yes sir, January 1st.
Q. You were clerk for the six years immediately preceeding January 1, 1921?
A. Yes sir.
Q. While you were Clerk of that Court were there any proceedings in way of condemnations for pipe lines before your court?
A. Yes sir.
Q. A considerable number?
A. Yes sir, quite a few.
Q. Principally by what companies or persons?
A. West Virginia Central Gas Company, The Hope Gas Company and Reserve Gas Company.
Q. And Pittsburgh & West Virginia Gas Company, or Philadelphia Company of West Virginia?
A. Yes sir, a few cases.
Q. I hand you now the original file in the case of Reserve Gas Company against Franklin McKinley, et al., a condemnation proceeding, endorsed, "Ended March, 1915," and will ask you if that proceeding was in your Circuit Court during your term as Clerk.
A. Yes sir, that case was pending when I entered the office as Circuit Clerk.
Q. I call your attention to the original petition filed, and will ask you if that is a typewritten or printed form, filled in to suit the particular case.
A. The petition is the original form.
Q. Well, is it printed?
A. Printed form, yes sir.
Q. Do you recall whether the petition in such proceedings on behalf of the Reserve and Hope are customarily printed?
A. Yes sir, they are printed or typewritten.

Mr. Steptoe: We have had the Clerk then in office, produce the original file for the inspection of counsel, and we now here offer in evidence a copy of the proceedings, excepting some of the immaterial papers, especially the petition for writ of error, and papers filed in connection with that in the original case. We want this exhibit filed and marked "Exhibit West Virginia No. 45."

Mr. Weil: It is objected to as incompetent, irrelevant and immaterial to any issue in this controversy, and so far as being a proceeding in court effecting any question now before this court it is res inter alios acta.

The Commissioner: Let the objection be noted and the Exhibit marked.

2647 I. WADE COFFMAN, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. What is your place of residence Mr. Coffman?
A. Clarksburg, West Virginia.
Q. What official position do you hold in connection with the Circuit Court of Harrison County? How long have you held that office?
A. I am the clerk of the Court, and have held it for twelve years.
Q. You are now such clerk?
A. I am.
Q. During your two terms as Circuit Clerk has there been any condemnation proceedings in the Circuit Court of Harrison County for pipe lines for the transportation of natural gas?
A. Yes sir.
Q. Has there been many of them?
A. Several, quite a number.
Q. What are the principal companies or persons making such applications for condemnations?
A. I believe most of the proceedings have been brought by the Hope Natural Gas Company, and there are other companies
2648 also that have brought them.
Q. Has there been any by the Carnegie Natural Gas Company, Fairmont and Grafton Gas Company, Philadelphia Company of West Virginia and The Pittsburgh and West Virginia Gas Company?
A. For them also.
Q. Do the forms of the application made by the different companies vary, do you recall, just speaking general?
A. Somewhat.
Q. Will you state if you have, at our request, made copies of the proceedings in the following condemnation proceedings of the court mentioned, namely, Hope Natural Gas Company against Arthur W. Rhodes, et al., The Fairmont and Grafton Gas Company against Richard V. Thompson, Guardian and others; Carnegie Gas Company against A. G. Swiger and others; The Philadelphia Company of West Virginia against W. M. Curry; The Pittsburgh and West Virginia Gas Company against Carrie Morrison and others?
A. I have.
Q. Have those copies, of the several proceedings been certified by you as clerk, and by the judge of the Circuit Court?
A. Yes sir.
Q. Did you, at my request, look at the original file in the case first mentioned, namely Hope Natural Gas Company against Rhodes to

see *what* whether the original petition there filed was type-
2649 written or printed?

A. It was printed form with the dates and so on inserted.

Q. As I understand you, a printed form filled in so as to conform to the particular case?

A. Yes sir.

Mr. Steptoe: We now offer in evidence the copies just mentioned to be filed as exhibits marked for identification as follows; Hope Natural Gas Company against Arthur W. Rhodes and others to be marked West Virginia Exhibit No. 46; Pittsburgh & West Virginia Gas Company against Carrie Morrison and others West Virginia Exhibit No. 47; The Philadelphia Company of West Virginia against W. M. Curry; Exhibit West Virginia No. 48; Carnegie Natural Gas Company against A. G. Swiger and others Exhibit West Virginia No. 49; The Fairmont & Grafton Gas Company against Richard V. Thompson, Guardian and others Exhibit West Virginia No. 50.

Mr. Weil: We object to these exhibits for the same reason given to the previous exhibits and so far as any omissions or statements in the proceedings are concerned, res inter alios acta.

Commissioner: Note the objection and let the exhibits be filed.

Cross-examination.

By Mr. Weil:

Q. If I understood you rightly you did not undertake to
2650 say that is all of the condemnation proceedings instituted in the Court during the time that you were clerk for the last twelve years, and are these five cases that you have named; there were others were there not, besides?

A. I cannot say that in the absence of looking the record up, no sir.

Q. You don't know then whether they are all of them or not?

A. I don't recall any others, and do not pretend to say.

Q. You do not pretend to say that there were no others?

A. No sir.

R. T. CUNNINGHAM, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Cunningham give you- age and place of residence.

A. Age 46; Fairmont, West Virginia.

Q. Is that in Marion County?

A. In Marion County, yes sir.

Q. How long have you resided at Fairmont?

A. Since July 1894.

Q. What is your present occupation or business?

2651 A. I am secretary and treasurer of The Monongah Gla
Company.
Q. Is your company located at Fairmont?
A. Yes sir.
Q. How long have you been connected with that glass compan
or with the glass business?
A. I have been interested in the glass business since about 191
I have been an officer of that company devoting all my time to
since April 1914.
Q. Prior to that your business was—what business were you in
A. Prior to 1914, about 1894 I was employed in the coal busine
Q. With what company or concern?
2652 A. Originally with and by the several companies own
by the Watson inter-sts at Fairmont.
Q. That would be the Fairmont Coal Company and Consolidatio
Coal Company and kindred companies?
A. Yes sir, and companies that were merged into them, yes sir.
Q. Do you recall when natural gas first came into common use
Fairmont? For domestic or industrial purposes, or either?
A. It was prior to 1894 when I went to Fairmont.
Q. Since that time to what extent has natural gas been used
Fairmont for domestic or industrial use, or both?
A. Natural gas has been universally used in the domestic lin
and also in the industrial plants requiring fuel.
Q. Are they so used today?
A. Yes, except in one of the larger industries which has just p
into operation in the last few months its producing plant.
Q. Whap company or association supplies natural gas to the Ci
of Fairmont and vicinity?
A. The Monongahela Valley Traction Company supplies all t
natural gas used by the Local people, used for domestic purpos
and with the exception of one corporation, all that is used f
industrial purposes, and in the case of that one corporatio
2653 it supplies a part; formerly, until this year, practically a
Q. What company do you now refer to?
A. The Owens Bottle Company.
Q. Has the company supplying Fairmont been the same co
pany, the Monongahela Valley Traction Company, from the b
ginning of furnishing gas to Fairmont?
A. No sir.
Q. Do you know whether or not the Monongahela Valley Tra
tion Company is now a new company or a successor to those th
formerly supplied Fairmont.
A. In its gas department it is a successor to those that former
supplied the natural gas.
Q. Do you know whether the company originally supplyin
Fairmont was doing so under a franchise, and if so, about when t
franchise was granted?
A. By that you mean the original?
Q. Yes sir.

A. The franchise would have been granted prior to 1894, at the time I went there.

Q. Is that franchise now held by the persons or present company supplying gas?

A. Yes sir.

Q. Do you know whether or not the Fairmont and Grafton
2654 Gas Company at one time owned and held that franchise and supplied Grafton?

A. Yes sir.

Q. Briefly tell us about the Fairmont and Grafton Gas Company, how it became divorced from the service at Grafton.

A. As I recall, the company sold its franchise and plant in the City of Fairmont about the year 1900 to 1902 to a company made up of local people, called, I think, the Fairmont Gas and Light Company?

Q. Then the Fairmont Gas and Light Company passed down successively to the present Monongahela Valley Traction Company?

A. Yes sir.

Q. Do you know whether the Fairmont and Grafton Gas Company is the same as the company now doing business in West Virginia under the name of Pittsburgh & West Virginia Gas Company, by change of name?

A. That is my information, yes sir.

Q. Do you know, in a general way, where the gas territory of the Monongahela Valley Traction Company lies, and its extent?

A. In a general way, yes sir.

Q. Suppose you tell us.

A. The company has approximately eighteen thousand
2655 acres of territory lying westerly of Fairmont, possibly from six to twelve or fourteen miles away, not in one solid block. Of that amount they have developed practically five or six thousand acres, and, as I understand, they have something like twelve thousand to fourteen thousand acres which they consider undeveloped.

Q. Do you know whether the Monongahela Valley Traction Company has production of its own sufficient to supply its consumers, domestic and industrial?

A. It does not have at this time.

Q. Does it have sufficient to supply, from its own production, its domestic consumers?

A. No sir.

Q. Does the company buy gas, and if so, from whom?

A. The company buys gas at the present time from the Carneigie Natural Gas Company, and until December 14th last it purchased some of its gas from the Pittsburgh & West Virginia Gas Company.

Q. How long, or how many years has it been during which the Monongahela Valley Traction Company has been compelled to buy gas to supply the deficiency in its own production?

A. I should say back for at least five or six years or more.

2656 Q. Do you know whether that company ever purchased gas from the Hope Natural Gas Company?

A. Yes sir.

Q. Do you know whether the Monongahela Valley Traction Company has physical connections now with the three companies you have mentioned from which it has bought gas?

Mr. Weil: Which three companies are they?
Mr. Steptoe: Carneigie, Hope, Pittsburgh & West Virginia.

A. The company now has connection with the Carneigie Company, and until December 14th last had a connection with the Pittsburgh & West Virginia Gas Company. Whether or not that connection has been broken since that date I cannot say. Prior to that, or I should say some years ago, they had a connection, and whether they do or not now I cannot say, with the Hope Company.

Q. Do you happen to know whether or not these three several connections were made at pump stations, or whether pump stations were installed to effecuate the purpose of the connections?

A. I cannot answer that question as to whether or not the connections were at pump stations, and I do not believe that the
2657 pump stations were installed for the purpose of facilitating those particular connections. I would say they were not.

Q. You have no accurate knowledge on the subject?

A. No.

Q. How near to the City of Fairmont, or to the community served by the Monongahela Valley Traction Company, do the main lines of the Hope, the Pittsburgh & West Virginia, and the Carneigie run?

A. The connection between the lines of the Monongahela Valley Traction Company and the Pittsburgh & West Virginia Gas Company is, I think, within the city limits or very close to the city limits. The connection with the Hope Company was south of Fairmont in the neighborhood of the Hutchinson power plant, possibly ten miles from that neighborhood, and the connection with the Carneigie Company is west of Fairmont where the lines cross, possibly six or eight miles out.

Q. To what extent has gas been used in Fairmont during the period since you have been there—1894 to the present time?

A. Until 1919, the spring of 1919, natural gas for domestic and industrial purposes was the sole source of fuel for practically all of the domestic consumers, and for all of the consumers using
2658 large quantities. I want to correct one of my earlier statements to the extent that in addition to the producer plant of the Owens Bottle Company, put into service this fall, that in the spring of 1919 the Monongahela Valley Traction Company commenced to supply gas from producers to the Monongah Glass Company for use in a part of its plant.

Q. And I assume that the factories and industrial plants and houses were equipped for the use of gas, of course?

A. Yes, sir.

Q. What have you to say with reference to the way in which houses, dwelling houses, have been constructed by reason of the fact of natural gas being used, and the adaptation of those houses to the use of other fuel?

A. Well, all of the houses were originally constructed for the consumption of natural gas, both for heating and cooking.

Q. Would a change, or an enforced change to the use of other fuel require an alteration of the houses, and if so state whether or not, and state generally and briefly to what extent alter——

A. Alteration in houses—I am speaking generally now without figures—houses built for the use of heating plants and by hot water or steam from a central furnace in the house, were very
2659 largely built with smaller flues than would be needed if the intention was to burn coal in those furnaces, so that a great number in use in Fairmont now will find that in order to change from gas to coal or coke it will be necessary for a large number to enlarge their flues or build two flues. That difficulty will not effect the houses using grates however, because the flues are large enough for coal in grates, in many cases.

Q. Are there many dwellings in Fairmont equipped with furnaces, such as you just referred to?

A. Quite a large number, yes, sir, the larger houses.

Q. About what percentage of the dwellings, as near as you can estimate it, from your observation?

A. Of course it would be merely my estimate. I would say ten per cent. of the houses.

Q. What would be necessary to adapt the houses for other fuel that are now without furnaces?

A. Such houses are heated either by grates in the several rooms or stoves burning gas. I should think the only change there would be to substitute a coal grate or coal stove for the present gas burning equipment.

Q. That, however, would require the installation of grates and stoves for burning coal in each room for heating the house?

2660 A. Yes sir, it would require a change in each room where there was fire, of some kind or another.

Q. To adapt the house to the use of coal in a furnace, would that require a great change or great expense?

A. To make such adaptation would require, where flues are not large enough, it would require the enlargement of the flues, or reconstruction of them; and in a good many cases there would be required provisions for opening into the basement to get coal in, which, in a great number of cases, have not been provided heretofore, and not contemplated.

Q. And that would be a rather expensive change?

A. Yes.

Q. Now is there any considerable percentage of houses constructed without either furnaces or grates in using natural gas.

A. I should think not.

Q. You spoke of a good many Fairmonters considering the change to the use of coal. Why is that under consideration? Is your supply of gas inadequate for domestic purposes?

A. The supply of gas in Fairmont, since the winter of 1916 and 1917 has been, in cold weather, inadequate for both industrial and

domestic consumers, and in severe weather, in very severe
2661 weather, with industrial consumers reduced to the minimum, there has been a shortage of gas in some sections for domestic use. This winter, on account of the mild weather there has been no shortage among the domestic consumers to speak of, so far.

Q. You referred to the fact that the Monongahela Valley Traction Company is now purchasing of the Carneigie Natural Gas Company in order to supply the deficiency in its own production. Do you know whether or not that purchase is under a contract, and how long it lasts?

A. Yes sir, it is under contract, and the contract is now in its second year. It is now filling a second annual contract. I think it expires in August next.

Q. What amount of gas is being delivered under that contract, do you know?

A. I don't know exactly, because the contract does not compel the Carneigie Company to deliver gas when it does not have it; but the information given me at the time the original contract was made with the Carneigie Company was that the maximum would be four million of feet.

Q. Per day?

A. Per day, if the Carneigie Company could spare it. But the Monongahela Valley Traction Company was, under the contract, required to purchase gas throughout the year. The larger
2662 percentage of the total being available, under the contract, during the winter months, and smaller percentage during the heated or hot months.

Q. Now, has the city of Fairmont grown any since you went there in 1894?

A. Yes sir.

Q. Give us an idea of its growth?

A. The last census showed a population, within the city limits, of eighteen thousand, approximately. The 1910 census, I think, was between ten thousand and eleven thousand. I don't recall the 1900 figures, but I should judge in the two towns then existing, it was possibly six thousand.

Q. Those two towns have since become the City of Fairmont?

A. Yes sir.

Q. Now has the use of gas at Fairmont had any appreciable effect in the growth of that city which you have mentioned?

A. Yes sir.

Q. State briefly in what respect and how the use of natural gas played a part in the development of the community.

A. The availability of natural gas at low rates was the
2663 cause of the location of the industries there requiring gas for fuel, which industries, of course, brought with them skilled help and attracted other labor into the community, which caused quite a substantial part of the natural growth.

Q. Have the skilled workmen and people financially interested in those industries located and built homes in the city?

A. Quite a number of them, yes sir.

Q. Are those workmen dependent on those plants?
A. Yes sir, entirely so in case of skilled workmen.
Q. I suppose when those workmen or other people interested in ose industries located there, they brought their families, did they?
A. The skilled workmen, yes.
Q. You have more or less knowledge of the general conditions roughout the Monongahela Valley of West Virginia, have you t?
A. In a general way, yes sir.
Q. Was the influence of natural gas in the growth and develop-ent of Fairmont confined to that city, or does that extend to other ies and communities throughout the Valley?
A. That extends to other communities in the Valley.
664 Q. Name some of the principal cities in the Valley.
A. The City of Morgantown, and City of Clarksburg and own of Mannington and Town of Weston and Buckhannon and rafton.
Q. In what counties are those cities you have mentioned?
A. The City of Morgantown is in Monongalia County, the own of Mannington is in Marion County, the City of Clarksburg in Harrison County, and Weston is in Lewis County, and Buck-annon in Upshur, and Grafton in Taylor.
Q. You have referred to a shortage in the supply of gas at Fair-ont. In what year did you say that was first evidenced?
A. The first serious shortage was in the winter of 1916 and 1917. There may have been some minor shortages prior to that, but not f a nature to be alarming.
Q. Will you give us, briefly, what you mean by the shortage, and hat was the effect locally, both with respect to industries and do-nestic consumers?
A. The first severe shortage was during the extreme weather which was over quite a continuous spell of some sixty days in, I hink, the winter of 1916 and 1917. There was practically no fuel or the industries for the period of almost sixty days, and during that same period quite a great deal of suffering among the
2665 domestic consumers, to such an extent that schools had to be closed for short periods of time and churches could not e properly heated at times, and there was considerable suffering nd inconvenience in some sections of the city in the houses.
Q. What effect did the lack of gas have upon the industries and upon the workmen employed?
A. That particular winter it caused a suspension of the glass ctivities for a period of from four to eight weeks almost entirely, causing unemployment to large numbers of the employees.
Q. What would you say with reference to the damage and injury to the business by reason of being shut down, as to the various industries?
A. I don't expect I could tell——
Q. I do not expect you to estimate the amount, but to give us the general idea as to whether it was considerable or otherwise.
A. The injury in the industries was mainly from the inter-

1223

rupted operation, which, in some industries, caused great uneasiness among the employees, and in one instance in particular, quite a number of the most valued employees sought employment elsewhere, and ever since that time the known insufficient sup-
2666 ply of gas for fuel purposes has been quite a deterrent factor in two industries, interfering with the supply of skilled labor by reason of the want of confidence on the part of such labor in continued employment, which has caused a serious reduction of production during a period when such industries could have enjoyed very prosperous times, owing to the business conditions existing during that period.

Q. What have you to say with respect to the financial loss to the industries themselves, the owners?

A. The financial loss during the period I speak of, 1916 and 1917, was quite large, and in one industry in particular, has been quite large ever since, owing to shortage of skilled help, caused in the main, by uncertainty of the gas supply.

2667 Q. You spoke of the general use of gas in Fairmont. Did you mean to include public buildings, hotels and establishments of that character?

A. During what period?

Q. I refer now to the period before shortages of gas appeared.

A. Yes sir.

Q. Now, did the severe shortage which developed in 1916 and 1917 affect those buildings?

A. Yes sir.

Q. Well, in what respect?

A. Quite a number of the larger buildings have, and some of the smaller industries have, ceased to depend upon natural gas and substituted coal. Some two or three years ago, during the cold months.

Q. I take it then there has been recurrent shortages.

A. Yes.

Q. With reference to your own plant, does it use natural gas exclusively?

A. No sir; we used—since the spring of 1919 we have been using producer gas supplied us by the Mononghalia Valley Traction Company from a producer plant built by it for experimental purposes, in one of our factories, and during periods of the shortage of natural gas we have used producer gas periodically in another furnace, in one of our other factories.

2668 Q. Have you had occasion to figure on the construction of producers for your own plant, and if so, why?

A. Yes sir. In 1917, we decided on the construction of an additional plant for the manufacture of tumblers by automatic machinery, having knowledge of the uncertainty of the natural gas supply, we contemplated the construction of producers for one of our plants and constructed for their installation, and purchased the producers. We did not install those producers for the reason that the Mononghalia Valley Traction Company had in mind the construction of the experimental producer plant that I referred to

heretofore, and they took up with us the question of our working together with them and arranging to use gas from their producer plant in this new plant of ours in lieu of building our own producers. We reached an understanding with that company and canceled our arrangement for the installation of our own producers for the new plant, and arranged with the Monongah-lia Valley Traction Company to take gas from its proposed plant?

Q. Have you used that producer gas since that shortage,—since the time you refer to?

A. Yes, we got our plant ready for operation in the spring of 1919, some two or three months, possibly, before the Mononghalia Valley Traction Company got its producer plant in operation, and we operated from the latter part of March until some time
2669 in May by using natural gas in that furnace, and since that time we have operated that furnace with gas from the producer plant, augmented at times by natural gas, by reason of the fact that the producer gas at times was not of sufficient richness in its units to run the furnace, and we have quite frequently had to turn in natural gas and burn it with the producer gas in order to maintain the temperature required?

Q. That was in your new plant.

A. Yes, sir.

Q. What do you use on the old plant?

A. We were depending absolutely on natural gas in the old plants.

Q. Have you been shut down with any degree of frequency?

A. We have had quite frequent interruptions, during the winter of 1917 and 1918 and 1918 and 1919, with shortages of natural gas, as during this present winter but, interruption for a short period.

Q. Have you made an estimate of the cost of changing to the use of producer gas, or the construction of producers for your old plant, in round figures and just when do you contemplate the construction of producers?

A. We contemplated the construction of producers during this coming summer for all of our plants located at Twelfth Street, being plan-s number one, two, three, and six, number six plant be-
2670 ing the new plant.

Q. What is your estimate of the cost of making the change?

A. We are just now engaged in compiling those estimates, the first estimate for an initial producer plant to take care of factories one, three and six, as projected, would have required an expenditure of, on the plans projected, of a half billion dollars; since that time we have decided against building the plant originally projected, on account of its cost, and are now engaged in projecting a producer plant for factories one and three, and another plant for factory number six, which is the new factory. So far, we have not gotten definite figures on what that instillation will cost,—these two instillations will cost,—but I would be very much gratified if the expenditure for the producers, and the trackage facilities, storage

facilities for coal, and handling equipment run under two hundred thousand dollars for the unit absolutely necessary for the operation of a part of our furnaces in those three plants. The furnaces, four in number, two in plant number one and two in plant number three, are designed for the consumption of natural gas only, and three of these furnaces, two in plant number one and one in plant number three, will have to be abolished and entirely rebuilt, to enable us to efficiently use or consume producer gas. The fourth furnace will not have to be entirely rebuilt, but will have to tear down and rebuild the generators to that furnace. We will
2671 also be compelled to reconstruct, in a very large measure, the leers for all four of these furnaces, so as to admit the use of producer gas in them. We only have given rough estimates of what it will cost to rebuild those furnaces, but we are of the opinion, to rebuild the three furnaces that have to be entirely rebuilt, and the leers connected with them, will cost in excess of one hundred thousand dollars, and to reconstruct the generators for the one furnace that will have to be entirely rebuilt, and to muckle the leers for that furnace will probably cost us about thirty-five to forty thousand dollars.

Q. Then, to summarize, what is your estimate of the entire cost of installation adequate to reconstruct and change your plans and adapt it throughout to the use of producer gas.

A. For the three plants treated just now, the total cost will be considerably in excess I fear, of three hundred thousand. And in addition to what I have just mentioned, we contemplate the construction of a producer to supply gas to our number two plant, in which we have a top furnace and leers, and to make the change there will probably cost forty thousand to fifty thousand dollars; at least forty thousand; that does not make any provision for the furnace in our factory number four, which is located at the foot of Sixth Street, nor for the furnace in our factory number five, which is located at the foot of Seventh Street,—we have made
2672 no estimate as to what it will cost there, and we do not contemplate making those changes in the near future. The plants are not now in operation.

Q. It has been claimed, Mr. Cunningham, in the testimony in chief, that if the people and the industries of West Virginia were to get a full supply of gas, the domestic and industrial consumers will go upon a gas spree or gas be bought. In that connection, let me ask you what is your opinion on that subject, especially in view of the present prices of gas?

A. By spree or debauch, do you mean there will be an orgy of burning gas?

Q. I think that was the impression given.

A. I should — that the success the gas companies have had and are having in increasing the rates for the consumption of gas throughout the state, and particularly the north end of it, would act as an automatic guarantee to the gas company that the West Virginia consumers will not go into *an* such debauch.

Q. Let me ask you there, what an increase of, say for example, ten cents per thousand cubic feet would mean to your company, in the course of a month, in dollars and cents?

A. Based on our present consumption, which is about a billion and a half feet a day, when we can get it, it would mean about one hundred and fifty dollars a day.

2673 Q. It would mean approximately five thousand dollars a month.

A. Forty-five hundred to five thousand dollars, yes sir.

Q. Has the price of gas today any influence upon your determination to go to the use of producers gas?

A. I will say that the shortages up until now has been the greatest reason for our contemplating the construction of producers, and that is augmented by the imminent danger of a large increase in the cost of the gas; the Monongahela Valley Traction Company now being an applicant before the public service commission for an increase in the price of gas, and the quality of the gas, which will entail, in excess of the fifty per cent advance, if they get what they ask for——

Q. What is that price?

A. The price they are asking for is forty cents net for natural gas mixed with gas from their producer plant, at the minimum of a thousand heat units, the natural gas, unmixed with the producer gas, ranges in heat units from 1075 to 1150, so that the increase from the present rate of approximately twenty-three and three-fourths cents, averageing through the year to forty cents, and the reduction of the heat unit by the introduction of the artificial gas, reducing the efficiency, will, we estimate, mean more than

2674 fifty per cent advance.

Q. Now, in giving your own experience, have you given the experience of industries generally, or is that confined to your own operations,—I refer now to the Monongahela Valley Company.

A. Yes, I should think our experience is no different from that of all other manufacturers in the glass industry, at least in the cities of Morgantown, Fairmont and Clarksburg.

Q. You referred in the former part of your testimony to the contraction of industries in Fairmont, by reason of the overrates. Let me ask you if the rates have steadily risen or have fluctuated?

A. By fluctuated, do you mean up and down?

Q. Yes sir.

A. They have not fluctuated; the increase has been gradual and persistent.

Q. Do you refer to the domestic rate or the industrial rate, or both?

A. Both.

Q. Is The Pittsburgh & West Virginia Gas supplying any portion of Fairmont, domestically or industrially, up to December 14th?

A. The Pittsburgh & West Virginia Company, we have been informed, were supplying The Monongahela Valley Traction Company with a billion feet a day and for the past two or three years,

the past three years at least, that company has been supply-
2675 ing, one industry, Owens Bottle Company direct, with gas through a pipe line laid by the Monongahela Valley Company from the line of that industry, which is the Owens Bottle Company, to the lines of The Pittsburgh & West Virginia Company, The Owens Company buying the gas direct from the Pittsburgh & West Virginia Company.

Q. Is the plant of the Owens Company within the corporate limits, or close thereto?

A. Within the corporate limits of the city, yes sir.

Q. I will ask you as to the feasibility of a plant changing from the use of one fuel back to another,—have you investigated along that line?

A. By that you mean from the use of natural gas to that of artificial gas?

Q. Yes.

A. It is quite feasible to change from one gas to the other after a plant is equipped with producers, but it is not economical, the reason being, and I am informed, and know from my own observation, that a gas furnace built for the use of the producer gas does not burn natural gas as economically as a furnace built for the use of natural gas solely, and I should think also that an industry equipped with a producer plant of any magnitude would find it inefficient and uneconomical to change from producer gas in the spring to natural gas, when the supply is abundant, generally on account of the light domestic consumption during such summer months, to natural
2676 gas, and then back again in the fall to producer gas; the reasons for this are, I think, primarily, the ultimate inefficiency of the operating forces in charge of the furnaces and the producers. Considerable knowledge and skill is required to properly operate gas producers, and considerable knowledge and skill is required to properly operate a gas furnace and these differences between the burning of natural gas and producer gas are so great that confusion would result from these changes back and forth and inefficiency naturally follow while the operating forces were acquainting themselves with the changed conditions in the gas furnaces; and the discharge in the spring, of the crew of men trained to operate producers and the employing in the fall of inexperienced men, which would probably be the result of such a practice, would entail inefficiency in operation of the producers during the period that this new crew was lear-ing how to properly operate the producer plant; and the same condition that I have mentioned as would occur in the spring, would occur in reverse or inverse order in the fall, in train-the furnace operators to get away from the conditions of burning natural gas and to the conditions of burning producer gas, so that
my company, at least, contemplates that after we have got
2677 our producer plant in operation, we would not give consideration to the change back and forth unless it were because of a very large saving in cost, sufficiently large to show a profit above the inefficiency and lack of good operation.

Q. Let me ask you if there have been many changes to producer

gas or to other forms of fuel by the various industries throughout the Monongahela Valley.

A. Yes, there have been quite a few, and those changes are now in contemplation, I should imagine, in all glass industries having continuous operation, not seasonal operation. I know of two cases in Morgantown.

Q. Name those plants.

A. The Mississippi Wire Glass Company have changed to producers and the Economy Tumbler Company have installed producers, or a producer.

Q. What changes in Fairmont?

A. The Owens Bottle Company have installed producers which will supply the deficiency, with which it will operate their furnace. I think they will rely on natural gas for a while for their leers and their engine plant, although they have had the good fortune and good sense to develope and independent gas supply of their own, which they have now piped to their plant. And our company contemplates the installation of producers this coming summer.

2678 Q. Now, take Clarksburg.

A. In Clarksburg, I know at least one plant that has changed from it, and that is the Rolland Company, and I think one other company, but I can't name it.

Q. There may be others that you don't know of?

A. Yes.

Q. Do you know of any others changed or contemplating a change?

A. One company at Grafton, I am told, contemplates a change in the near future.

Q. Name it.

A. The Tygarts Valley Glass Company.

Q. I believe you stated that up until the shortage of the winter 1916 and 1917, there was a fairly adequate supply of gas, domestic and industrial, in Fairmont and vicinity?

A. Yes.

Q. Could you tell us how the amount of gas now used in Fairmont, for domestic and industrial purposes, would compare with the amount used during the years preceding the first shortage?

A. The Monongahela Valley Company is not supplying as much gas, in my judgment, now as it did prior to the winter of 1916 and 1917.

2679 Q. How would you compare the amount that would be used, if all the domestic and industrial consumers in Fairmont were adequately supplied, presently, with the amount used in the year prior to that shortage, in the winter of 1916 and 1917, taking into consideration the change to other fuel that has already taken place?

A. If the Owens Company would continue to use its producer throughout the year, and taking into consideration the amount of producer gas we burn, I should think that the amount of natural gas thus not used would amount to considerably more than whatever increase there has been in domestic consumption during that period,

and that, with the producer gas we are using and the producer gas the Owens Company is using, I should say there would be a saving in the consumption of natural gas or a reduction in the consumption of natural gas of at least a million and a half feet a day, possibly more, as compared with the consumption in the year 1916.

Q. Do I understand you to mean that your estimate of the required amount of gas in Fairmont, under the circumstances given, is no greater than the amount used in the year 1916, or prior to the shortage in 1916 and 1917?

A. Yes sir.

Q. Let me ask you if the increase of the price of gas has
2680 had any substantial influence upon the amount used for domestic purposes?

A. Yes.

Q. Has that resulted in a conservation or reduction of the amount over that used during the lower rates?

A. Yes, it has resulted in greater care, of course, being used in consumption by those using it, and it *is* also resulted in some small households going to coal, on account of the saving, and on account of the shortage, which has driven small industries having boilers to the use of coal under the boilers during the winter months, all of which has had a tendency to reduce the consumption of natural gas.

Q. You take into consideration all those factors in your estimate of the amount requisite now would not exceed the consumption prior to 1916 and 1917?

A. Yes sir.

Q. Prior to the present contract between the Monongahela Valley Traction Company and the Carneigie Gas Company, I believe you stated there was shortages in the supply locally?

A. Yes sir.

Q. Were any efforts made by the Monongahela Valley Traction Company, or by any of its consumers, to require a contract of
2681 sale or purchase to the local company from any of the larger companies?

A. Yes sir.

Q. Please give, quite briefly, the situation and what took place.

A. In Fairmont?

Q. Yes sir.

A. In the year I think, 1918, a movement was started in Fairmont and in the adjacent communities in the Valley, to develop the question as to whether or not the exporting gas companies should be required, as a part of their public duty, to furnish gas to local gas companies to make up for shortages in West Virginia——

Q. Let me interrupt you there to ask if that action was preceded by any refusal on the part of the larger companies to sell to the local companies?

A. Yes sir.

Q. Suppose you state what that was.

A. I state now from information given me by the Monongahela Valley Traction Company officials, which satisfied me at the time, was that they could not, at the time from the shortages in Fairmont,

buy gas from these exporting companies in sufficient quanti-
2682 ties to take care of the demand in Fairmont, and that they had made efforts repeatedly to buy gas in sufficient quantities from the Hope Natural Gas Company and the Pittsburgh & West Virginia Company, and they could not get the amount they needed.

Q. Let me ask you further if the application made for a supply from a larger company to the local company was confined to furnishing gas in the shortage period?

A. Naturally, the demand would arise and become more persistent of shortage. Another time, when the demand was being cared for, the situation was considerably relieved. Of course the demand arose at times when shortages occurred; that is, the demand by the consumers, although the practice usually is by one company selling gas to another, to compel a given consumption annually to be taken through the year.

Q. Since the further answering of my question would lead you into matters that are more or less reflected by legal proceedings, I will simply ask you if the result of the effort was to obtain an order directing one of the larger companies to sell to the local companies.

A. At Fairmont?

Q. Yes sir.

A. Yes sir.

Q. That order had never been complied with until the
2683 injunction granted in the present proceedings?

A. No sir.

Q. Nor since?

A. No sir.

Q. Were there similar efforts at other places?

A. Yes sir.

Q. Where?

A. Morgantown.

Q. Was any such effort made at Clarksburg?

A. Such an effort was contemplated at Clarksburg. I don't believe it was undertaken. I am not fully posted as to that.

A recess was here taken until 7:30 o'clock, P. M.

2684 Supreme Court of the United States, October Term, 191

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Night Session, Tuesday, February 8, 1921.

Defendant's Testimony.

2685 Tuesday Evening, February 8, 1921.

And now, the hour of 7:30 o'clock, P. M. having arrived, hearin resumed, pursuant to adjournment.

R. T. CUNNINGHAM, resumes the stand.

Cross-examination.

By Mr. Weil:

Q. I believe you stated, Mr. Cunningham, that you have lived i Fairmont since 1894?

A. Yes sir.

Q. That is about twenty-seven years?

A. Between twenty-six and twenty-seven, yes sir.

Q. And prior to that time, prior to 1914, that you were in th coal business, I believe?

A. Employed by a coal company, yes sir.

Q. And that since 1914 you have been in the manufacturin business as a glass maker?

A. I was interested in the glass business prior to that time, bu went with the glass company as an officer in 1914.

2686 Q. Now prior to 1894, the town of Fairmont was bein supplied with gas, I think you stated?

A. Yes sir.

Q. What was the name of the company that supplied it prior t 1894?

A. My recollection is it was the Fairmont and Grafton Gas Com pany.

Q. How long did that company supply Fairmont prior to its goin into or being absorbed by the Monongahela Valley Traction Com pany?

A. My recollection is, Mr. Weil, that the Fairmont Gas & Light Company, which purchased the Fairmont plant, acquired the plant around 1900 or 1902, I am not sure exactly.

Q. That is, the Fairmont Gas & Light Company acquired the Fairmont——

A. The franchise and plant from the other company.

Q. That is the Fairmont Natural Gas Company?

A. Yes.

Q. What was the first companies named?

A. My recollection is the Pittsburgh & West Virginia Company.

Q. I mean the first company.

A. Fairmont & Grafton Gas Company is my recollection.

Q. Now, the Fairmont & Grafton Company supplied Fair-
2687 mont with gas up to what time?

A. Up until, according to my recollection, up until the time they sold the Fairmont franchises and Fairmont distributing plant to the local company known as the Fairmont Gas & Light Company.

Q. And the Fairmont Gas & Light Company then supplied it up to what time?

A. Until about 1912 or 1913, along in there.

Q. And then it became the Monongahela Valley Traction Company?

A. The Fairmont Gas & Light Company sold its plant—well, yes, that was transferred in stock only. 1915, I think was the time when the Monongahela Valley Traction Company acquired the plant; about 1912 there was a transfer of stock to different groups——

Q. I just want to get the names of these companies.

A. Yes.

Q. Now then, going back, it was first the Fairmont—which was the first company?

A. As I recollect it, the Fairmont & Grafton Gas Company.

Q. And that was organized about what time, if you know?

A. It was doing business in 1894, when I went to Fairmont.

2688 Q. And you don't know how long it had been doing business before?

A. No sir.

Q. I suppose you know for several years?

A. It was more or less a new thing, the gas was; it had not reached all the environs of the city yet.

Q. Then the Fairmont & Grafton Gas Company was supplying gas in Fairmont in 1894?

A. That is my recollection.

Q. And it continued to supply gas under that name until what year?

A. 1900 or 1902; somewhere along there.

Q. And then it became the Fairmont——

A. The Fairmont Gas & Light Company, according to my recollection.

Q. And the Fairmont Gas & Light Company supplied Fairmont

with gas until about 1915, did it, when it was absorbed by the Monongahela Valley Traction Company?

A. Yes sir, as I recollect it.

Q. Now, where did the so-called companies have their gas territory?

A. It was in a westerly direction form Fairmont, there in the neighborhood where the local company later acquired its
2689 territory. I recall that when the local company acquired the Fairmont franchise and distributing plant, that it did not acquire the supply lines that run on through to Grafton; they had to lay a line of their own for that.

Q. And that was in what years that the local company, as you call it, acquired the franchises of the——

A. I have stated 1900 or 1902, along in there, as I recall it.

Q. Then that local company, as I understood you, only supplied the Town of Fairmont and the environment, that is correct, is it?

A. Yes sir.

Q. And where did it have its territory?

A. Just at Fairmont, towards Mannington.

Q. And did the Fairmont and Grafton Company transfer to this local company as you call it, the Fairmant Gas & Electric Company the territories theretofore held by the Fairmont & Grafton Company?

A. My recollection is that they did not transfer any territory—any gas territory, developed territory at least,—I am not positive about that feature.

Q. Where did the Fairmont Gas & Electric Company then first get its gas with which to supply Fairmont?

A. They purchased prior to the time it took over the
2690 fields——

Q. What fields?

A. The fields I have mentioned located in a westerly direction from Fairmont.

Q. And that was a developed field at that time?

A. Partially.

Q. Do you know how many acres of territory it acquired at that time?

A. I couldn't say.

Q. Is there any reason that you know of why either the Fairmont & Grafton Gas Company or the Fairmont Gas & Electric Company could not have acquired a larger acreage, if they so desired, at that time?

A. I believe at that time they acquired what they considered a pretty big bunch of acreage, owing to the gas situation as it then existed.

Q. How many acres?

A. I don't recall.

Q. Was there any reason why it could not have acquired more if they had so desired, or had thought it were necessary?

A. I don't believe I can say whether there was any more acreage available at that time or not.

2691 Q. Why would not it be available?

A. As I recall, it purchased this block of territory from

local people there, who had gathered it, and partially developed it, and whether or not there was more available that could have been purchased, I could not say.

Q. Was there any other gas company at that time operating in that same field?

A. Fairmont & Grafton Company was there.

Q. I mean except the Fairmont & Grafton Company.

A. I can't say.

Q. Don't you know that there were not?

A. None others, supplying gas locally that I know of.

Q. Were there any companies acquiring territory in that field at that time?

A. I am not informed as to that.

Q. How many acres did it acquire at that time?

A. I don't have that information.

Q. Why do you say it was a large block?

A. Just from general comment at that time.

Q. What was considered a large block by general comment at that time?

A. I couldn't say of what that acreage consisted, or what those people considered a large block.

2692 Q. Who said it was a large block?

A. I do know at the time they raised the money, they thought it was pretty big.

Q. Who said it was a large block?

A. I don't know that I can recall that, sir.

Q. Was it anybody that had any familiarity or knowledge of the natural gas business, or just local comment of people who had not been in the natural gas business?

A. I will say it was local people who had not been in the gas business, and at that time knew but little about it; did not learn much.

Q. And that is where you got your information then that it was a large block?

A. Local situations and local conception of what would constitute a large block.

Q. By people who were not familiar with the business?

A. People who were not largely engaged in the business, yes.

Q. Was there any reason subsequently, after 1894, when you moved there, to Fairmont, that you know of, why the Fairmont Gas & Electric Company, after they acquired the property that you have mentioned, could not have acquired other and additional acreage?

2693 A. They did acquire additional acreage from time to time.

Q. How much?

A. I think at the present time they have something like around eighteen thousand acres.

Q. And could have they not acquired a larger acreage than that, if they had thought it was desirable, or had desired to acquire the same?

A. I am not informed as to that.

Q. You don't know then whether they could or not?

A. No.

Q. Do you know whether or not there were any companies in 1894 up to, let us say, 1900, that were seeking to acquire natural gas territory or acreage, in that particular section?

A. Speaking generally, from recollection, most of that country was under lease, either by oil companies or gas companies. I think mostly by oil companies, until the acreage developed whether it was gas or oil territory.

Q. What companies were those oil companies? Were they just local companies?

A. One of the companies would be the South Penn Oil Company; others might be classed as local companies.

Q. And were there not still other oil companies that were
2694 not local companies that were also acquiring acreage there?

A. Possibly.

Q. Do you know when the Hope Natural Gas Company first became interested in that field?

A. No sir.

Q. Don't you know that it was long after 1900?

A. I do not, no sir.

Q. Don't you know that it was after 1905?

A. I have no information on the subject, Mr. Weil.

Q. Don't you know that the Carnegie Natural Gas Company was not in that field until long after 1905?

A. I have no information on that. I couldn't tell you now where the Carnegie Company gets its gas.

Q. When did the Pittsburg & West Virginia Gas Company, if ever, become interested in that field?

A. Speaking from recollection, the Pittsburgh & West Virginia Gas Company is a successor to the Fairmont & Grafton Gas Company.

Q. When did it become its successor?

A. I do not know. It was after the sale of the Fairmont franchises and distributing plant.

Q. Which one do you mean, the one in Grafton or the
2695 one in Fairmont?

A. In Fairmont.

Q. How long after?

A. I couldn't tell you, sir.

Q. Don't you know that it was not until over ten years after?

A. I have no information on that, Mr. Weil.

Q. Don't you know that the Pittsburgh & West Virginia Gas Company was not organized until after 1910?

A. I do not, sir.

Q. Do you know anything about it, I mean as to the time of its organization?

A. No sir.

Q. Then as I understand you, Mr. Cunningham, in giving the names of these other companies, you did not mean to imply that on account of their operations, they prevented the Fairmont Gas & Electric Company, and subsequently the Monongahela Valley Trac-

ion Company from securing additional territory if they had so desired?

A. I don't know just what statements I made that you refer to.

Q. Well, did any of the statements that you made intend to make any such implication?

2696 A. No, sir.

Q. Now, as I understand you, the Monongahela Valley Traction Company in about the year 1915, suceeded to the property of the Fairmont Gas & Electric Company and the——

A. The Fairmong Gas & Light Company. You have been calling it the Fairmont Gas & Electric Company. The Fairmont Gas & Light Company was the first Fairmont Company.

Q. Now, the Fairmont Gas & Electric company was succeeded by the Fairmont Gas & Light Company, as I understand, or was there two of them?

A. I do not recall any Fairmont Gas & Electric Company.

Q. Now, when I stated the Fairmont Gas & Electric Company I intend- to refer to the Fairmont Gas & Light Company instead of Fairmont Gas & Electric Company.

A. That is as I understood it.

Q. Now then, the Fairmont Gas and Light Company, as I understood you, succeeded the Fairmont and Grafton Gas Company?

A. Yes sir.

Q. As to the properties in Fairmont?

A. Yes sir.

Q. And the Fairmont Gas & Light Company was succeeded ultimately, I believe you stated, about 1915, by the Monongahela

2697 Valley Traction Company?

A. Yes sir.

Q. And the Monongahela Valley Traction Company acquired, did it, any other gas company at the same time, if you know, that is supplying Fairmont or any of its environs?

A. I think not.

Q. Now then there changed hands how much territory from the old Fairmont Company?

A. I don't know exactly how much was in that transfer.

Q. They transferred to them, I suppose, all the gas territory they had?

A. A stock transfer, yes sir.

Q. And the Monongahela Valley Traction Company, you say, at the present time, holds about eighteen thousand acres?

A. Yes sir, that is my information, yes sir.

Q. Now, of that acreage, that eighteen thousand acres, which you said was westerly of Fairmont, about six to tw-leve miles, there has been drilled about five to six thousand acres I think you said?

A. Yes.

Q. Which leaves them from twelve to fourteen thousand acres?

A. More or less undeveloped, yes—no, ten to twelve thou-

2698 sand.

Q. Ten to twelve thousand acres?

A. Yes.

Q. What to you mean by more or less undeveloped? Do you mean undrilled?

A. My information is that they have not—that that has not been intensively drilled, closely drilled.

Q. How many wells have they on the five to six thousand acres?

A. I can't say as to that.

Q. Don't you know?

A. No. I don't know where the wells are located and I don't know how many producing wells they have now.

Q. Do you know of any reason why they should not drill the other ten thousand to twelve thousand acres?

A. I am not informed as to why they have not and are not doing it, no sir.

Q. Do you know how many wells they drilled in 1916, 1917, 1918, 1919 and 1920?

A. No sir, I have no information as to that.

Q. Do you know how many they have drilled in any one of those years?

A. No.

Q. Do you know how many they are drilling now?

A. No.

2699 Q. Do you know whether they are drilling any at all now?

A. They drilled in a well in November.

Q. That is the only well you have any information about, is it?

A. Yes sir.

Q. What did that do?

A. Started up a pretty good well.

Q. Do you know where it was located?

A. No.

Q. What would you call a very good well?

A. Well, it was reported about a four million feet well at first.

Q. That is four million feet a day?

A. Yes; my information is now it is not holding up.

Q. Did you ever know a gas well that did hold up to what it was reported when it first came in?

A. No. My information on gas wells is mostly what I hear.

Q. Now, Mr. Cunningham, as I understood you, this afternoon, the Fairmont Gas & Light Company was owned by local people, and there was invested therein local capital in and about Fair-

2700 mont?

A. Yes sir.

Q. And the same was true, was it not, of the Fairmont & Grafton Natural Gas Company, the predecessors of the Fairmont Gas & Light Company?

A. I am not informed as to that, Mr. Weil.

Q. The Monongahela Valley Traction Company is owned by what group of capitalists?

A. The Watson family of Fairmont, it is known as one of their enterprises.

Q. That is Senator Watson, is it?

A. Yes sir.

Q. The Monongahela Valley Traction Company is known as a Watson enterprise, is it not?
A. Yes.
Q. What does it operate besides this natural gas plant?
A. It operates traction lines, electric power plants, the gas producer plant, electric power lines.
Q. Let us be a little more specific.
A. And the gasoline station.
Q. Let us be a little more specific: What traction lines does it operate?
2701 A. It operates the traction lines in the City of Fairmont and the interurban lines between the City of Fairmont and the Town of Fairview, and the interurban line between the City of Fairmont and the Town of Mannington, and the interurban line between the City of Fairmont and the City of Clarksburg, the city lines in Clarksburg and environs, and the interurban lines between Clarksburg and Wolf Summit or Salem, and the interurban line between Clarksburg and Bridgeport and the interurban line between Clarksburg and Weston and the interurban line in Parkersburg, and the interurban line between Parkersburg and Marietta.
Q. What electric companies does it own and operate?
A. Has no subsidiary companies that I know of, but it, itself, owns and operates a large power plant just north of Fairmont at Reedsville, which is a modern electric plant; it also owns and operates——
Q. Just a moment: Where does it supply electric power or light?
A. It supplies electric light to the City of Fairmont and environs and supplies power to enterprises all around Fairmont, and between Fairmont and Clarksburg—and around Clarksburg, that is, power.
Q. Yes. Now then, what was the other activity you said it was engaged in?
2702 A. The operation of a gas producer plant at Fairmont.
Q. That is at Fairmont?
A. Yes sir.
Q. What is that, how big a plant is it?
A. That is an experimental plant building adjacent to the Monongha Glass Company plant, and supplies all it makes, except that part they use in their natural gas line, to Monongah Glass Company, and a very small part to another enterprise close by. That is the experimental plant I mentioned this afternoon.
Q. And that producer gas plant manufactures gas from coal, does it?
A. Yes sir.
Q. And as you say, supplies your company?
A. A part of our plant, as I testified this afternoon.
Q. And at what price do they supply you with producer gas, or is it supplied with the natural gas?
A. It supplies producer gas in a direct way at the price of the equivalent of natural gas at fourteen cents up to July the first last at which time we proposed after that, paying for it at a price equiva-

lent to natural gas at twenty-five cents; has been no agreement reached on that.

Q. In order to ascertain that equivalent, how many B. T.
2703 U.'s do you figure in the producer gas?

A. That is a local question yet between us has not been adjusted.

Q. About how many would you say is claimed by you and how many is claimed by them?

A. A good many elements enter into that, but for the purpose of making a statement, I will say it requires about eight volumes of the producer gas at a fixed temperature, to equal one volume of natural gas.

Q. Then you mean to tell us you were paying—what was your price for natural gas?

A. The natural gas price at this time is thirty cents a thousand cubic feet, during the five winter months, and twenty-six cents a thousand cubic feet during the other seven months.

Q. Well, if it only had one-eighth of the B. T. U.'s of the natural gas, that would be at the rate of two dollars and eight cents, would not it, for natural gas, if natural gas is twenty-six cents?

A. I don't know just what you mean, but I will state this: That in purchasing this producer gas, we were each to pay for the equivalent number of heat units that we would get from natural gas at fourteen cents, which is at the rate of a little less than two cents
2704 per thousand cubic feet for the producer gas.

Q. I don't understand you exactly. Will you explain a little more in detail?

A. The understanding between us is we are to have for fourteen cents as many heat units delivered through producer gas as we would get through natural gas at fourteen cents per thousand cubic feet, or we are to have as many heat units for fourteen cents gotten through producer gas as we would get for a thousand cubic feet of natural gas at fourteen cents.

Q. And how many B. T. U.'s of heat units you figure you were getting out of natural gas?

A. Natural gas, in Fairmont, yields anywhere from 1,075 to 1,150.

Q. Then you were paying at, according to the statement you just made, for the producer gas, at the rate of about a little over 1.4 cents a thousand feet for producer gas?

A. No, it is nearer two cents.

Q. Well, somewhere between that and two cents?

A. Figuring eight volumes for one; figuring seven volum-s for one would be exactly two cents; but producer gas fluctuates very much in heat units from year to year so we made careful measurements from day to day to get these averages.

2705 Q. Is that producer gas delivered to you cold or delivered to you hot?

A. It is delivered to us cold; not as cold as we would like to have it sometimes, but supposed to be cold.

Q. *By* not as cold as you would like to have it——

A. Because the higher in temperature it is, the more water vapor

it carries. If it carries an excess of water vapor, it makes it inefficient because we have to evaporate that water before burning the gas.

Q. You burn it, do you, in mixture with the natural gas?

A. Not always; we introduce natural gas directly into the furnace in which we are burning producer gas when we find it necessary to supplement the producer gas.

Q. As a matter of fact, you know, do you not, that producer gas with one hundred and twenty-five B. T. U.'s, or less, will not light when cold.

A. I do not know that, Mr. Weil.

Q. What is the population, did you say, of Fairmont at the present time?

A. Eighteen thousand, approximately.

Q. And when you gave us that estimate of about ten per cent of the dwelling houses were constructed with heating, hot water
2706 or steam heating furnaces, that was merely a rough estimate, was it not?

A. As I stated it, yes sir.

Q. Do you know how many houses there are in the City of Fairmont?

A. I do not, exactly.

Q. Do you know how many houses are fitted up with such furnaces?

A. Not exactly, no sir.

Q. Would you say there were more than twenty-five houses in the town that were fitted up with such furnaces?

A. Yes sir.

Q. From what do you make that statement, from what information?

A. I have personal knowledge of that many or more, and I was estimating that from the character of the houses, as I knew them, the size and character.

Q. Don't you know, as a matter of fact, in cities of three and four times the population of Fairmont, that an average better class of dwelling houses than would be in the Town of Fairmont, that there is not ten per cent of the dwelling houses that are fitted with hot water or steam or hot air furnaces?

2707 A. I do not, no sir.

Q. Have you any basis then upon which you make your calculation of ten per cent, or is it practically a rough estimate or guess?

A. Well, when I made the statement, I stated it was an estimate.

Q. You have no data then upon which to base the estimate?

A. No sir, no data, no sir.

Q. From what sources did you get that information that even those houses that were heated with hot water or steam, or hot air furnaces, that in order to burn coal, they would have to have larger flues and the chimneys would have to be reconstructed?

A. We have just been going through a spasm of agitation growing out of an application by the Monongahela Valley Traction Com-

pany for a large increase in its rates, agitation caused by public statements of said traction company that it would not have natural gas for housekeeping purposes, and calling upon people to prepare themselves to use a substitute for natural gas in the heating of their houses. This rate applied for was so large that public protest arose and mass meetings were held. Information was gathered, an
2708 attempt to get this information together, hearings have been held before the Public Service Commission of West Virginia, at which this information was more or less brought out, and my source of information is what I gathered from the conversations I heard and reports made in newspapers as to what the situation was in Fairmont; it was quite general talk that this condition exists. I know I was much surprised to find I was one of the victims who would have to reconstruct the chimneys.

Q. Did you obtain that information from this agitation and from Sand Hill oratory, is that correct?

A. The meetings were held in the court house. They were not Sand Hill meetings.

Q. So much the worse then. Might have been more accurate in their statements. You told us, Mr. Cunningham, that immediately after the shortage in 1916 and 1917 by which so many plants were compelled to shut down for a period of substantially sixty days or something like that, that you had great trouble in getting skilled labor. Don't you know, as a matter of fact, that in every industrial center in the United States at that same period, and for a year afterwards, there was trouble in getting skilled labor?

A. Yes sir.

Q. There was a shortage of skilled labor?

2709 A. Yes sir.

Q. And that skilled labor was being employed by the government, and that there was scarcely a plant operating anywhere in the United States that could get or had enough skilled labor?

A. Yes sir.

Q. Why do you attribute to this shortage of gas the shortage of skilled labor entirely?

A. In my testimony, I stated, that a large number, a comparitively large number of our people left us at that time and went to other glass plants where they could get employment more constantly than we could give them at that time, and since that time we have had difficulty in getting workmen, and the men we employed would leave us because of the uncertainty of our being compelled to cease operations during the cold months.

Q. As long as you were getting producer gas, why could you not operate continuously?

A. We were not getting producer gas at that time, but I will answer your question and say in the plant we are burning producer gas, we do not employ that same class of skilled labor; that furnace is operated by automatic machines, whereas our furnaces in which we burn natural gas are operated by hand workmen; and that
2710 is the kind of labor we are short of and have been short of since 1917, a part of which shortage I will admit grew out

of the war, but the greater part of it through our uncertainty of operations and through the lack of confidence of the workmen that we would be able to operate continuously.

Q. These producers then that you say you are going to build for your own use, are they not for the purpose of supplying your whole plant, or only for a part of it?

A. A part of it.

Q. You do not intend to use the producer gas then for the same purposes as you now use natural gas?

A. Yes, in the plant in which we propose to supply producer gas, but, as I testified, we do not propose at this time to put producers at our Number Four and Number Five plants.

Q. Now, were you connected with any of these companies, as stockholder or officer, in either the Fairmont Gas & Light Company or the Monongahela Valley Traction Company?

A. I have some stock in the Monongahela Valley Traction Company, yes sir.

Q. Did you have any in the Fairmont Gas & Light Company?

2711 A. Yes sir.

Q. When it was absorbed by the Traction Company?

A. Yes sir.

Q. Were you an officer of the Gas & Light Company?

A. No sir.

Q. At what price was the Fairmont Gas & Light Company turned over to the Monongahela Valley Traction Company?

A. I can't tell you exactly. It was exchange of stock and part cash.

Q. And about what was the price, substantially?

A. Based on the then market value of their stock, and including cash, my recollection is around a million, six hundred thousand.

Q. Wasn't it nearer three or four million?

A. No, not as I recollect it, no sir.

Q. Leaving out the price at which the stock was selling, as you say, was not the par of the Monongahela Valley Traction Company stock at par which you received for the plant, all the stock, as the case may be, of the Fairmont Gas & Electric Company, somewhere in the neighborhood of three or four millions of dollars?

A. No, not as I recall it, but I can't recall the basis of exchange at this time.

2712 Q. How long before that had it been that the Fairmont Gas & Electric Company had offered its whole property for sale for less than a million dollars, nine hundred thousand dollars, substantially?

A. I have no recollection of any such offer.

Q. Have you not been advised it had been offered for sale to one of the other gas companies at that price, shortly before that?

A. No, my holdings in it was so insignificant that I was not taken into consideration; I was not consulted.

Q. I presume that is the reason you have not any more definite recollection as to just the rate of exchange?

A. Yes, because I was not enough interested.

Q. Has the Monongahela Valley Traction Company been paying regular dividends since its organization?

A. No.

Q. When did it stop?

A. I don't know exactly. They paid dividends,—I am referring now to the common stock,—they paid dividends for a period on their common stock, stopping sometime three or four years ago,—three years ago, possibly.

Q. They paid dividends from 1912 or '13 to 1917 or 1918, you would say?

2713 A. No, I would not say they paid them from 1912. I don't know that they did. I don't believe they did.

Q. Didn't they pay dividends from the time they took over these plants?

A. I can't say as to that. I don't believe, however, that they did. The dividends paid on the common stock was not a very long lived affair.

Q. How much is the capital stock of the Monongahela Valley Traction Company?

A. I can't tell you those figures.

Q. How much preferred stock?

A. I don't know.

Q. And how much common stock?

A. I don't know.

Q. How much bonds have they out?

A. They have some bonds out, but I don't know how many. I take very little interest in the affairs of that company.

Q. You don't know then what its fixed charges are?

A. No sir.

Q. Either upon its preferred stock or its bonds?

A. No sir, the preferred stock is now paying I think six per cent.

Q. In using producer gas, do you mix it with natural gas, or do you use it alone?

2714 A. We use it alone where it is rich enough to perform its function; when it is not rich enough to do that, we introduce natural gas in the furnaces directly, but do not mix it with producer gas.

Q. You only use the natural gas then for the purpose of heating your furnace so the producer gas can be used, is that it?

A. No; the producer gas is low in heat units; it will not bring the furnace to high enough heat, and you have to supplement it by the use of natural gas.

Q. You use the two together at the same time?

A. Yes at occasional periods, but not always.

Q. How many units does your producer gas have to contain before you consider it rich enough to be used along?

A. We get along nicely with it if it runs one hundred thirty at a temperature of about one hundred.

Q. A hundred or—a temperature of about a hundred?

A. A hundred or below.

Q. Have you ever tried the use of producer gas mixed with natural gas, both producing together at the same time?

A. Yes, we are doing that, not through any choice of our own, however. The gas company is introducing a small percentage of producer gas in the natural gas lines, and mixing them.

2715 Q. Why didn't you do it with this producer gas that you obtained in the manner which you described?

A. I don't believe it would be practical to introduce natural gas in very large quantities into our generators.

Q. You said until 1916 or 1917, there was an adequate supply of natural gas at Fairmont?

A. We considered it so; there were momentary interruptions.

Q. Yes, there always are with every gas company; but you considered you had an adequate supply up to the years about 1916 or 1917, of natural gas?

A. Yes sir.

Q. And the Fairmont Gas & Light Company at that time had been transferred to the Monongahela Valley Traction Company from four to five years?

A. Some one or two years.

Q. You said the transfer was in 1912 or 1913, as I understood you?

A. 1915.

Q. The transfer was in 1915?

A. As I testified, yes sir.

Q. I understood you to say in 1912 or '13. I may have

2716 been mistaken, however, in the date.

A. My recollection, it was in 1915, or thereabout.

Q. And that was only one or two years after it went into the Monongahela Valley Traction Company, before this shortage occurred, according to your best recollection?

A. Yes. And we had extraordinarily cold weather that winter, if you recall.

Q. That of course added to the shortage, no doubt, in 1916 and 1917. Now then, you said in 1918 the movement started to find if the exporting companies could not be compelled to supply local industries and so forth, or local gas companies?

A. Thereabouts, yes sir.

Q. And you were interested in that movement, were you not, personally?

A. More or less, yes sir.

Q. Particularly more, were you not?

A. Possibly.

Q. And did you at the same time make any effort to ascertain why it was that the Monongahela Valley Traction Company were not drilling their territory?

A. Yes sir.

Q. Did you ascertain the facts with reference to that?

2717 A. I ascertained, yes, what we accepted as facts.

Q. Did you find out how many wells they were drilling or had been drilling?

A. I think they always recounted those things to us when we went in to complain, yes sir.

Q. Well, how many were they?

A. I don't recall now.

Q. Don't you know that they had not drilled but a very few wells from the time they acquired possession of this plant up to 1918?

A. My information is just the contrary to that, Mr. Weil. I would say right now that I think they satisfied us that their efforts were as much as we could expect up until the War period. They laid lines out in other fields and went to great lengths to try to get gas.

Q. They have not drilled up their developed territory, have they, and have not drilled it up to the present time?

A. My testimony states that I am informed there is still undeveloped acreages there.

Q. Don't you know, as a matter of fact, they have a developed acreage that would be sufficient for the location of between three and four hundred wells?

A. O—I don't know that.

2718 Q. Did you ever have the territory examined by an oil or gas expert?

A. No sir.

Q. Did you ever have the so-called undeveloped territory examined?

A. No sir.

Q. The wells that have been drilled recently, I think you testified that the well came in at about four million feet, or was reported about four million feet a day?

A. Yes.

Q. Do you know how long they have been carrying this undrilled acreage?

A. No sir.

Q. Do you know what they pay a year to carry that twelve thousand acres undrilled?

A. No sir.

Q. Don't you know that if they would surrender that acreage to other operators they would agree to take that acreage and drill wells thereon and sell the gas to the Monongahela Valley Traction Company, and that proposals of that kind have been made to them?

A. I do not know that, no sir.

Q. Don't you know that the Owens Bottle Works now ob-

2719 tain their own gas supply to a very considerable extent?

A. Yes sir.

Q. And that they obtained their acreage of leases within a comparatively few years?

A. I don't know when they obtained their leases. I know their operations were not extended farther back, according to my information, than possibly three to four years.

Q. Don't you know they began their operations immediately after they secured their leaseholds?

A. I have no information on that.

Q. Is there any reason why the Monongahela Valley Traction Company should not have secured that same acreage, if they had wanted to?

A. I don't know that, no sir.

Q. How much gas is the Owens Bottle Works obtaining, if you know?

A. Approximately two million feet.

Q. A day?

A. Yes.

Q. How many wells did they drill?

A. I do not know.

Q. How long have they had that production?

A. I don't know that. I know they just recently brought it into their plant; prior to that, I am informed they were selling
2720 it to the Traction Company, as much of it as was contiguous to their lines.

Q. But have you any information as to the cost of drilling a gas well in that territory?

A. No sir.

Q. Do you know that it costs approximately from ten to thirteen thousand dollars a well?

A. I have had that statement made to me, yes sir, and as high as twenty thousand dollars, I have had that statement made to me.

Q. Yes, some wells cost that, but the average well will cost from ten to fifteen thousand dollars in that territory at the present time.

A. I do not know. I don't know what it costs.

Q. Do you know what the present capital stock of the Monongahela Valley Traction Company is?

A. No sir.

Q. To drill three hundred wells upon that territory, at from twelve to fifteen thousand dollars a well, would cost from three million, six hundred thousand dollars to four million, five hundred thousand dollars, would it not?

A. Based on those figures the calculation would probably disclose that result, yes sir.

2721 Q. Is that not some intimation to you of why the Monongahela Valley Traction Company did not drill this territory?

A. They made no secret that it was too costly for them to operate; they could not afford to do it, time and again when they were notifying us they were going to raise the rates.

Redirect examination.

By Mr. Steptoe:

Q. What were the facts given you by the Monongahela Valley Traction Company as to the reasons for them not developing fully?

A. The lack of income in the gas department.

Q. You referred to the Traction Company satisfying its consumers to the effect they were trying to buy gas in the field, is that correct, and by laying a new line?

A. Yes, they laid quite an extensive line—I don't know just how long it was—into what was known at the time as the Logansport field, in which some large wells were drilled; it proved, however, to be very restricted territory and the encroachment into that field was an expense rather than an investment.

Q. At the present time, what is the situation with reference
2722 to that alleged undeveloped territory?

A. I can't say, Mr. Steptoe, just what the situation is there.

Q. Do I understand you to say that there is from ten to twelve thousand undeveloped in the sense of undrilled territory?

A. No, I don't know to what extent they have drilled in that territory. I only know that I have heard statements made that there was some such acreage more or less undeveloped; why it has not been developed, I do not know, and to what extent it has been developed, I do not know.

Q. And do you know the character of the territory as to whether it is good, bad or indifferent?

A. I do not.

Q. Did you mean to leave the impression, in answer to Mr. Weil's question, that the one well producing at its inception something like four million feet, was the only well that had been drilled by the Traction Company?

A. No, I did not. I merely mentioned that one well, which they considered more or less of a freak at the time, because it is the only well I have knowledge of recently having been drilled in by them.

Q. And I suppose there was some publicity to the fact of
2723 such a well being drilled in and it attracted your attention?

A. Yes, it attracted my attention particularly because they were having a hearing before the Public Service Commission at Fairmont in the rate case.

Q. You were examined rather extensively in reference to the financial condition of the Monongahela Valley Traction Company. Let me ask you if you know what its common stock is quoted at on the market?

A. Approximately nine, eight or nine dollars a share.

Q. What is its par value?

A. Twenty-five.

Q. I think there is possibly a little confusion in your answers on cross examination with reference to the several companies at Fairmont. You were asked about the ability of the local company at Fairmont to acquire territory during the period from 1894 to 1900 or 1902, when the Fairmont Gas & Light Company took over the local franchises and distributing plant. Prior to that time, was the Fairmont Gas & Light Company acquiring territory, or in existence?

A. Prior to 1902?

Q. Yes sir, when it took over the local plant?

A. My information is that they had organized a company
2724 and made application for a franchise in Fairmont, and were taking contracts from consumers of the then existing company.

Q. That is, the Fairmont & Grafton Company?
A. Yes sir, for the purpose of entering into competition with
m, and the result of those activities a trade was agreed upon and
ched between the two companies; and that my information is that
ore seeking contracts to furnish gas, they had acquired some
ritory.
Q. The Fairmont Gas & Light Company had not been in existence
y long before that?
A. No.
Q. Now then, the territory acquired by the Fairmont & Grafton
s Company up to the time of its sale of the Fairmont plant, what
ame of that?
A. My information is that they continued to supply the Grafton
trict from that acreage.
Q. They kept the territory?
A. That is my information and recollection, yes sir.
Q. Did you ever hear of the Mountain State Gas Company?
A. Not until this afternoon, no sir.
Q. Do you mean to be understood as saying that there were other
s companies doing business in Marion County prior to 1902, other
than the ones you mentioned?
25 A. No sir.
Q. Do you know whether or not the South Penn Oil Com-
ny that you mentioned held any extensive acreage?
A. My information is that they were holding quite an extensive
reage, yes sir.
Q. In the early days?
A. Yes.
Q. Do you know to what company that acreage passed in so far as
is gas territory?
A. My information is that when the South Penn Oil Company
rilled a well that turned out to be a gas well, it was turned over to
lope Natural Gas Company.
Q. Were both of those companies owned by the same interests?
A. That has been my information, yes sir.
Q. And you were cross examined somewhat extensively as to the
rigin of the Pittsburgh & West Virginia Gas Company and when
was organized. I hand you here what purports to be a certified
opy of the charter of the Fairmont & Grafton Gas Company, and
ill ask you to look at that and give us the date of that charter issue.
A. This seems to be a copy of the certificate of incorpora-
726 tion of the Fairmont and Grafton Gas Company, and the cer-
tificate is signed by William E. Chilton, Secretary of State,
nd dated the 12th day of March, 1894.
Q. Examine the next certificate, to which I call your attention,
nd state what is the change of name thereby authorized?
A. This seems to be a certificate issued by Stuart F. Reed, Secre-
ary of State of the State of West Virginia, changing the name of a
orporation from Fairmont & Grafton Gas Company, its present
ame, to the Pittsburgh & West Virginia Gas Company, by which
atter name it shall hereafter be known.

Q. And what is the date of that?
A. The 22nd day of October, 1913.
Q. You have referred to two Secretaries of State. Are those both Secretaries of State for the State of West Virginia at different periods?
A. Yes, sir.
Q. So that the Fairmont & Grafton Gas Company and the Pittsburgh & West Virginia Gas Company, if those certificates are correct, are one and the same company under a change of name?
A. Yes sir, it seems so.

2727 Recross-examination.

By Mr. Weil:

Q. Mr. Cunningham reverting to that four million feet gas well, which seems to disturb our friend, do you know how long they had acquired the lease on which that well was drilled?
A. No sir.
Q. Do you know how many other wells had been drilled anywhere adjacent to that well?
A. No sir.
Q. Do you know that the Monongahela Valley Traction Company are paying not only rentals, or instead of rentals on a large block of leases that they hold, they are paying gas well rentals the same as if gas wells had been drilled, in order to hold the leases?
A. I do not know that, no sir.
Q. Don't you know that a movement was started among a large number of the lessors, or among a considerable number of the lessors, to compel them, the Monongahela Valley Traction Company, to drill the territory, because it had been developed by operation upon adjacent farms, or territory, and that in order to satisfy them, and enable them to hold leases, they agreed to pay them the same
2728 amount as if a well had been drilled, in the shape of a gas well rental, instead of the rental at so much per acre until a well should be drilled?
A. I have no such information, no sir.
Q. Have you any information as to when the parties who acquired the interest in the Fairmont & Grafton Gas Company, and changed the name to the Pittsburgh & West Virginia Gas Company, acquired their interest in the company?
A. No sir.
Q. The original stockholders of the Fairmont and Grafton Gas Company, as shown by the papers which were shown to you by counsel for the respondent, James W. Rolland, Jacob J. Gosser, William J. McConnel, Thomas B. Gregory and Edward M. Grant, were they not?
A. I do not know, sir.
Q. Then you have no information as to when the Philadelphia Company became the owner of the stock of the Fairmont & Grafton Natural Gas Company?
A. No sir.

An adjournment was here taken until Wednesday, February 9, 1921, at 9:30 o'clock, A. M.

2729 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Wednesday, February 9, 1921.

Defendant's Testimony.

2730 February 9th, 1921.

And now, the hour of nine thirty, a. m., having arrived, hearing was resumed pursuant to adjournment.

CHARLES M. SNAITH, called as a witness, having been first duly sworn, testified as follows:

Mr. Commissioner: Let the record show the following subpœna and return.

THE UNITED STATES OF AMERICA, *ss:*

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Marshal of the Northern District of West Virginia, Greeting:

We command you to summon Charles M. Snaith and George W. Wilson, if they be found in your Bailiwick, to be and appear before Levi Cooke, Esquire, Commissioner appointed by the Supreme Court of the United States, at Clarksburg, West Virginia, on the 8th day of February, 1921, to give evidence on behalf of the defendant in certain causes now pending in said Court wherein The State of Ohio and The Commonwealth of Pennsylvania are complainants, and The State of West Virginia is defendant.

2731 Hereof fail not, and of this writ make legal service and due return.

Witness the Honorable Edward D. White, Chief Justice of the United States, this 28th day of January, A. D. 1921, and in the 145th year of the Independence of the United States of America.

Attest:

JAMES D. MAHER,
Clerk of the Supreme Court of the United States.

(*Endorsement of Return.*)

UNITED STATES OF AMERICA,
Northern District of West Virginia, ss:

Received this writ at Fairmont, West Virginia, on February 5th, 1921, and I hereby certify and return that on the same date, I executed the same upon the within named Charles M. Snaith and George W. Wilson, by delivering to each of them in person a duly certified copy thereof at Weston, within said Northern District of West Virginia.

C. E. SMITH,
U. S. Marshal for the Northern District of West Virginia,
By HOWARD ADAMS,
Deputy.

2732 Direct examination.

By Mr. Steptoe:

Q. Mr. Snaith please give us your age.
A. Fifty-six.
Q. Where do you reside?
A. Weston, West Virginia.
Q. Is that in Lewis County?
A. In Lewis County, West Virginia.
Q. How long have you been a resident of Weston and Lewis County?
A. About twenty-two years.
Q. What is your present business?
A. Production of oil and gas.
Q. How long have you been engaged in that business?
A. About ten years.
Q. Prior to that time in what business were you?
A. In the business of drilling oil and gas wells.
Q. And how long in that?
A. All told about twenty-five or twenty-eight years.
Q. Please state where your drilling of wells was done, in a general way. You need not generally go into the particulars of each well?

2733 A. In Lewis, Gilmer and Braxton Counties, West Virginia.
Q. Prior to your going into the business on your own behalf, for whom did you drill wells?
A. I drilled for the Hope Natural Gas Company, South Penn Oil Company, Crude Oil Company and several independent producers.

Q. I take it then that you were the owner and operator of one more strings of tools in your drilling days?
A. Yes sir.
Q. Now when was it you started in business for yourself? Do I rectly understand that was about ten years ago, I mean producing your own behalf?
A. Yes, about ten years ago.
Q. Where have you held your leases and territory from which u drilled and produced for yourself?
A. Principally in Lewis County.
Q. Where else?
A. In Braxton and Gilmer.
Q. How much acreage do you own and operate?
A. I own no territory absolutely alone. I am associated with her parties.
Q. With whom are those associations?
A. We have one lease in Lewis County of thirteen hundred and seventy-eight acres, gas territory.
734 Q. When you say "We have thirteen hundred acres" whom do you mean?
A. George W. Wilson is interested with me and Robert L. Bland Weston, and George M. Kittle of Philippi.
Q. Mr. Wilson and Mr. Bland reside at Weston?
A. They do.
Q. What other territory are you operating, either as sole owner r in association with others?
A. I am producing gas from the Smith farm, two and one-half iles from Weston, of about two hundred acres.

Mr. Weil: Is that in Lewis County?

A. It is in Lewis County.
Q. Anywhere else?
A. Producing oil from three farms on Sand Fork in Gilmer County.
Q. How much acreage do you hold there?
A. About two hundred and sixty acres.
Q. And where else?
A. That is all.
Q. You spoke a while ago of having operated in Braxton County. Do you hold any territory in that county now?
A. The lease of thirteen hundred and seventy-eight acres lays in Lewis, Braxton and Gilmer.
2735 Q. In the course of your experience in drilling for others, and in operating on your own behalf, have you had occasion to look for leases and become more or less familiar with the oil and gas territory of Lewis, Braxton and Gilmer Counties?
A. I have.
Q. Are there many operators for oil and gas in those counties?
A. Several.
Q. Are there any large companies doing business and holding territory in those counties, and having pipe line systems for the transportation of natural gas?

A. There is.

Q. I wish you would name the principal companies?

A. Hope Natural Gas Company, Reserve Gas Company, Pittsburgh & West Virginia Gas Company, West Virginia Central Gas Company. I think those are the principal ones.

Q. Do you know whether or not the Carnegie Natural Gas Company holds any territory and production in those counties?

A. I understand they do. I don't know of any territory they own.

Q. Each of these companies, as I understand you, have pipe line systems for the transportation and marketing of natural gas?

2736 A. They have.

Q. Now, how long have they been operating in those counties?

A. Why I think about fifteen years.

Q. Would you be prepared to say that they went in there before or after that time, or is fifteen years ago an estimate?

A. I could not state when they went in.

Q. You do know that they were there some fifteen years ago.

A. I think they were there fifteen years ago.

Q. What have you to say with reference to the extent of the gas territory held in those counties by the companies you have mentioned? Is the acreage large?

A. Their acreage is large.

Q. Is there much gas territory that you might call approved gas territory, available to be taken up now?

A. None that I know of.

Q. How long since has there been any approved territory or good territory available to be taken up?

A. Oh, there has been no available territory for the last six or seven years that I know of.

Q. How about prior to that time?

A. Prior to that time there was some.

Q. Well, in any considerable blocks, or in the way of scattered pieces?

2737 A. Just scattered pieces.

Q. Well, how long would you say it has been since any considerable body of territory, approved from the standpoint of gas, could be had in these counties? Take Lewis County alone first.

A. Possibly ten or twelve years.

Q. Would your answer apply to Gilmer and Braxton?

A. Well, I believe there has been territory available in Gilmer County later than that.

Q. And in Braxton?

A. And in Braxton.

Q. Are there many people in those three counties engaged in the production of gas having no pipe lines?

A. There is a few people, not very many.

Q. That is people like yourself and your several associates?

A. Yes sir.

Q. You have no pipe line systems have you?

A. No.

Q. How do you market your gas?
A. We sell the gas to the Hope Natural Gas Company from the Watters heirs lease; and from the Smith farm we sell the gas to the Pittsburgh & West Virginia.
Q. Now, by the Watters heirs lease, do you mean the thirteen hundred acres you referred to?
2738 A. Thirteen hundred and seventy-eight acres.
Q. And, by the Smith lease, you mean the two hundred acre tract close to Weston?
A. Close to Weston.
Q. What market have you and the other independent producers for your gas. By the term, independent producers, I mean people in like situation with you that have no pipe line or pipe line systems?
A. Why, we have got to depend on selling our gas to those large companies.
Q. You mean by that the ones you have named, the Hope, Reserve, Pittsburgh & West Virginia, and West Virginia Central?
A. Yes sir.
Q. Are the prices and terms of sale fixed by agreement?
A. They are.
Q. They are not subject to regulation or control by the Public Service Commission of West Virginia in any way, are they?
A. Not that I know of.
Q. Never have been?
A. No, never have been.
Q. Now, when you say that you have to sell your gas, or the only market you have for your gas is the pipe line companies
2739 at the present time, let me ask you if that is confined to the present time; if that has been true in the past?
A. It has.
Q. That has always been the situation?
A. Yes.
Q. Now is your situation, as an independent producer, different from that of others in the field who produce and have no market line?
A. I think not.
Q. They have to sell in like way to the pipe line companies, do they?
A. I believe they do, with very few exceptions.
Q. There may be exceptions where their production is close to a city or something of that sort?
A. Yes sir.
Q. But, if I understand you correctly, where the independent producer's production is, in the field, his only market is the pipe line company?
A. Yes sir.
Q. Let me ask you if you could market your gas at Weston now, or in the past years?
A. We could if we had a franchise and went to the expense of laying the pipe line to Weston.
2740 Q. Well do you know what price is being paid for gas in the City of Weston at the present time?
A. I do.

Q. What is it?
A. Twenty-eight cents a thousand.
Q. What are you getting now under your contract with the Hope Company?
A. Twelve cents.
Q. Would it be feasible or practicable for you to pipe the gas from your production to Weston?
A. It would not.
Q. Why?
A. Well, one reason it would be very expensive, and the other reason, I don't believe we have got gas enough to furnish the town of Weston.
Q. Well, would the expense be out of proportion to your holdings?
A. I think so.
Q. Let me ask you this, in case you did install a pipe line from your Watters Heirs lease running to Weston, the gas would transport itself for that distance of its own natural pressure through the ordinary size pipe line?
A. Some of it would go through.
Q. Would any considerable amount be delivered under natural pressure?
2741 A. I believe it would, at that distance.
Q. You believe it could be done without the installation of a pump station?
A. Not practical. It would not be practical to put it in without pumps.
Q. Is the size of your lease and holdings such as to justify the installation of a pump station?
A. It would not.
Q. Now, with reference to Weston, that is, I believe, the largest city or town in Lewis County, is it not?
A. It is.
Q. What company is supplying it?
A. The Keener Natural Gas & Oil Company, I think it is called, or Oil & Fuel Company.
Q. Do you know where that company gets its supply from?
A. It gets its supply in Lewis County at Freemans Creek.
Q. Well, be a little more full in your answer. From what company and what territory?
A. Well——
Q. Whether this came from their own wells, the Keener Company?
A. I am not familiar with the Keener Company, whether they get their gas from their own wells or the Carbon Company. I
2742 understand there is a carbon company mixed up in their system some way. I am not familiar with their holdings.
Q. Well, do you know whether or not it is buying the production of that carbon company?
A. They buy some production from that carbon company, but I don't know whether they buy it all or not.
Q. What carbon company is that?

A. I don't know for sure, but I understand it is the Columbian.
Q. Do you know whether the Columbian Carbon Company is now manufacturing carbon?
A. I do not.
Q. Is there any demand for natural gas in Weston at the present time, in excess of the supply of the local company, do you know?
A. There is a demand all the time for a little more gas. Nobody seems to have enough.
Q. Do you refer to domestic service?
A. Domestic service.
Q. Or both?
A. I don't know anything about the other service.
Q. How long has that condition maintained?
A. About two years.
Q. Is the local company supplying Weston able to meet the demand and supply of the amount needed for the comfort of
2743 the domestic consumers?
A. They have not met the demands adequately for the last two years.
Q. This winter has been an unusual mild winter, has it not?
A. It has.
Q. Has there been the same situation this winter?
A. Same situation; shortage of gas, and all want supplied.
Q. Do do you know whether the local company supplying Weston has, in the past, ever purchased from any of the larger companies you mentioned?
A. I understood they did purchase from the Hope Natural Gas Company some time ago.
Q. Do you know whether that local company at the present time has connections with the Hope Natural Gas Company?
A. I don't think they have.
Q. But there was such a physical connection?
A. At one time.
Q. Do you know where that connection was?
A. I do not.
Q. Do you know whether the larger companies that you have mentioned hold any acreage in close proximity to the City of Weston?
2744 A. I do not.
Q. Do you have any information touching the acreage or holdings of the company supplying Weston?
A. I do not.
Q. Well, will any of the pipe line companies transport the gas of the independent producer to market for him?
A. Not that I know of.
Q. Have you ever known of any such instance?
A. I have not.
Q. They transport only the gas after they have produced it?
A. That is my understanding.
Q. Do you know whether or not they will exchange gas? I mean in this sense: Like and oil company takes oil and later delivers an

equivalent amount of the same grade of oil to such person as the producer sells to?

A. Not that I know of.

Q. Have you ever known of an instance of an independent producer being able to deliver gas to a pipe line company and have the pipe line company deliver an equal amount, less transportation charges, to some customer in a city or town?

A. I do not.

Q. Now is that true now only, or has it been true during your experience in the gas business?

A. That has been my experience all the time.

2745 Q. I want to ask you about the counties you have mentioned with respect to being approved gas territory. Take Lewis County for example. How does Lewis County compare with other counties with respect to being gas territory now and in the past?

A. Why a large portion of Lewis County has been very good gas territory.

Q. Well, as a matter of fact Lewis County has been and is one of the principal producing counties, is it not?

A. Oh, yes.

Q. Well known?

A. Yes.

Q. To what extent has it been drilled up?

A. I believe all the gas territory in Lewis County has been practically drilled.

Q. If there is any considerable amount of undrilled or reserve territory, is it loose, or held under lease?

A. It is practically all under lease.

Q. And by whom?

A. Principally by those large companies.

Q. I want to ask you about the West Virginia Central Gas Company. It has considerable holdings in Lewis County?

A. Yes sir, it has.

Q. Most of its holdings are in that county?

2746 A. Well I believe their principal holdings are in Lewis County.

Q. Is it pretty well drilled up?

A. Yes, pretty well drilled.

Q. You don't know of any reserve territory that it has?

A. I do not.

Cross-examination.

By Mr. Weil:

Q. Mr. Snaith, you say you went into the producing business about ten years ago?

A. I did.

Q. And prior to that time you had been what is called a contractor and driller all that time I suppose, a driller?

A. Driller and dresser.

. A driller, and prior to that a tool dresser, and prior to that ust about?
. I never roust a-boutted any. I only tool dressed.
. You went through the whole regime of the practical side t?
. Yes sir.
. Until you became finally a producer on your own account.
7 A. Yes sir.
Q. You were thoroughly familiar with the drilling and erating of oil wells and gas wells before you went into the producing business?
A. Yes sir.
Q. And knew not only how the wells were drilled and operated, t also how leases were taken, and what was necessary to do to get gether territory in order to operate?
A. I did.
Q. You were also familiar with the fact of how one well in a rtain locality drilled by anybody would develop other territory the same section?
A. I was.
Q. And looked out, of course, when you were looking for leases, to what was purely wild cat territory and what was more or less veloped territory?
A. Yes sir.
Q. And in your experience throughout all these years you found, ery frequently, did you not, that certain territory that was regarded as developed by wells drilled a certain distance therefrom roved to be dry, while the wild cat territory, when drilled, proved be good territory.
A. I have.
Q. In other words, that is not the exception; but very
748 frequently occurs in the operation in any field, isn't that true?
A. That is right.
Q. The taking up of leases, and the operation of them, until vells are actually drilled upon the same, or within a comparatively short distance, is purely speculative, is it not?
A. It is.
Q. And frequently a company or individual operator, it does not make any difference which, take up a block of territory of several thousand acres and drill wells thereon and get dry holes, and condemn practically all of his holdings, while another operator might take up a lease on a comparatively small acreage not far therefrom, and get a production?
A. That happens. I have noticed that that happens, yes.
Q. The taking of territory and drilling of wells in any new field, and especially in the beginning of that field, is practically a gamble, is it not?
A. It is.
Q. And it depends altogether upon how much money the parties have or are willing to invest in that gamble, as to how much of

an effort in that direction, and how many leases, or how many wells they will drill?

2749 A. It does.

Q. Now, in all of these counties to which you refer, were you drilling in those counties or others prior to the time you undertook to obtain leases on your own account?

A. I was.

Q. And had been for how many years, in those particular counties, say Lewis, Braxton and Gilmer?

A. Oh, possibly seven or eight years.

Q. Before you went into the producing business yourself?

A. Yes sir.

Q. You remember, I don't care for the exact time, but as near as you can fix it, when the first well was drilled in Lewis County that produced gas in any substantial quantity? I mean a gas well.

A. Why, in about 1900 I think.

Q. Somewhere about 1900, according to your best recollection, and that was about twenty years ago?

A. Twenty years ago.

Q. And after the discovery of gas in that section, was there any active operation right away, or did the operations subside for a while?

A. Nothing very active in gas at that time. The leases were taken originally for the purpose of oil development.

2750 Q. They were taken originally for the purpose of oil development, were they?

A. They were.

Q. And they were not looking for gas; they were looking for oil?

A. That is right.

Q. And in those early days, let us say in 1900, when they got gas instead of oil, when a well was drilled, that was considered a misfortune, wasn't it?

A. It was.

Q. And the operator was very much dissatisfied?

A. Very much.

Q. And considered that he had lost out on his gamble, didn't he?

A. He did.

Q. It is only in comparatively recent years, say about the last eight or ten years, that gas wells have been considered as of much value, isn't that a fact?

A. Somewheres along between ten and fifteen years.

Q. Now when this development started in Lewis County that field was open, was it not, to every operator that wanted to go in and take up leases?

A. It was.

Q. And anybody that desired to, could have obtained leases for oil and gas purposes in Lewis, Braxton and Gilmer

2851 Counties, or any of those counties?

A. They could.

Q. And a good many independent operators, from time to time, independent operators so-called, went in there and took up leases, did they not?

A. They did.
Q. Some of them held them for a time, and some of them drilled hem, and some of them assigned them, and some of them abandoned them?
A. They did.
Q. When you started in about ten years ago did you then obtain he lease to which — referred of that thirteen hundred and seventy-ight acres, I believe you said it was?
A. I acquired that lease, I think, in 1912.
Q. And what lease did you first take when you went in, when ou started in the producing business?
A. I had been mixed up in little leases all the time I was a driller and tool dresser, and cannot recollect.
Q. In other words you always had an interest in some lease drilling all that time?
A. Yes, I always gambled a little bit in leases.
Q. And what the boys call "carried an interest"?
A. Yes.
Q. Your first large operation then was on the Smith farm, and on the thirteen hundred and seventy-eight acre lease?
2752 A. Yes, that was the largest.
Q. Now; at that time, ten years ago, when you started, I assume from what you say you could have obtained large numbers of other leases if you had wanted them at that time, could you not, in Lewis, Braxton and Gilmer Counties?
A. There was some available territory, but no big tracts that I know of.
Q. But there was available territory?
A. There was some available territory.
Q. And when you say available territory you mean territory that has been substantially developed by the drilling of wells in the vicinity?
A. I mean territory that would possibly prove good, that looked as though it might possibly be good.
Q. And looked as though it might be good on account of operations that had been conducted by somebody in the vicinity.
A. Yes sir.
Q. Of course all of the territory in Lewis County and Braxton County and Gilmer County had not been leased by anybody, and when I say all of the territory I mean all of the land?
A. All that looks good, I think has been leased.
Q. Yes, but that is not my question. We are accustomed
2753 to speak of territory as territory that, by reason of developments, is regarded by an oil and gas man as oil or gas territory, but there was land in those counties, and large tracts of land in those counties that has not been leased by anybody or developed by anybody, and you don't know whether there is gas or oil there or not; there is nothing to indicate, that is true, isn't it?
A. I don't know.
Q. Now at that time, say ten years ago, when you started in there, were there not, at that time, quite a number of independent

operators holding leases and operating for oil or gas in Lewis County
A. There was.
Q. Have you any idea, approximately, of how many,—I a
speaking now of the independent operator outside of the larger co
panies to which you have referred, such as the Hope, Reserve, Pitt
burgh & West Virginia and West Virginia Central and Carnegie
A. There was possibly nine or ten small operators around
Lewis County.
Q. And how about Braxton?
A. Well, there was not very many in Braxton County at th
time. I don't know as there was any.
Q. The Braxton County development, as I understand ca
later?
2754 A. Came later.
Q. And so did the Gilmer County?
A. Yes sir.
Q. Lewis County was first in point of time, and then two or thr
years afterwards Braxton County, and about the same time Gilm
County, isn't that a fact?
A. That is right.
Q. Isn't it a fact that as a rule the development in these countie
the original developments, are made by the independent producer
isn't that the general rule in all counties?
A. Independent producers?
Q. Yes.
A. Well, I don't think so. I think the big companies have be
the developers.
Q. You think the big companies then are the ones that have be
the pioneers and have gone in these counties and drilled the well
have taken up leases and drilled the wells to obtain and find o
whether there was oil or gas there?
A. That is right.
Q. When the larger companies go into a district or county or se
tion for the purpose of drilling the original wild cat well, test well
as a rule they take up a block of leases sufficient to justify them
drilling such test wells, do they not?
2755 A. They do.
Q. That is the common practice?
A. They do.
Q. So that if they do get oil or gas they have enough territory
justify them for the gamble and risk?
A. They do.
Q. And when they get oil or gas in such pioneer development the
the independent producers flock in so as to get the benefit of th
development, and begin taking up leases on their own account; th
is the general rule, isn't it?
A. That is the rule. If there is something loose they acquire
Q. Just as close as they can get it to the development?
A. That is right.
Q. And they make their calculation on the strata and on the la
of the land, and what they concede to be the direction of the oil bea
ing sands and so forth?

A. They do.

Q. And sometimes they hold those leases for a considerable period and sometimes they begin their own operations at once. That depends upon the individual?

2756 A. That is right.

Q. That has been the general practice in this and every other field with which you have been familiar?

A. It has.

Q. Ever since oil and gas business has been going on, is that correct?

A. That is right.

Q. Those companies which you say laid pipe lines into those counties, laid those pipe lines from time to time as developments took place in those fields, did they not?

A. I believe they did.

Q. And when gas was discovered by any operator in sufficient quantities to justify them in laying the line to his well to purchase the gas, they could make a contract for the purchase of the gas, they laid the line to the well?

A. They did.

Q. The custom is for the independent operator to deliver the gas to this pipe line company at the well, is it not?

A. It is.

Q. And the pipe line company goes to the expense of laying the line from their system, wherever it may be, to the well?

A. Sometimes that is the case, and sometimes it is not. Now, on this Watters Heirs lease we delivered the gas to a certain point on the lease, from the wells to a certain point.

2757 Q. That is from all of the wells on that lease to a certain point, and the pipe line company lays its line from its system to that particular point?

A. To that point.

Q. Of course there is no rule as to the distance or the number of miles that these pipe line companies have to lay them, what is called gathering line, to obtain the gas from the wells, sometimes one distance and sometimes another, depending upon the location of the main line or system of the gas company?

A. That is right.

Q. About how many miles, if you can remember, did the company, the Hope Company, lay its lines to this point on your Waters' heirs lease to take the gas?

A. I think it was a matter of maybe a mile and three quarters.

Q. What size line did they lay?

A. They laid an eight inch line.

Q. And eight inch line a mile and three quarters?

A. That is right.

Q. Do you know what it cost to lay a line that size that distance?

A. I could not tell off hand.

Q. You don't know?

A. I don't know.

2758 Q. Now, at the point at which the gas is delivered to the pipe line company a meter is set, is it not?

A. It is.

Q. And that is also at the expense of the gas company?

A. It is.

Q. And they have to maintain a force to read that meter from time to time, do they not, as the gas is put into the line?

A. Usually they do.

Q. How often is the meter read?

A. Every day.

Q. At least once a day?

A. Once a day.

Q. I suppose that depends upon the quantity of gas that is put in. Sometimes it is read oftener if it is a very large quantity?

A. No, it is read every day, because the chart is twenty-four hours and has got to be removed every twenty-four hours.

Q. Has to be read every day?

A. Has to be read every day.

Q. Do you know whether or not these meters, or these automatic recording charts are expensive or not?

A. I judge they are expensive.

Q. A pretty complex piece of machinery, isn't it?

2759 A. Yes.

Q. The West Virginia Central Company, within the last four or five years, took up a block of leases in Braxton County, did they not?

A. They did.

Q. And that, at that time, was regarded as wild-cat territory?

A. I don't know. I said they did. I don't know when they took those leases up. I know they had some leases out there.

Q. You don't know whether they took them within the last four or five years or not?

A. No, I do not.

Q. And that was regarded as wild cat territory until they drilled their well?

A. It was.

Q. And they drilled a well on that and got a good gas well?

A. They did.

Q. And that developed a certain amount of territory in that vicinity.

A. It did.

Q. And then operation in that vicinity was stimulated accordingly?

A. They were.

Q. And then independent producers and operators pro-

2760 ceeded to pick up all the territory they could get?

A. I believe they did.

Q. And that is the usual custom and practice, isn't it?

—. ——

A. Who developed, if you know, the oil and gas in Lewis County, that is the first development there, what company or what individual?

A. The first gas well that I know of drilled in Lewis County was drilled by some Baltimore people. Guffey and Gaily were interested in it.

Q. They were what you call independent operators?
A. Yes.
Q. That was the first gas well?
A. That was the first gas.
Q. That you know in Lewis County?

Mr. Steptoe: What year was that?

A. That was somewhere along about 1900.
Q. Now then, at that time did any of these companies to which you have referred, Hope or Reserve or Pittsburgh & West Virginia or West Virginia Central or Carnegie, have any leases in that county at that time, twenty years ago?
A. Not that I know of.
Q. Did the South Penn Oil Company have any leases in that county at that time, if you know?

2761 A. They did.
Q. After that well was brought in by these independent producers then, I suppose, they were flocking to that territory, the oil and gas producers, both independents and others?
A. No, they was not. That well was a disap-ointment to them.
Q. And that was because it was gas?
A. Because it was gas.
Q. They drilled in there in order to obtain oil, that was what they wanted.
A. They did. That was what they were looking for.
Q. And in those days a gas well was regarded as misfortune instead of good luck?
A. It was.
Q. And how long after that in that county before activity was stimulated?
A. Until long after six or seven years anyway, after that well was drilled.
Q. And who started the —, if you can recollect?
A. Well, I believe, about that time all these big companies were doing some work in that line.
Q. Do you know who started or who obtained the next development, as near as you can recollect?

2762 A. Well, I believe it was the Hope Gas Company.
Q. Who acquired the leases and wells that you say was the first that was drilled there, if you know?
A. The South Penn Oil Company bought the well and the leases.
Q. From the Baltimore crowd?
A. From the Baltimore crowd. At that time they were using coal for fuel in that Fink oil field, and they needed the gas for fuel for drilling purposes.
Q. And that was what they bought it for, was it?
A. That was what they bought it for.
Q. Used the gas to drill their oil wells?
A. To drill their oil wells.
Q. And what field were they drilling for oil, you say?

A. The Fink field.
Q. In what county was that?
A. In Lewis County.
Q. How far was that, about?
A. The Fink field was about fifteen miles from Weston.
Q. And how far was it from this gas well, about?
A. About five or six miles.
Q. And they piped gas from this gas well to this oil field?
2763 A. They did.
Q. To operate their drilling tools, etc., in drilling their oil wells?
A. They did.
Q. When you stated that there is no available territory to be taken up now, and none since six or seven years, and that prior to that time there was some scattered leases, you mean by that, did you not, available territory—I mean valuable territory that had been developed by drilling operations in the vicinity, which looked like good oil or gas territory, did you not?
A. I did.
Q. It is a fact, isn't it, that very frequently, while there is apparently no valuable territory, so called, developed as you have described, in a particular section, that there is other land which is subsequently drilled and developed which proves to be just as good as this which was prior to that time actually developed, and that is frequently the case, is it not?
A. I do not get that right.

(The last question was read to the witness).

A. Territory sometimes proves good that did not look very well. But there is very little territory in Lewis County laying idle
2764 that there is not a drilled hole some place around to condemn it.
Q. At the present time?
A. At the present time.
Q. But as you stated, six or seven years ago that was different?
A. There was some available territory at that time that looked valuable.
Q. And the price which you are receiving for your gas at the point at which it is delivered to the Hope Company, don't you figure that you are making more money than if you had laid the line and piped it to Weston and supplied the Town of Weston at the current rate or prevailing rate?
A. No, I believe we could have laid the pipe line to Weston, if we had laid it several years ago, and at the present rate, made more money.
Q. Have you included in that estimate the cost of a compressor station? And the operating of a compressor stotion in order to put the gas through to Weston, and the cost os your pipeline to Weston, and investment and all, and the price at which gas was being sold at Weston during that time?
A. No, I just answered that question off hand. I did not make any estimate.

65 Q. Now just consider these items, the cost of your line, the expense of laying the line, the cost of operating it, cost of mpressor station to put the gas through, and the price of gas at at time, and its changes, down to the present.

A. Well, I could not answer that question to say whether it uld pay us to do it or not. I don't know. I answered that ques-n a little too fast.

Q. Was there any reason why the Keener Natural Gas Company, they had so desired, I mean Keener Natural Gas, Oil and Fuel mpany which supplied Weston, could not have taken up addi-nal acreage at the time it went in there and have drilled ad-tional wells, if it wanted to?

A. They could have.

Q. When did the Keener Company go into Weston, if you know, out when?

A. Why, something over twenty-five years ago.

Q. At that time the whole field was open to it, wasn't it?

A. It was.

Q. They could have taken up leases anywhere they wanted to, bstantially?

A. They could.

766 Q. And they were in there from the beginning of that developement then, all the way through?

A. They were ahead of the Lewis County development.

Q. And they had the same opportunity as any other oil and gas mpany or independent producer, or any other operator in that eld?

A. They did.

Q. And they had the market for their gas right there at Weston, lidn't they?

A. They did.

Q. Do you know how many acres they took up?

A. I do not.

Q. Do you know how many they hold now?

A. I do not.

Q. Do you know how many wells they have?

A. I do not.

Q. Do you know whether or not they drilled any wells during the last year, and if so how many, or say for the last, take the period of the three or four years last past.

A. They have not drilled any wells that I know about.

Q. How do they get their gas then if they do not drill any wells themselves?

A. I believe they buy their gas.

767 Q. They do not operate then for gas on their own account?

A. I don't think so.

Q. Who drilled the Freeman Creek territory? You said they got the supply in Lewis County from the Freeman field.

A. I think they get that from the Carbon Company.

Q. Are they interested in any way in the Carbon Company?

A. I don't know.

Q. Then, if I understand you correctly, they are not operating themselves at all?

A. I never knew them to drill a well.

Q. If, when they, from the time they started their operations, that is, if from the time they started to supply the Town of Weston, they had gone into the field like other operators or gas companies and taken up leases and drilled their leases, is there any reason at all why they should not have obtained and have all the gas they needed for the Town of Weston?

A. They could have had all kinds of gas if they had taken up the territory.

Q. And drilled it?

A. And drilled it.

Q. You stated that you thought they had a contract with
2768 the Hope Company for gas. Weren't you mistaken about that? Isn't it the Clarksburg Electric Light and Heat Company?

Mr. Steptoe: The Clarksburg Light & Heat Company.

Q. That supplies them with gas?

A. It might have been. I don't know for a fact.

Q. You don't know whether it was the Hope or Clarksburg Company?

A. I do not.

Q. The Hope Company is a kind of generic term that is used to indicate almost any of the companies that are supposed to be affiliated with the Standard interests, isn't it?

A. It is.

Q. Do you know who constituted the Keener Company, who are its stockholders?

A. I do not. I know some of the stockholders. I don't know who constitutes the company.

Q. Well, are they local people, people at Weston or vicinity?

A. They are local people.

Q. At Weston?

A. At Weston.

Q. You stated it with reference to Lewis County, that a large portion of it was good, and so on, that most of the territory in
2769 Lewis County had been drilled and was all under lease. Aren't there large blocks of territory in the Skin Creek district and Collins Settlement District that have not been drilled or tested and are not under lease by any of these companies?

A. I know of no block of territory in Skin Creek or Collins Settlement but what there has been some work done up there to condemn it. It has not been thoroughly drilled. There may be good stuff in those sections, but it has been the general opinion that it is not good.

Q. The only way, after all, to answer the question definitely, is with the point of the drill, isn't it?

A. Yes sir, that is the only test.

Q. And that is the only final test and only safe test. And it is a

, is it not, that there are blocks of territory in that district, the
n Creek District and Collins Settlement District that have not
n tested by being drilled, both for oil and gas, although there has
n some drilling in that section?
A. Oh yes. It has not been thoroughly tested.
Q. It is a fact, is it not, in that, as in all other oil and gas fields,
it a well drilled in and proved to be substantially dry, turns out
osequently as a freak well, and does not develop anything except
its immediate surroundings? That happens everywhere,
70 doesn't it?
A. It does.
Q. And on that account the trade, the oil and gas development,
d drilling, understand that one or two wells are not sufficient to
st a district, that is correct, isn't it?
A. That is true, it don't test the district, but it usually satisfies
e man who drills the two wells.
Q. And do you know that Ed. Davisson and John Chidister took
p a large block of leases in those very districts within the last year
or the purpose of making some development there?
A. No, I don't know about it. They usually take it up and sell it
o the Hope Gas Company.
Q. After they develop it?
A. Yes.
Q. The Hope Gas Company and these other large companies
ave, by their willingness to purchase territory and wells after ter-
itory was developed, stimulates and encourages the independent
roducer to take up blocks of leases and develop the same, during
he last few years, have they not, or during the last ten years?
A. I don't know whether they did or not. There is as
2771 many independent producers as there was. I don't believe
the independent producer has been successful, and so I don't
see that they have got any encouragement from the Hope Gas
Company.
Q. Well, when they do obtain the production of their gas, on
account of the Hope Company and these other large companies,
they have a market for their gas, have they not?
A. They have a market, yes.
Q. And they can dispose of their gas and dispose of their well
and leases, if they want to?
A. They can.
Q. Prior to that time, when these large companies went into the
field, if an independent producer obtained, from his operation, gas
instead of oil, the only way he could obtain any compensation or
remuneration for his activities in the field, was to himself lay a line,
or get someone else lay a line to some available market in the vicinity
and there dispose of the gas, was it not?
A. It was.
Q. And whether or not that could be done depended upon the
quantity of gas that was thus produced, and upon the distance of the
center of population from the point at which the well had been
drilled or the development made?

2772 A. It was.

Q. And in former times, in consequence, I believe as you have stated with reference to this Baltimore crowd, the party bringing in a gas well was regarded by them as a misfortune?

A. It was.

Q. And now, under the present condition, as a rule, there is a market for that gas?

A. There is.

Redirect examination.

By Mr. Steptoe:

Q. You were asked about the transportation of gas originally by laying the pipe line from the production to some city, town or village. That was feasible or practical in the early days, was it not, by reason of the large volume of rock pressure?

A. It was.

Q. Is it feasible or practicable now to transport gas any given distance, a distance of any amount, by natural pressure, as the natural pressure exists in Lewis County?

A. I don't believe it is.

Q. Do I understand you to mean that pump stations are
2773 now necessary?

A. Pump stations are now necessary.

Q. How long since, how long have they been necessary?

A. Oh, in the last four or five years.

Q. Did you mean to be understood as saying that the finding of gas was problematical on every farm throughout Lewis County, that it was a mere gamble whether you would strike gas or not on an farm, or did you mean to refer to particular sections?

A. I consider it a gamble anytime you drill a well, whether you get oil or a dry hole or gas.

Q. That covers the whole of Lewis County?

A. Yes, sir.

Q. At the same time are there not sections of Lewis County that are considered more or less good territory as compared with other sections?

A. There is.

Q. I have in mind particularly, say Court House District and Freeman Creek District, what would you say about the prospect of obtaining gas in those sections?

A. I would much rather drill a well in Freeman Creek than to drill it in Court House.

2774 Q. Well, what are the chances of your striking gas in them, is it pretty generally found?

A. In the Freeman's Creek District the chances would be very good of striking gas. It would not be so good in Court House.

Q. Take Collins Settlement, and especially Skin Creek District, and the chances are worse still?

A. Still worse, yes.

Q. I believe you stated the first well was drilled in along about 1900 by this Guthey or Gailey crowd of Baltimore interests?
A. I did.
Q. They were searching for oil?
A. They were drilling for oil.
Q. They had no pipeline systems and were not engaged in or contemplating the natural gas business?
A. They did not.
Q. And frequently the gas is found, in the first instance, in a field by people prospecting for oil and not engaged in the natural gas business?
A. It has been.
Q. Isn't that about the way the fields have usually been, the gas fields have usually been found by oil people prospecting for oil?
A. Usually.
2775 Q. Now, you referred to the South Penn Oil Company going into Lewis County in the early days. Were its holdings then considerable?
A. They were.
Q. That acreage passed to what companies or company?
A. You mean the acreage of the first gas well?
Q. No, I mean of the South Penn Oil Company's holdings.
A. I do not get that.
Q. I mean what became of the South Penn Oil Company's holdings in Lewis County?
A. Their oil holdings?
Q. No, their territory that they held, whether oil or gas?
A. Why, I expect they still hold their oil territory.
Q. You don't know whether any of that territory that proved valuable for gas passed over to any of the other companies?
A. No, I do not.
Q. With reference to your Waters' heirs lease. I believe you said you acquired that in 1912?
A. 1912.
Q. Was it ever under lease before?
A. Not that I know of.
2776 Q. Were there any peculiar circumstances that enabled you to acquire it, or which prevented its being leased before that time?
A. No.
Q. Lewis County has been pretty well tested out now?
A. Fairly well tested.
Q. It has been known for some years about what territory was good gas territory?
A. Yes.
Q. How long would you say that that approved territory that you have just referred to has been under lease? I except now the scattered leases.
A. Oh, Lewis County has been very much under lease for the last twenty years.
Q. Chiefly by what company, the larger ones you mentioned?

A. When it was first leased for oil by the oil companies, Guthey and Gailey, and quite a bit of this property proved to be gas territory, and a lot of it was turned over to the big gas companies; and independent producers held some.

Q. You were asked on cross examination something about the prices. Let me ask you if the twelve cents you are now
2777 receiving has been received by you since 1912 from the Hope Gas Company? How long have you been obtaining twelve cents for your gas?

A. A little over a year.

Q. At what price did you sell it in the first instance?

A. We sold it at three and a half, four, four and a half and five. It advanced each year one-half cent.

Q. What was it just prior to your twelve cents contract of last year?

A. Five cents a thousand.

Q. Does the price that you receive compare favorably with the prices received by other independent producers?

A. I believe so.

Q. The price paid to independent operators is more or less fixed from time to time, isn't it?

A. I believe it is.

Q. You were also asked with a little more particularity about the Weston Company, and where it gets its supply. I believe you said you did not know whether it was buying from the Hope Company or the Clarksburg Light & Heat prior to its present contract with the Carbon Company?

A. No, I don't know personally. Just from hearsay.

2778 Q. I believe you said that the general discovery of gas, so far as new fields are concerned, by people prospecting for oil?

A. Usually that way.

Q. Were there many small operators who were propspecting, or independent producers, prospecting for oil, who found gas?

A. You mean in Lewis County?

Q. Yes, generally.

A. I can't just recollect the wells that were drilled for oil and produced gas.

Q. But that was the general rule?

A. That was the general rule.

Q. And there are a good many small producers engaged in that hunt for oil, are there not?

A. There are.

Q. And if they find they are gas instead of oil their market is through the pipeline companies who subsequently came in and developed the gas fields?

A. It is.

Q. And that has been the history of the oil and gas development, hasn't it?

A. It has.

Q. Have the independent producers who you just referred
2779 to, been in a position to construct, or did they construct pipe lines for the marketing of gas, or did they wait until the pipe line companies came in?

A. The independent producers of gas producing gas for a business?
Q. Yes, finding it when prospecting for oil.
A. They did not do very much until the pipelines were in.
Q. And then their market was to the pipeline company?
A. Yes.
Q. When I say pipeline company, I am referring to the larger companies that you mentioned as now doing business in Lewis County, is that correct?
A. That is right.
Q. That would be the Hope Natural Gas Company, the Reserve Gas Company, the Pittsburgh & West Virginia Gas Company, the West Virginia Central Gas Company, and possibly the Carnegie Natural Gas Company also?
A. That is right.

2780 Recross-examination.

By Mr. Weil:

Q. Mr. Snaith, returning now to the developement of that Lewis County field: After this well was drilled by the Baltimore party to whom you referred, isn't it a fact that T. Barnesdale went in there and took up a big flock of leases and drilled a number of wells and really started the developement of that field?
A. It is.
Q. And notwithstanding the fact that he obtained gas wells, he continued and drilled a number of wells and held on to his territory and to his production until later on, and continued to drill?
A. I think that is right.
Q. And T. Barnesdale is really entitled to the credit for the developement of Lewis County, is he not, originally?
A. Yes, I think he is.
Q. You spoke of receiving originally, three cents, three and a half cents, four and four and a half and five cents, an advance of one-half cents a year on the price of gas you sold to the Hope, until it got to twelve cents. Then you made a contract for twelve cents.
When did that contract begin, what year?
2781 A. I think it began in 1914.
Q. That was the first sale to the——
A. To the Hope Gas Company.
Q. In 1914? At what price was gas selling at that time in Weston?
A. I think it was selling at ten cents.
Q. And how long did that continue to sell at ten cents?
A. A very short time after that.
Q. And then what was the next price after that; it advanced from ten cents to what?
A. I think it went to fifteen.
Q. And then what was the next advance?
A. Twenty cents I think.
Q. And what was the next after that?
A. Twenty-five.

Q. And then to twenty-eight, the price at which it is selling now?
A. Twenty-eight cents.
Q. And when was the twenty eight cents price established?
A. I think about a month or two months ago.
Q. Just a month or two ago?
A. Yes.
Q. Just quite recently?
2782 A. Quite recently.
Q. At the time the Hope Company made this contract with you to take your gas, do you know what the industrial rate was? That was the domestic rate you were giving us?
A. Yes sir.
Q. What was the industrial rate in Weston when the domestic rate was ten cents?
A. I think gas was sold for four cents, I don't know for sure.
Q. And do you know what it was sold for when the domestic rate was fifteen cents?
A. I do not.
Q. Do you know when that four cent rate was changed?
A. I do not.
Q. You haven't the date for that?
A. No sir.
Q. At the time the Hope made this contract with you at three cents, and advanced it a half a cent a year for the five years, in 1914, or thereabouts, you knew it to be a fact at that time, did you not, that they had more gas from their own production than they could dispose of at that time? Didn't they so inform you?
A. I believe they so informed us.
2783 Q. And didn't they tell you, in order to take this gas, they would have to shut in a part of their own gas to take this gas from you?
A. I believe they did state something to that effect.

2784 CHARLES A. SHORT, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Short, give us your age and place of residence.
A. I am 57 years old, and reside at Shinnston, West Virginia.
Q. Is that in Harrison County?
A. Yes sir.
Q. How long have you resided there or in that vicinity?
A. I have resided within four miles of Shinnston all my life.
Q. What is your present occupation?
A. For two years I have been a contractor and dealer in lumber and builders supply.
Q. That is your principal business?
A. Yes sir.

Q. Have you at any time been interested in the natural gas business in the way of production or in the marketing of it?

A. Since October 2nd, 1902, I have been interested in a little development and furnishing gas for our own town.

Q. That is the town of Shinnston?

A. Yes sir.

Q. Is that an incorporated town?

2785 A. Yes sir.

Q. About what is its size?

A. A little over two thousand.

Q. Has it any industrial plants?

A. We have a few small industries, two glass factories silk mill and a few other little things.

Q. In what way have you been connected with the natural gas business, that is through the little companies you mentioned?

A. What is known as the Home Petroleum Gas Company.

Q. How much acreage has it?

A. Well, I suppose right at two hundred fifty acres.

Q. Where is that acreage located?

A. There is one hundred fifty acres, one foundry, located right on Cunningham Run, on the waters of Big Bingamon.

Q. In what district and how close to Shinnston?

A. That is in Eagle District of Harrison County, and it is estimated at about four miles of our town.

Q. And where is the rest of it?

A. Then we have forty acres within a quarter of a mile of this, another piece I think something like forty acres two miles beyond, the edge of Marion County, just a short way above Wyatt; then we have about thirty-two acres laying down Bingamon Creek, north of Shinnston about two miles; that is about the amount of acerage we have.

2786 Q. And how many wells?

A. Six wells, I guess.

Q. Is that the only connection you have had with the natural gas business?

A. Yes sir, I guess that is about the only well, we have two one more small well close in town we are buying the gas from one individual.

Q. Have you at any time been interested in any other companies, either in the way of producing gas or taking up leases, and matters of that sort?

A. Nothing only about sixteen years ago I had a little stock with some of the boys in Roane County for a period of about four or five years.

Q. Are you familiar, by reason of your long residence in the section surrounding Shinnston, with respect to oil and gas territory and the leasing up and development of it?

A. Why, I am right familiar with it, yes; of course I never made it much of a study, but I am in that line only as a mutual company to furnish the fuel and take care of the town, that is what our company is organized for.

Q. What is your official connection with the company?
A. I am at the present time Vice President of it.
Q. And I presume you are a large stockholder?
A. Yes sir; at the time it started I installed the plant and operate
it about two years in order to get it going, and then I resigne
2787 as manager and went back to my business.
Q. Are there any other companies supplying gas to Shinn
ton, or any part of it?
A. What is know- as The Pittsburgh & West Virginia Gas Co
pany.
Q. Does it hold a franchise in that town?
A. Yes sir.
Q. Your company, I presume, holds a franchise?
A. Yes sir.
Q. Does the Pittsburgh & West Virginia Gas Company supp
many consumers there?
A. I think at the present they have about one hundred fifty or o
hundred sixty; something like that.
Q. Then I assume the majority of the consumers there are tak
care of by your company?
A. The majority of them, yes, over three hundred I think it is.
Q. And how about the industries you mentioned in Shinnsto
what company supplies them?
A. I think our company probably supplies—all of them, and
think one gets its supply from either the Consolidated Gas Co
pany or under the name of the Lumberport Gas Company, I ai
sure which it is now. It used to be known as The Consolidated G
Company.

(By Mr. Weil:)

Q. Who supplied the other industries?
2788 A. I think we supply all the others, such as the grist mi
and things of that kind.
Q. They are small matters?
A. Yes, they are small matters.
Q. Referring again to the Pittsburgh & West Virginia Gas Co
pany, did that company ever go under any other name?
A. If I mistake not, the charter was granted under W. J. Ro
land's name.
Q. You mean the franchise?
A. Yes.
Q. And to whom did that charter pass?
A. It passed from that to the Grafton and Fairmont or the Fa
mont & Grafton Gas Company.
Q. And the present company is the same thing as the Fairmont
Grafton, under a changed name?
A. A change of hands from one name to the other.
Q. Does that company supply any industrial consumers
Shinnston?
A. I don't think it does. I am not positive.

Q. With reference to your company, how is your plant operated, how is your gas transported from the wells to market?

A. Natural pressure.

Q. No pump stations?

A. No sir.

Q. How long has gas been used in Shinnston for domestic
2789 and industrial purposes, or either?

A. I reckon right at twenty years, either nineteen or twenty.

Q. Do you recall when the franchise that you have just referred to was granted to Rowland?

A. No, I can- recall the exact date, but it was something like two or three years before our company was organized.

Q. I hand you a paper here purporting to be a copy of the franchise from the town of Shinnston to one Rowland. Can you refresh your recollection from that paper and tell me when the franchise now held by the Pittsburgh & West Virginia Gas Company was granted.

A. Yes sir, it is June 19th 1899. I knew it was right at that time, but I could not just recall the exact date.

Q. Give us the exact date when it was granted?

A. It shall take effect—let's see—June 19th 1899.

Q. Are you acquainted with the principal gas producing and marketing companies doing business in your section of Harrison County?

A. Yes sir.

Q. Could you name the principal companies?

A. You mean that is producing gas in the city down there?

Q. Producing and marketing, and having pipe line system.

A. The Hope Natural Gas Company and The Monongahela Valley Traction Company, The Carnegie Company, and I reckon
2790 the Fairmont & Grafton Gas Company.

Q. By the last one, do you mean The Pittsburgh & West Virginia Gas Company?

A. Well, it may have taken that over; an eight inch line that went through there towards Fairmont and then went to Grafton; it may be it now belongs to the Pittsburgh & West Virginia Company.

Q. How does the Monongahela Valley Traction Company holdings compare with those of the others you mentioned?

A. I don't know that they have got any territory in our immediate neighborhood. I think they buy most of their gas on this side of our town, unless it is up in some other county.

Q. What I mean to *illicit* is whether or not it is as large a concern as the others you mentioned.

A. No, not at all.

Q. Has your company any territory developed or undeveloped beyond what you mentioned?

A. No, we have no reserve territory.

Q. What are the possibilities of acquiring other territories?

A. Our show is very slim at the present time.

Q. Explain a little more fully. Is there any available gas territory to be had?

A. I only know of one small piece: there is a piece of about
2791 thirty-two acres not far from one of our wells, that there might be got, but it does not look so very good,—our last well we drilled.

Q. By what company or companies is the gas territory in that section held?

A. The Hope and The Pittsburgh & West Virginia.

Q. Is gas pretty generally found in that section?

A. There is a right smart. A few years back, but it is getting very scarce now.

Q. I mean to ask this: whether the gas was found, or is found, in scattered leases, or whether generally?

A. It was tolerably scattered.

Q. To what extent is that section of the county a proved gas territory?

A. I would say something over half; maybe two thirds.

Q. Your company was started in what way?

A. Our charter was granted October 2nd 1902.

Q. Did you, back in the early days and to the present time, make any effort to acquire additional acerage?

A. At the time we started out, territory was pretty well leased up.

Q. By what companies?

A. The Hope had a good portion of it, and The Pittsburgh & West Virginia had a right smart.

Q. Has there been, since the date your company started
2792 any large blocks of gas territory which was available in your immediate section?

A. Not that looked worth while to drill.

Q. Have you made reasonable effort to acquire larger acerage?

A. Yes sir, we have tried and kept our eyes open watching for territory. We had one lease some ten years ago of about fifty acers, but we drilled a dry hole.

Q. How far from the town of Shinnston did you go in your search for additional territory?

A. We never have tried for territory more than five miles away.

Q. Why not?

A. From the simple fact our company was small, made up largely of our customers, and we was not financially able to reach out and take in big blocks, or go any big distance away.

Q. Well, what would have been the difficulty about obtaining the gas from wells farther situated from Shinnston?

A. The expense of piping it in, we figured, was too great for the size of our company.

Q. Could you have acquired a reserve acerage at a greater distance from Shinnston, say fifteen or twenty miles away?

A. No, we have not tried that.

Q. Why not?

2793 A. The fact is we didn't feel financially able to go to the expense of piping it so far, was one thing; and another thing there was no territory we ever could find that was loose that we were able to handle; one party one time found a small piece, something

ke eight miles away, but we figured if we struck a well we were ardly able to pipe it to the town; only had twenty acres.

Q. Has your company had any difficulty in the way of getting as from the wells to the consumers by reason of decreased rock pres-ure?

A. Yes sir.

Q. I believe you stated you had no pump station and relied upon natural pressure.

A. We have no pump station, and depend upon natural pressure.

Q. Are your leases joined by any of the holdings of the larger companies you have mentioned?

A. Yes sir.

Q. Are those adjoining leases developed,—drilled?

A. Yes sir.

Q. Has the operation of the wells on the adjoining premises held by the larger companies had any effect on your well?

A. We have one well that the Hope has a well on the adjoining farm, and they have a pump on their system over there, that has given us some trouble on that well; it reduces it very fast and
2794 seems to hold it down.

Q. To be a little more specific in that statement, what effect has it had upon your ability to get the gas from your well to your consumers out of Shinnston?

A. Our well shows a volume, but the pressure is reduced so it won't drive it through it. We have had the matter up two — three times of putting on a pump, but we figured the expense of pumping was too weighty for us.

Q. Inproportionate to your financial strength?

A. That is it. We paid no dividends for nine years and better.

Q. I understood you to say it was a sort of co-operative company for the benefit of the town of Shinnston.

A. Exactly, that is what it was really started for.

Q. I will ask you, from your more or less limited experience in the gas business, what would be the effect upon the ability of your company to supply its consumers, if all of the wells of the larger companies in the neighborhood of your leases were put on suction, and by suction I mean taking gas from the wells at less than atmospheric pressure?

A. We figured for the last two or three years, it is only a matter of two or three years until we are going to be out. We figure our supply of gas will last, if they keep on drawing on it, as our pressure has dropped down that long.

2795 Q. Do you mean to say that will be irrespective of whether or not the adjoining wells are put on suction?

A. I believe it may last four or five years, but at the rate the pressure has went down in the last ten years, I think we won't last more than three or four years at the outside.

Q. I don't believe we quite understand each other, Mr. Short. Do you mean to say that the wells of the larger companies adjoining your leases are now on suction?

A. I understand that a part of them are.

Q. What company?

A. The Hope.

Q. Do you know that positively or is that just a matter — information?

A. That is just a matter of information. My manager, who, looks after the wells, can notice the difference at times.

Q. You have detailed the experience you had on one well in the way of taking care of the rock pressure and inability to get the gas to market; that is same condition mentioned with respect to any of your other wells?

A. No, the other wells—there is one has played out entirely, and the other wells I don't think any of the wells was very close to them.

Q. So that you feel the effect of adjoining operations chiefly on this one well, where there is a competitive well on the adjoining property?

2796 A. Yes sir.

Q. Let me ask you if you are able to answer, what would have been the effect, if any, upon acerage taken up out some distance from Shinnston, and held in reserve, in view of the operations of the larger companies in that section? To state it in another way, would acerage taken up and held in reserve out in the fields have been affected by the operations of the larger companies?

A. That might depend on how big acerage you could have got hold of. This one hundred fifty acre tract, we have been holding practically the east side of it, in reserve for the last fifteen years, thought we had a good show there; so we did have two good wells on this farm, and in drilling the third well, we only got about one hundred or one hundred twenty-five thousand cubic feet.

Q. What had your first two wells done?

A. One well, I don't remember, something like two million or a little over, and the other one, the first we drilled after our plant was started, it run something like a billion feet.

Q. What was the rock pressure?

A. The rock pressure on it I think at the time it was drilled in was something like six hundred pounds.

Q. Now, what was the rock pressure that you found in your last well?

A. I can't recall just what it was, but it was only a little over a hundred.

2797 Q. Do you attribute the difference in size and pressure between your last well drilled and your two first wells drilled entirely to the effect of your first two wells or to any other developement in that vicinity?

A. No, there is no other developement so very close to that.

Q. Well, is the pressure of the field generally decreasing?

A. Yes sir.

Q. Are there many wells by the various companies and other people engaged in the production of natural gas in your section?

A. Not right in or close to Shinnston; no companies. A few smaller ones up the river a little.

Q. Any of the larger companies that you have referred to hold any territory close to Shinnston?

A. Yes sir, about all the time I know of. Of course at Enterprise, ree or four miles below us, there is a local company.
Q. How close to Shinnston are the leases and wells of the Hope tural Gas Company and The Pittsburgh & West Virginia Gas mpany?
A. The Hope Company just recently plugged a well on my farm, at was within the city limits, and then they have others between the town and where we got our gas from; also the Pittsburgh 98 & West Virginia Gas Company on both sides of the town, within a mile and a half or two miles.
Q. Has your company been able to fully supply its consumers om the beginning of business.
A. No, for the last five years, of cold weather, we got very slack, nd have advised a great many of them to install coal fires.
Q. What would you say about the domestic consumers of Shinns- on being supplied in the last few years by your company and the ittsburgh & West Virginia and the other company you have men- ion-?
A. Some ten years, The Pittsburgh & West Virginia Company nly had a few consumers. What was know- as the Consolidated as Company, which was organized there about ten years ago, they ad, I think, something like one hundred fifty. Our company had omething like three hundred fifty or three hundred seventy-five.
Q. Have they been fully taken care of?
A. No, we have been very slack; some of our consumers have gone o the Pittsburgh & West Virginia Company on account of the carcity of gas.
Q. Has The Pittsburgh & West Virginia Gas Company taken c-re of the situation?
A. Yes sir, they have taken care of it very well I think, most of the time, however a few times was slack due to a freeze-up 2799 or something like that.
Q. Do you refer to the Consolidated Gas Company? Is that company still in business?
A. That was bought by some men at Lumberport, I think.
Q. Do you happen to know whether that company failed or not?
A. Yes, failed and sold in front of the Court House.
Q. And bought in by the Lumberport Gas Company.
A. Yes sir, a man by the name of Coaltrain bought it in, I don't know who is connected with it at Lumberport. I think they still maintain a charter.
Q. To what extent has natural gas been used in the town of Shinnston since service of gas commenced there?
A. Up until the last two years, it was used for all heating and lighting.
Q. How about industries?
A. Some for industries.
Q. In other words, natural gas was used for all purposes?
A. Yes sir, of course the last three or four years, installed an electric light plant, and in the last two years some had to go back to coal.

Q. How about the town? Is it lighted by natural gas or electricity?

A. Has been natural gas up until I think two years ago when they installed an electric light plant; gas was getting scarce and
2800 had poor lights and had to instal- electric light plant.

Q. You say in some cases in Shinnston, they have gone to the use of coal?

A. Several have installed one coal fire and some more than that; a good man- have one coal fire.

Q. When you say natural gas was used in Shinnston for all purposes, do you mean to include stores, public buildings, and school houses?

A. Yes.

Q. Have they suffered by any shortage, like the domestic consumers?

A. Yes sir, schools had to close, churches had to abandon, on account of the shortage of gas.

Q. You are more or less familiar with other sections of Harrison County, are you not?

A. Yes sir.

Q. The conditions you have detailed with reference to Shinnston, are true in the other sections you are acquainted with?

A. It seems to be general.

Q. With respect to the service of gas to domestic consumers, as well as industrial consumers?

A. Yes sir.

Q. And the same thing is true with reference to churches and school-houses and public buildings.

A. Yes sir.

2801 Q. They have all experienced the same difficulties?

A. Yes.

A recess was here taken until one thirty o'clock P. M.

2802 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Afternoon Session, February 9, 1921.

2803 Wednesday Afternoon, February 9, 1921.

And now, the hour of 1:30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

CHARLES A. SHORT resumes the stand.

Cross-examination.

By Mr. Weil:

Q. Mr. Short, I understood you to say on your direct examination, that you were mainly instrumental in organizing the Home Petroleum Natural Gas Company, which supplied natural gas to your town of Shinnston?

A. Yes sir.

Q. What was its capital stock?

A. I believe it started at fifteen thousand dollars.

Q. Was it paid in in cash?

A. Yes, we bought up a lot of stock and reduced it down to fifteen thousand dollars, probably two hundred now.

Q. And the company was composed, I believe you said, of local parties?

A. Practically all.

Q. And it is a co-operative company for the purpose of
2804 supplying the town with gas, and those interested in the company?

A. Yes sir, largely.

Q. And what was the date when it was organized, if you can recall?

A. I think the charter was issued October 2, 1902. I believe it was the charter that was burned up in the fire.

Q. What was the price that you charged at that time, at what was your price for the domestic consumers?
A. As well as I recall, it was nine cents a thousand.
Q. And what was the price to the industrial consumers?
A. Five or six; something like that.
Q. And how long did that price obtain?
A. Ten years.
Q. And that would bring it up until 1912, about?
A. Yes sir, about that time.
Q. So that until 1912 you charged your domestic consumers cents and your industrial consumers five or six cents a thousan
A. Yes sir.
Q. In 1912, to what time did you advance it then?
A. I think it was about fifteen cents and two off, or fourteen two off, maybe.
2805 Q. For domestic sales?
A. Yes.
Q. And what to industrial consumers?
A. I can't recall; something like eight or nine.
Q. And with a discount?
A. A discount of, I reckon, two cents on domestic and the on industrial, I think, I am not sure any on industrial.
Q. And how long did that price prevail?
A. I suppose, likely, it run a couple of years at that.
Q. And that would bring it to 1914 or 1915?
A. Something like that.
Q. And to what price was it advanced then?
A. Well now, I am not sure whether we have had two mor vances since that or only one. I think it got up to, maybe, tw two with two off, a couple of years or a little over.
Q. That is domestic?
A. Yes sir, and industrial probably something like fourte believe it was; twelve to fourteen. We have had several advanc it, but I can't recollect without the minute book.
2806 Q. And then when was the next advance as near as you recall?
A. Over two years ago.
Q. And how much was that?
A. I think now twenty-seven with two off.
Q. That is the domestic?
A. Yes.
Q. How much to the industrial?
A. I ain't certain about that; eighteen or twenty.
Q. What was your position with the company in the first inst what office did you hold?
A. I was one of the directors.
Q. Held no office?
A. No, not at that time.
Q. And I believe you stated you had the general manageme the company at first?
A. That was after the second well was drilled.

Q. And that was what year?
A. That was, I think it was finished in December, probably.
Q. Of what year?
A. December, 1903, I think.
Q. And you were the general manager?
2807 A. At that time we decided to go to work and equip a plant, and put the gas into the town, and we got a franchise, and they put it in my hands to proceed with it.
Q. And you continued in that position for how long?
A. About a couple of years.
Q. And you did equip the town and build the lines in?
A. Yes sir.
Q. What size line did you build from the wells to the town?
A. We had about three miles of two inch line, and about one mile of three inch line, and outside of the main line to the town, on the cross streets, was two inch lines on both sides of the street.
Q. And has that size pipe continued ever since?
A. No, the main line has since enlarged to five and three-sixteenths inch, a good portion of it; the two inch part has been enlarged to five, and I think three-sixteenths.
Q. And when was that?
A. That has been eight years ago, and maybe ten.
Q. That the line was enlarged?
A. Yes sir.
Q. And the population of the town I believe you said, was about two thousand people?
2808 A. They estimated it about that, or a little over two thousand.
Q. And you had some small industries at that time in the town?
A. At that time we had practically nothing only a grist mill, a planing mill, a few things of that kind at that time, when we installed the plant.
Q. But afterwards did other industries come in?
A. Yes sir, started out in the last three years.
Q. These industries all came in within the last three years?
A. I think one down there probably five years.
Q. Which one is that?
A. Glass factory.
Q. And the others?
A. In the last three years.
Q. What are they?
A. One a glass factory and the other a silk mill.
Q. How many employees do these respective companies employ, the original ones, the glass factory first?
A. The original glass factory, I don't think employed over a dozen.
Q. And how many other glass factories?
2809 A. The other I think they employed, when they run, something like forty-five or fifty.
Q. And the silk mill?
A. It is estimated that forty-eight people, when it is in operation.

Q. Are those employees of the glass plant from people in the tow
or are they strangers that were brought in?
A. They are mostly twon and vicinity.
Q. What about the silk mill?
A. The most of them I think are from the town; been a fe
brought in.
Q. Prior to this time, had you any experience in the oil and g
business?
A. No sir.
Q. And your principal business is that of a contractor and build
and dealer in lumber and hardware, as I obtained from your car
A. Yes sir.
Q. That has always been your principal business?
A. Yes sir, been in that business for thirty-eight years.
Q. And this other matter was just a side issue with you?
2810 A. The gas business?
Q. Yes sir.
A. Yes sir, a side issue.
Q. You do not claim then to be an expert in the oil and gas bu
ness?
A. Well, no, I don't claim to be an expert, as I told in the b
ginning, started in as a mutual thing to help our town; was n
really a speculative deal.
Q. Are these industries running now?
A. Two of them are.
Q. Which two?
A. One glass factory and the silk mill; the other has shut do
for repairs.
Q. How many different companies were in the Town of Shinnst
at the time your Home Petroleum Company was organized? W
there any other company at that time in the town?
A. One company.
Q. What was its name?
A. At that time it was known as the Fairmont & Grafton G
Company.
Q. And it was undertaking, was it, to supply consumers in t
town?
2811 A. Yes sir.
Q. And has it continued so to do?
A. Yes sir; the same lines have; it has changed names.
Q. And has continued up to the present time?
A. Yes sir.
Q. What other companies then came in afterward, besides t
Fairmont & Grafton Gas Company and the Home?
A. Why, some of our local people organized a little compan
known as the Consolidated Gas Company.
Q. And did that come into the town also and undertake to supp
consumers?
A. Yes sir.
Q. And how long did that last?
A. I am not sure; it runs in my mind four or five years.

Q. And when did they commence, about?
A. Something like six or seven years ago.
Q. Is it in there now?
A. The plant is still there; of course the company went broke and was sold before the court house.
Q. Who bought it?
A. Mr. Coletrain of Lumberport.
2812 Q. What company owns it now?
A. It is owned by him and some associates at Lumberport, I understand. I guess it is known, maybe, as the Shinnston Gas Company. I think it was the Consolidated before.
Q. And that is operating in the present time also in the Town of Shinnston?
A. Yes sir, to a small amount.
Q. Is there any other gas company in the Town of Shinnston?
A. None that I know of.
Q. Then you have the Home Company and the Fairmont and Grafton Company and the Consolidated Company, which afterwards became the Shinnston Company?
A. Yes sir.
Q. Are those all?
A. All that I know of.
Q. All in this little town of two thousand?
A. A little over two thousand. It was estimated two or three years ago I think at twenty-three hundred, and something.
Q. But your company has the largest number of consumers, I think you said?
A. Yes sir.
2813 Q. Is that because of the town people being interested in it more than in any of the other companies?
A. I can't say it is particularly that, because I think some of the stockholders maybe use off of some of the other companies.
Q. As a matter of fact, the Fairmont & Grafton Company have a fair supply of gas there, have they not, a better supply proportionately than the Home Company?
A. Yes sir, they have a better supply.
Q. And have had ever since they came in?
A. For a while we had a good supply.
Q. For the last few years?
A. Yes sir, for the last four or five years, probably, they have had a better supply.
Q. What about the Shinnston Company, or Consolidated Company, or either name?
A. I think they have a fair supply at the present time.
Q. Where does the Fairmont Company obtain its gas supply, where does it have its wells and lines?
A. You mean the Pittsburgh & West Virginia Gas Company?
Q. Well, it is now the Pittsburgh & West Virginia, yes sir.
A. They have a good many wells in the vicinity of Shinns-
2814 ton, and have I think an eight inch line, or maybe a twelve inch line, back about a mile from Shinnston.

Q. And where does the Shinnston company get its gas?
A. I think they get from one well near the Cemetery, about mile and a half south of Shinnston, and some, I think they from the Lumberport end, and they may have one or two wells the edge of town, I ain't sure about that. Been one or two plugg there.
Q. When did you make your lease of your farm in the town the Hope?
A. I am not sure, I believe it was 1899, or something like that.
Q. Was it 1899?
A. 1898 or 1899 or along there some place.
Q. That was before then the Home company was organized?
A. Yes sir, I think they only lacked five hours of the ten ye before they got it drilled in. I think they used it between eleven twelve years before it was plugged.
Q. Are there any other wells drilled in or around the town?
A. Yes, one or two more drilled inside of the borou
2815 limits, I guess.
Q. By whom?
A. Who drilled on Mrs. Monroe's farm? I never knew who was connected with it.
Q. Who owns the lease?
A. I don't know who owns the lease. I think Mattie Nusba was one of the men interested in it, and I think, maybe a man two in Fairmont.
Q. Did they get gas?
A. A small amount.
Q. What did they do with the gas?
A. I think possibly one well is abandoned and the other belonged to a man by the name of May, in Shinnston.
Q. He uses it himself?
A. Turns it into our company's line.
Q. Turns it into the Home Company?
A. Yes sir. It is not making but very little; something l seventy-five thousand.
Q. In what sand did the Home Company drill their wells, i what sand?
A. We have both of our wells in the fifth sand. We have one the thirty foot.
2816 Q. And how much does it cost now to drill a well?
A. We have not drilled any for over three years.
Q. What did the last well you drilled cost you?
A. Eighty some hundred dollars. I forget now how much was, eighty-four or five hundred.
Q. Was that after it was fitted up or just the drilling?
A. No, that is the whole cost.
Q. Do you know what it costs now to drill a well in that sect into the fifth sand?
A. No, I don't know that. I know it costs more than we wan to tackle at the present time; very costly now.
Q. I didn't get that.

A. I know it costs more than we wanted to tackle at the present time; very costly now.

Q. You mean by that, I suppose, the Home Gas Company?

A. Yes sir.

Q. In that well you drilled that cost eight thousand dollars, did you use new or second hand material?

A. The most of the casing was second hand.

Q. And what other material was second hand?

A. A part of the rig timber.

Q. If it had all been new material, would not it have cost
2817 over ten thousand dollars?

A. No doubt.

Q. When did the Hope Company begin its operations in that field adjacent to Shinnston?

A. I don't know that I can call to mind when they put their first wells into operation around there; but it has been as much as sixteen years anyhow; pretty near eighteen.

Q. That was after the organization then, seven years after the organization and the beginning of operations of the Hope Gas Company?

A. Yes sir.

Q. And when did the Monongahela Valley Traction Company organize and begin its operations in that field?

A. They have had their lines in there more than, I reckon, six or seven years; not more than that length of time.

Q. And when did the Fairmont and Grafton Company begin its operations in that field?

A. I think about 1899.

Q. That was before the Hope Gas Company?

A. Yes sir, they took in the second well drilled in that country; they took the gas from the second well drilled in Eagle District.

2818 Q. Did they bring it to Shinniston?

A. Yes sir.

Q. And have been supplying Shinniston ever since?

A. Yes sir.

Q. I believe you said you didn't know whether the Carneigie was in there or not?

A. At Shinston?

Q. Yes, in that field.

A. They have a line running through there.

Q. Have they got any leases, any territory, in that field?

A. If they have, it is on back as much as five or six miles; none is within four or five miles of Shinnston, that I know of.

Q. Do you know of any territory they have in that particular field?

A. Any territory the Carneigie people have?

Q. Yes, in what you call the Shinnston field.

A. I don't guess I do know any.

Q. The Pittsburgh & West Virginia Gas Company is what was the Fairmont and Grafton Gas Company, isn't it?

A. Yes sir.

Q. It is the same company under a different name?

2819 A. Yes sir.

Q. I believe you stated that the Home Company could n afford to go four or five miles to take territory and drill wells, b cause of its financial condition and the cost of obtaining such ter tory, drilling wells and laying lines?

A. On small pieces; if they had got hold of big enough territor we could.

Q. Before these other companies came in, that other territor four or five miles distant, etc., had not then been developed, suppose?

A. It was practically all under lease, though.

Q. I understand, but it had not been developed as gas territory

A. No, had not.

Q. Had not been drilled?

A. No.

Q. When your company was organized, how much territory di it hold at that time?

A. We first had five acres adjoining town; before we drilled ou first well, we had one hundred, fifty acres, four miles, air lin on Cunningham's Run, adjoining farm with the second well th was drilled in that section.

Q. Did you have any other territory at that time?

2820 A. Not at that time.

Q. Now, when did you next acquire any territory, ho long afterward?

A. Something like a couple of years after we drilled in ou second well.

Q. And where was that acquired?

A. We first got ahold of a piece up Shinn's Run, fifty acre above Shinnston, about a mile and a half.

Q. And was that developed territory at that time?

A. Not right in where it was; had been no development ver close to it.

Q. When was the next territory that you acquired?

A. Another farm about two miles north of Shinnston, on Bi gamon.

Q. And what year was that, about?

A. I think about 1910 or 1912.

Q. That was about ten years afterward then?

A. Yes sir.

Q. And that was the last territory you acquired, was it?

A. Yes sir; we tried to get another piece or two, but they wer always in shape we could not get hold of them; somebody had blanket option on them or something.

2821 Q. I believe you stated you never have had any com pressor station?

A. No sir.

Q. What was the original rock pressure on your well?

A. I can't just recall, but I think Number Two was somethin like six hundred pounds, or a little over.

Q. And Number Two was the one you drilled at four or five miles distant?
A. Yes sir, on the Richardson farm.
Q. And what was the rock pressure on that well you had, the one adjoining the town, if you recollect that,—the first well?
A. Something like three hundred or a little over.
Q. Now then, what is the rock pressure on the well on the Cunningham farm?
A. I have not been about there for some time, but I think the man that looks after them told me some time back a little over a hundred. I have not talked with him for some little time, but they are away down.
Q. And what is the rock pressure on the well right adjoining town?
A. That well has been abandoned; didn't amount to anything.
2822 Q. It has been abandoned?
A. Yes sir.
Q. In what sand was that drilled originally?
A. Through the fifth sand.
Q. Where is the well that is drilled into the thirty foot?
A. The one two miles north of town, on the McIntyre farm.
Q. Is that a good well?
A. Yes sir, has been a good well.
Q. And what is the rock pres-ure of that?
A. I think it was something over four hundred, or along about there, when it was drilled in; it is reduced some but not as much, accordingly, as the others.
Q. And how many acres of lease did you have?
A. About thirty-two.
Q. Have you drilled any additional wells there?
A. Yes, we have another small piece, we drilled another well on it; it is ready to be plugged now.
Q. That was not much of a well then?
A. No sir; never made over one hundred thousand.
Q. And was that near to yours?
2823 A. Something like a half-mile away.
Q. From your Number——
A. One, McIntyre.
Q. Number One, McIntyre?
A. Yes, but it is in the fifth sand.
Q. You got nothing in the thirty foot?
A. Nothing.
Q. And in the fifth sand you got a comparatively small well?
A. Yes sir.
Q. And how many years did you use it?
A. Used on it about three.
Q. And then you practically abandoned it?
A. Yes sir.
Q. Because the production had gone down to such an extent, was not worth while trying to use it?

A. It won't feed itself into the line; would have been plugged before this if we could have got the help.

Q. I understood you to say that your main line was five and three-sixteenths on the Cunningham farm?

A. That is about three mile of it is; we bought in the first place about one mile of three-inch line, and about three miles of two-inch line; later on we took up the two-inch line and replaced it
2824 with the three and five-sixteenths.

Q. And what is the size of the line connecting the wells with this five-inch line?

A. Some of them are three inch and a part of them two inch at the wells.

Q. And what distance is the gas conducted from these wells through this five-inch line?

A. To the town.

Q. No, not to the town, distance from the well the five-inch line?

A. One of them I think is about three miles and the other probably four and a half.

Q. Now then, if I understand you correctly, then, the gas is conducted four miles, you said?

A. That is to the first well, and then we have another one two miles back, one about a mile and a half or two miles farther back.

Q. And it is conducted then through these two-inch and three-inch lines for a distance, that distance, up to the five-inch line?

A. Yes sir—no, pardon me, conducted through the five and three-sixteenths up to the three, and the three is next to
2825 the town.

Q. How long is the three inch line?

A. About a mile, I think, it runs through the main street of the town.

Q. And how long is the two inch line that connects with the well?

A. No distance at all, not over twenty or thirty feet.

Q. From where?

A. From the line up to the well, the main line starts at one well and goes on to the others.

Q. And what is the longest distance, then, that the gas is conducted through the two inch or the three inch line from the well, if you can recall?

A. From the well until it strikes the main line?

Q. Yes.

A. I would not think any of them over thirty feet, and they may be closer than that.

Q. Then it is conducted through the five inch line to within what distance of the town?

A. There was one mile of three inch line next to the town and what goes through the Main Street, I don't know what.

2826 Q. In other words the three inch line connects with the five and three-sixteenths, and that extends about a mile to the borders of the town?

A. Yes sir.

Q. And then it passes through the town, through the three inch line in the center of the town?

A. Yes sir.
Q. And is distributed from that to smaller lines, I suppose, on ferent streets?
A. Yes sir.
Q. I believe you said on account of the condition of your comny, etc., you were not able to put in a compressor station?
A. Yes sir, we didn't feel we were able to go to that expense for a tle while.
Q. While the pressure was down on some of these wells, as you stified this morning there was still a considerable volume of gas at could have been utilized if you had had a compressor station, as there not?
A. I think there would have been, yes. Of course we figured artly, if we put a pump on, it would simply take the life out of the ell that much quicker, would not last so long as natural flow. Of course a well in the thirty foot sand,—no well we know of has
827 gas in the thirty foot,—is the best well we have got; holding up steadily.
Q. When was the Lumberport Company organized?
A. I don't believe I know. I would judge, though, twelve or fifeen years.
Q. That was, you would say, perhaps six or eight years anyway fter the organization of the Home Company, would not you, or aybe more?
A. I don't remember when the Lumberport Company was organzed.
Q. Well, it was some years after the Home Company?
A. Yes, I think it was some little after that.
Q. And where did they get their territory?
A. I think they got it upon Jones' Run and in above Lumberport nd up in there.
Q. And how far was that from Shinnston?
A. It is three miles from Shinnston to Lumberport. Of course I don't know how far they went above there. I know they have ome teritory on Lambert's Run, that is over six miles from Shinnton—one well there.
Q. And they have a pretty good gas supply, I think you stated, he Lumberport Company?
A. I don't know anything about their line much.
2828 Q. Their territory which they acquired was within, you would say, five or six miles of Shinnston?
A. Yes, that much anyhow; maybe farther.
Q. And do you know how many wells they drilled or how much erritory they hold?
A. No sir, I don't — anything about how much territory or wells either.
Q. Do you know when they acquired that territory?
A. No sir.
Q. It was just about the time they were organized, wasn't it?
A. Well, I don't know about that. I couldn't say, because I was never connected with the company and never knew anything about their holdings.

Q. Where were the Jake Schaffner wells?

A. Jake Schaffner has one well on a three or four acre tract on the edge of town there.

Q. How many has he?

A. Only one there, and then he has one up the Pike, nere the Cemetery, on a piece that belongs to a man by the name of Emory, I think, no, on the Williams farm.

Q. That is right in the town, isn't it?

A. About a mile and a half or two miles.

2829 Q. Has he got any more except those two wells in the vicinity of Shinnston?

A. Not that I know of.

Q. Did you make any effort to buy the gas from those wells?

A. The one well that he has in the edge of town, we bought off of that one year; but there was so much water and oil in it, it gave us trouble; got our lines filled up and we had our lines to take up once and drained the water, and that is within three hundred yards of where we drilled our first well. If our first well had of been good, probably we would have tried to get a lease.

Q. Did you make any effort to obtain the gas from his other well?

A. His other well I think is an oil well.

Q. Isn't that a gas well also?

A. It might furnish some gas.

Q. Does not Mr. Schaffner sell gas from both of these wells at the present time, and after you refused to take it any longer from his one well, to the Hope Natural Gas Company?

A. I don't know about that.

Q. Don't you know he is selling it to them at the present time?

A. In January, I hauled tools and rigs up to those
2830 wells to have them up there to clean them out; and what he has done with them since that I don't know. His equipment to clean them out.

Q. Do you know of an operation of Mr. Shaffner about three miles from Shinnston, Schaffner and certain other parties about three miles from Shinnston, where he is getting production, two or three wells?

A. There is about four wells, three or four wells, about four miles from Shinnston that belongs, as I understand, to Mr. Crawford and Mr. Ben Anderson. Schaffner might have been interested in them.

Q. Did you make any effort to buy the gas from these wells?

A. No, sir, because we would have to lay lines to get to them.

Q. About three or four miles of line, it would take?

A. Four miles of line.

Q. Those are pretty big wells, aren't they?

A. I think they were good wells when drilled in, I don't know how they are at the present time.

Q. Don't you know those wells were considered large gas producers at the time they were drilled in and still continued to
2831 be, and that they are now selling their gas to the Hope Natural Gas Company?

A. No, I don't know who they are selling to. I know they were tolerably fair wells at the time they were drilled in, and I think one

two of them make some oil. We had that matter up in our ting once, but we figured the expense of the line too great.
Q. Then you concluded you would not make any effort to obtain gas because of the cost of making that three or four miles of pipe hose wells,—the cost to your company?
A. Yes sir.
Q. You could not afford that investment?
A. We did not deem it advisable at that time.
Q. Did you at that time consider what it would have cost to have l that line?
A. Yes, I think that was kind of figured on.
Q. And what is the size of the line that you figured on?
A. I think about a four inch line.
Q. What did you figure that line would cost?
A. I don't remember now.
Q. Can you give us, approximately, what are the figures, to the best of your recollection, if you have any recollection?
32 A. I could not give anyways near it now, because we made a kind of an estimate at that time. I couldn't tell you anyys near what it would cost.
Q. It would not have required over three or four miles of four ch line?
A. At least four to the first well; they were nearly a mile apart.
Q. Then it would have required from four to five miles of quarter ch line?
A. Yes sir.
Q. And you figured the company could not afford to lay that line?
A. Yes sir.
Q. You could have acquired the gas at that time, if you had laid e line and wanted to?
A. I don't know that we could have acquired the gas, but the mat- was up to see about it; it might have been we would not have en able to have got the gas?
Q. You did not make the effort to get it because you concluded u didn't want to lay the line?
A. Yes sir, that is about it.
Q. That is about it?
33 A. Yes sir, we had to try to keep within bounds of the cost.

Redirect examination.

By Mr. Steptoe:

Q. Can your company go out some distance in the field and purase gas and get it transported to your line, by any of the pipe line mpanies?
A. I don't know any place at the present time, unless it would be me small well that was too light to go into some of the bigger lines.
Q. I don't believe you understand me: I am not speaking with ference to the availability of territory, but as to whether or not you n get any of the pipeline systems or other companies to take your

gas that you may deve-ope some distance away, to Shinnston, and deliver it through lines to your system near Shinnston—has that been done, to your knowledge?

A. No, never been done as I know of. I will say this: I tried to buy the well of my own that they plugged, near my house, a short time back, so as to have a little gas for myself, and my company, but the Hope won't sell it.

Q. Do you know whether or not the larger companies that
2834 you have mentioned have ever made a practice of exchanging gas with local companies like yours?

A. No sir, I don't know of any.

Q. That is to say, could you or your company, getting a well in Marion County, close to their system, arrange with one of those companies to take the gas from that well, and deliver you an equal amount at or near your system at Shinnston?

A. No sir.

Q. Have you ever known of it being done?

A. No sir, I don't know of anything of that kind could be effected at all.

Q. Have you ever tried to purchase natural gas from the larger companies you have mentioned?

A. I think Mr. Hardesty, our president, one time went to see about it, with the Hope people in Pittsburgh, and they didn't want to sell him any. I don't think I ever went myself.

Q. Do you know whether or not your company would be able to purchase any gas from those companies now?

A. No, I don't know of any way you could be able to purchase any.

Q. But you never made any recent effort?

2835 A. No, no recent effort.

Q. And, as I understand you, you estimate the gas supply of your company will possibly last a couple of years?

A. We think it will last that long, and maybe a little longer than that; at the rate it is going, of course, it will largely depend upon the winters.

Recross-examination.

By Mr. Weil:

Q. Mr. Short, I forgot to ask you, there is an oil field near Shinnston, is not there?

A. Yes sir.

Q. About how far?

A. It is about three miles to the first well.

Q. How near is that to the gas field?

A. Right square on the opposite side.

Q. Adjoins it?

A. I mean on the opposite side of town; the gas field *in* on the west and the oil field on the east.

Q. Are any of these gas wells near the oil field?

A. Yes, a few gas wells near this oil field, in the edges of it.

Q. Do you know whether or not the operations in the field
836 affected the pressure of the gas in the gas sand in that section—in that whole section?
A. I know of one well in the edge of that oil field, some parties
ıd at Grafton, that wanted to sell it to us; we had the matter up
ıd had a meeting with them, but upon investigation we found it
as very light and was going down.
Q. The oil field is producing oil, isn't it, in the fifth sand?
A. I think the majority of it out there was struck in the fifty
ot?
Q. Were not some of these oil wells drilled into the fifth sand?
A. I think so.
Q. And they produced gas as well as oil?
A. Some of them, yes sir.
Q. Practically all oil wells produce some gas?
A. Only a few of them, I think, out there.
Q. Don't you always get some gas with the oil?
A. There may be a little casing-head gas, is all I know.
Q. But some of these wells, you say, did produce gas with the oil?
A. A small amount, I think.
2837 Q. And you don't know what effect that has had upon the rock pressure of the gas wells in that vicinity?
A. No, I never have tested for this in that section very much,
hat is to test a well out; this one well, I know we were about to
ake, we had it tested, and it was reducing and therefore, we didn't
uy it, and they had to plug it.
Q. You found that was on account of the operation in the oil
ield, I suppose?
A. I think so.
Q. That is, you attribute it to that?
A. Yes sir.

E. D. LEWIS, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Lewis, what official position, if any, do you hold in connection with the Public Service Commission of West Virginia?
A. I am a member of the Public Service Commission.
Q. How long have you been a member of the Commission?
A. Since the 1st day of June, 1919.
2838 Q. As a part of the testimony of the plaintiff in this case, Mr. Samuel S. Ware testified, and I direct your attention to a statement of his, as shown on printed page 944 of the testimony, where, in the course of developing his theory about the doing away with industrial gas, he is asked how that is to be brought about, and replies as follows:

"A. The easiest way to bring it about will be to carry out the co-operative scheme that has been put in operation between the five State Utility Commissions; that is, between the Utility Commission of West Virginia, Maryland, Pennsylvania, New York, Second District, and Ohio, where the fundamental object is to handle the situation for all five states as a unit without preferential advantages to any state, merely a fair and equitable handling of a resource situation."

The rest of his answer is elaboration as to the method. I hand you now the testimony referred to and call your attention to that answer. I want to ask you if the Public Service Commission of West Virginia has entered into any such co-operative scheme as is there mentioned with reference to the handling of the gas of the five states as a unit?

A. No sir, it has not. What has been done by the West Virginia Commission with respect to the curtailing of the use of gas has been independent. I believe the only thing, with the exception
2839 of one case, was by a general rule, which we required utilities to discontinue the use for industrial purposes, where it was required for domestic purposes; that rule has been in effect for some two or three years or longer. In one instance, and that was the West Virginia Central Gas Company and its affiliated companies there is an order restricting the use of the gas for industrial purposes, but that was not brought about by any joint action on the part of these several Commissions, nor was our rule brought about by reason of any joint action of the several Commissions. In other words, such rules and regulations as the Public Service Commission has promulgated and enforced, has been in reference to the State of West Virginia.

Q. And the companies and the surface under its jurisdiction?

A. Yes sir.

Q. Has there been any such co-operative unti scheme of service adopted at any time by the Public Service Commission of West Virginia?

A. I would say not. There were some meetings held, at which the several Commissions were represented, and probably gas operators; the meetings, as I understood it, and as we always
2840 understood it, was not for the purpose of handling the gas of these five several states, as a unit, but was more for the purpose of enlightening the several Commissions as to what was the better plan of handling gas cases in the gas situation. I believe except the appointment of a Committee and the meetings and the discussion of those matters, there has been nothing done further than an effort to have the Committee report back to the Several Commissions. I believe the Committee did not all sign that report and the report has not been made to the several Commissions.

Mr. Weil: We have no cross examination.

GEORGE W. WILSON, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

The Commissioner: Make the note Mr. Wilson was subpœnaed under the subpoena copied, which is last above laid on the transcript.

Q. I believe you are a resident of Weston and associated in business with Charles M. Snaith, who testified early today?

A. Yes sir.

2841 Q. Have you been in the oil and gas business many years, and if so in what way?

A. I have been in the gas business probably about ten years.

Q. What did you do prior to that time?

A. I was in the oil business a little bit and real estate business.

Q. Were you ever a driller of wells?

A. No sir.

Q. Is your knowledge and experience of the production of natural gas confined to the last ten years or so?

A. Yes, it is as to gas. I never had any experience in gas until the last ten years.

Q. In what natural gas enterprises are you interested and have you been interested during the last ten years?

A. I am interested with Mr. Snaith in this thirteen hundred, seventy-eight acres, and have a little gas well on the hill right near Weston, of my own; possibly another party has a little interest in it; and I have another little interest in Freeman's Creek.

Q. All those localities are in Lewis County, are they not?

A. All in Lewis County.

2842 Q. I believe Mr. Snaith stated that you and he acquired the thirteen hundred acres lease along about 1912?

A. Yes sir, along about 1912 we acquired it.

Q. Where do you market the gas from that well you have in close proximity to the City of Weston?

A. To the home company.

Q. To what company?

A. Keener Oil and Natural Gas Company.

Q. That is how close to the City?

A. It is just outside the city. Have a line possibly, I think, nine hundred and some feet away from the well.

Q. You speak of a holding in Freeman's Creek District. Where is the gas from that well or lease marketed?

A. To the Hope Gas Company.

Q. How far is that from the City of Weston?

A. I judge that is seven or eight miles.

Q. Have you any other market for the production of that well except to the Hope Natural Gas Company?

A. Mr. Snaith and I bought that interest just a few years ago, and I think it was all contracted to the Hope Gas Company, still contracted.

Q. Have you some familiarity with the gas territory of
2843 Lewis County and the operators in that county and Braxton and Gilmer?

A. I don't know so much about them in Braxton and Gilmer. I know some of the operators in Lewis County and some in Braxton.

Q. Are there many independent producers in Lewis County?

A. Not many.

Q. Are there as many as there were in prior years?

A. No, I would say not.

Q. How do you account for that, the lessening of the number?

A. Well, I would not know, quite a few drilled wells and sold out, sold the leases.

Q. To whom?

A. To the larger companies.

Q. To whom, as a general rule, do the independent producers market their gas?

A. Well, to one of the four companies, I judge, the larger companies, the Hope, Reserve, Pittsburgh & West Virginia and the West Virginia Central.

Q. In the case his holdings are not in the immediate vicin-
2844 ity of some city or community, what market has the independent producer for his gas?

A. I don't think he has any market only to the larger companies.

Q. Are their terms of sale and practice fixed by agreement?

A. Yes sir.

Q. We have had some discussion as to whether or not the pipeline companies, that is to say, the larger companies you have mentioned, which have pipeline systems, will or will not transport the natural gas for producers in the field. What is your knowledge on that subject?

A. I never asked them to, and I could not answer that intelligently, for I do not know. I have never known them to do it.

Q. Do you know of their exchanging gas?

A. I know of them exchanging gas, a couple of the larger companies exchanging gas, have been this winter, that is from hearsay. I don't know it to be a fact.

Q. By exchange, I mean in this sense: Will they purchase gas from you or any independent producer like you, out in the field, and sell or deliver an equal quantity in their line to some person
2845 that you will sell to?

A. I could not answer that. I don't think they would, but I never asked them.

Q. You have never known of any such incidence?

A. No.

Q. Is there any other way by which you could get your gas to Weston save by in their pipeline?

A. That is the only way I know of.

Q. And is it justifiable from the size of your holdings, to lay such a line?

A. I would not think so.

Q. What is the situation in Weston now with reference to the supplying of domestic consumers?

A. In the last two winters, I think it is rather scarce.
Q. Would you call it an adequate supply?
A. No, I would not.
Q. Any prospect of its improving?
A. I didn't see any and don't know of any.
Q. Do you know of a Carbon Plant somewhere near Weston, the Columbia Carbon Company?
A. I know of them, yes sir.
2846 Q. Did they ever have a plant and manufacture carbon there, in the past years?
A. Yes sir.
Q. Is it manufacturing carbon now?
A. Not near Weston. I think they had a carbon plant quite a distance from town.
Q. Do you know whether or not that plant is using its gas to manufacture carbon or has disposed of it?
A. I can't answer that question.
Q. You mean by that you have no direct knowledge personally?
A. No, I have not.
Q. But, isn't it generally understood that gas is being sold by the Carbon Company to the local company furnishing Weston?
A. That is my understanding; they had a carbon plant near Weston that they dismantled.
Q. Then the gas territory of that carbon plant and its production of gas is being sold to a local company, and that is where the local company gets its supply?
A. That is my understanding.
Q. Do you know whether or not the local company has any territory or production of its own?
2847 A. Not to my knowledge.
Q. Do you know from what source it obtains its supply of gas prior to contracting with the Carbon Company?
A. As I remember they got it just previous to contracting with the Carbon people, from the Hope.
Q. And prior to that?
A. Prior to that they got it from the Clarksburg Light & Heat Company, is my understanding.
Q. Outside of what you have stated, I assume that your experience and knowledge is substantially the same as that of your partner, Mr. Snaith, who testified this morning?
A. Practically so, yes sir.
Q. You heard his testimony?
A. Yes sir.

Cross-examination.

By Mr. Weil:

Q. Mr. Wilson, the cost of operating for oil and gas, that is, the drilling of wells and laying of lines, has enormously increased within the last few years from what it was formerly?
A. Yes sir.

Q. While formerly wells could be drilled for around, fr
2848 three to five thousand dollars a well, it now costs substantia
from ten to fifteen thousand or more?
A. Yes sir, I understand so.
Q. That is about the fact, isn't it?
A. Yes sir.
Q. And it takes very considerable capital these days for any m
to engage in the business of oil and gas production?
A. Yes sir.
Q. If he does not have that capital, or credit, he cannot engage
the business?
A. No sir.
Q. Is not that the explanation in part of why there are fewer p
ducers now than there used to be?
A. I suppose that has something to do with it.
Q. Formerly, where a man would obtain an oil and gas lease t
looked reasonably well, or the prospects of which were good, he co
generally get enough people in with him, or enough credit, to
down a well, could not he?
A. Yes sir.
Q. You know of that being done lots of times?
A. Yes sir.
2849 Q. But these days where it requires such a very la
amount of money, it is a very different proposition, isn't
A. Yes sir, it is.
Q. You know that from your own experience, don't you?
A. Yes sir, from experience at the present time.
Q. From your knowledge of the business, has not it been
general custom in the oil and gas business, for the independe
producers to go into a field, when the oil and gas developments
gin, and drill in that field, and when they obtain a productio
sell that production or their leases, as the case may be, or the wel
and then move on to the front, and follow up the production
that way?
A. That is done very often.
Q. Has not that been the general custom so long as you ha
known anything about the oil and gas business?
A. Yes sir.
Q. The oil and gas producers are like the old-fashioned min
in the West, they follow up the new discoveries, don't they?
A. As a general thing, they do, those that stay in it.
2850 Q. Yes, those that do not go broke. There is a pret
vigorous competition, is there not, between the Hope Co
pany, The Pittsburgh & West Virginia Company and the West V
ginia Central Company, to obtain the gas production from any
the independent operators in any of the fields in which those co
panies have lines?
A. Outside of the company, the Pittsburgh & West Virginia a
the Hope Company, there has been considerable competition, but
don't think the West Virginia Central is much of a competitor,
don't think they ever contracted much gas.

Q. There is a competition between the Hope and the Pittsburgh & West Virginia?
A. Yes sir.
Q. You understand that those companies are competitors in the respective fields where they have lines, for the purchase of gas from those who have gas to sell?
A. Yes sir.
Q. When the contracts which you and Mr. Snaith had with the Hope Company, for the gas from your thirteen hundred-acre lease, that has already been referred to, run out, according to its terms, did not the Hope Company pay you for that gas from the inception of that contract, at the rate of twelve cents?
2851 A. Yes sir.
Q. Although the contract did not actually become executed until some time afterward?
A. The contract ran out in October, 1919, the first day of October, and we could not contract possibly for a year after; well, it was about this time of year though that we contracted; and they paid us the twelve cents back until the time the old contract ran out.
Q. So that upon the expiration of the former contract you obtained twelve cents from that time on?
A. Yes, we just let the old contract run; we didn't contract until about a year ago.
Q. But delivered them the gas?
A. But delivered them the gas at the old price of five cents, and they paid us the difference in the new contract.
Q. At the time that contract run out, gas was selling at Weston at what price, for industrial consumers?
A. At the time that contract ran out?
Q. Yes sir, the first contract.
A. 1919?
Q. Yes sir.
2852 A. As well as I remember, I think it was twenty-two cents, I think it was twenty-two cents, I would not be positive.
Q. That is to industrials?
A. Yes sir.
Q. And what price to domestic?
A. Well, that was domestic. I don't know what the industrial price was.
Q. That twenty-two cents was domestic?
A. As I remember it.
Q. And of course it would be less at that time to industrial? But you don't remember what it was?
A. I don't remember what it was, if I ever knew.

Redirect examination.

By Mr. Steptoe:

Q. I understand you to say there is not any competition now between the Hope and the Pittsburgh & West Virginia Company?
A. No, not the Pittsburgh & West Virginia, the West Virginia

Central. I don't know of any contract they have made in Lewis County; they may have made some I don't know about. I don't follow that.

2853 Q. You mean the West Virginia Central has no contract to purchase the gas that you know of?

A. Not that I know of.

Q. Are there lines anywhere near your lease?

A. No, quite a ways from ours.

Q. Did you make any effort to sell to them?

A. I spoke to them one time, yes, and they were not interested.

Q. Are the lines of the Pittsburgh & West Virginia Gas Company anywhere near your lines?

A. Line right through the lease.

Q. Has the Pittsburgh & West Virginia Gas Company made any effort to buy your gas?

A. Yes, I was in to see them probably twice,—they sent for me,—but I didn't deal with them.

Q. Was there competition between them and the Hope in the matter?

A. I think I did better with the Hope.

Q. And you have always been with the Hope Company?

A. Yes, sir.

Q. Has there always been active effort with the pipeline companies to buy the gas of an independent producer?

2854 A. I know that in a case I had,—I can only speak from personal experience—any case I had I always had from both of them.

Q. Both were willing to take?

A. Yes.

Q. You refer now to the companies that you testified about on direct examination?

A. Yes.

2855 VANCE L. HORNER, called as a witness, having been first duly sworn, testified as follows:

Direct examination:

By Mr. Steptoe:

Q. Where do you reside?

A. Lumberport, West Virginia.

Q. How old are you?

A. Forty-five years old.

Q. Have you lived there all your life?

A. About.

Q. Is that in Harrison County West Virginia?

A. Yes.

Q. Have you ever been interested in the oil and gas business?

A. Yes.

Q. How long?

A. Since 1907.

Q. Tell us, briefly, the extent of your connection with the gas business in the way of production and marketing.

A. I am connected with the Lumberport Gas Company as Vice President, and President of the Shinnston Gas Company, and President of the Eagle District Gas Company, and Manager of the Eagle District Gas Company, and Manager of the Horner Gas Supply Company, and have some outside wells in partnership with the Shaffner Brothers.

2856

Q. Taking those companies and interest separately, state when the Lumberport Gas Company was started.

A. I think in 1907.

Q. Was the personnel of your company local?

A. Yes sir.

Q. What communities or town does the Lumberport Gas Company serve?

A. They serve Lumberport, Haywood, Erie, and Hepzibah, a number of little towns around.

Q. All of those town- are within a radius of four or five miles of Lumberport, are they not?

A. Yes sir.

Q. Do you supply both domestic and industrial consumers?

A. We have one industrial consumer only.

Q. What is that?

A. Glass factory.

Q. Give us the name of it and where it is located.

A. Mountain State Glass Company, Lumberport.

Q. That is the only industrial that you serve, and the rest of its service is to domestic consumers?

A. Yes sir.

Q. Where is its territory located and what is its extent?

2857

A. They don't have much territory; only have, five wells and have thirty-seven acres of territory drilled on.

Q. Are there five wells on one tract of thirty-seven acres?

A. No, scattered; the biggest tract is twenty-eight acres, has one well on, and another tract about six acres one well on, and other three wells are on acre pieces.

Q. Where are those tracts and wells located with reference to the town of Lumberport?

A. Two of them in the corporate limits of Lumberport and one about a mile out of Lumberport, and one at Haywood West Virginia, right across the river from Lumberport, and one out on Lamberts Run, about three miles from Lumberport.

Q. I neglected to ask you if you had the same stockholders in all four of the companies mentioned, the Lumberport Gas Company, The Shinnston Gas Company, The Eagle District Gas Company and The Horner Gas Supply Company.

A. No sir, they are not all; some in one that are not in the others.

Q. They are all corporations?

A. Yes sir.

Q. And in addition to that you are interested with Schaffner Brothers in one or more?

A. Yes sir.

Q. Is the Lumberport Gas Company able to supply its consumers from the five wells and small territories you mention?

A. Yes sir.

2858 Q. Does it buy gas, and if so from whom?

A. They buy gas from the Horner Gas Supply; they buy gas from Schaffner Brothers; they buy gas from Schaffner & Horner; they buy gas from J. N. Coletrain; and they buy gas from The Eagle District Gas Company.

Q. Where are those vendors, that is the people from whom the Lumberport Gas Company buys, located with reference to the town of Lumberport, close to it.

A. The wells?

Q. Yes.

A. They are within a mile and a half or two miles of Lumberport, both of them.

Q. Are the holdings of those various producers mentioned, take the Horner Gas Supply Company, what territory and wells has it?

A. I think they have about eighty acres.

Q. And how many wells?

A. Five wells.

Q. All territories developed?

A. Yes sir.

Q. How about Schaffner Brothers, does the Lumberport Company buy from one or more wells belonging to them?

A. Yes sir.

Q. What leaseholds have they?

A. It has about ten or fifteen acres; maybe not so much.

2859 Q. And how about the territory and wells of Schaffner and Horner?

A. I think they have about thirty-seven or thirty-eight acres; something like that.

Q. And the territory and wells of Coletrain.

A. At first I think probably three or four acres in what we are buying from Coletrain; we have t-ree wells we are buying from Coletrain, on the creek bank, and a middle strip along between the railroad and the creek we have leased and then we have an old school house property, we own a quarter in it.

Q. How about the Eagle District Gas Company?

A. I think they have about one hundred sixty acres, I wouldn't say.

Q. Is that in one body or in scattered leases?

A. Scattered.

Q. By what power, pressure, is the Lumberport plant operated?

A. Natural pressure.

Q. You have no pump station or booster station?

A. No sir.

Q. Do any of the companies, or any one else that you have named, and from which the Lumberport Gas Company is purchasing have pump stations or pumps?

A. No sir.

Q. Are the wells and the territory and the purchased con-
2860 tracts you have mentioned, all of the gas and gas supply that the Lumberport Gas Company has? To be more specific, has the Lumberport Gas Company any territory other than that mentioned or does it purchase from any other people?

A. They have two small pieces of territory that are not drilled.

Q. How much is that acreage and where located?

A. I don't know the size, something like forty acres, on the head of Dolan's Run, about forty acres about four miles from Lumberport; and the other piece about a mile and a half up Tenmile Creek from Lumberport, about an acre, I think it is, or two or three acres; something like that.

Q. Has that been recently acquired, those two parcels?

A. Well, we have had them for five or six years, I think; maybe not so long.

Q. Now, with respect to the Shinnston Gas Company, where does it serve?

A. Shinnston.

Q. Were you present when Mr. Short testified?

A. Yes sir.

Q. Is that the Company he referred to sometimes as the Shinnston Gas Company and sometimes as the Consolidated Company?

A. Yes sir.

2861 Q. How long have you owned that?

A. I think we have had it, this April will be two or three years.

Q. How did you acquire it?

A. We bought it before the Court.

Q. To be brief, the Shinnston Gas Company was sold at the instance of creditors and Coletrain bought it for you and your associates?

A. Yes sir.

Q. How many consumers has it in the Town of Shinnston?

A. When we bought it I think eighty, and I think we have about sixty now.

Q. How much territory, wells and production, has it?

A. They have two wells, one is a town lot and the other is about an acre, and they buy gas from the Coletrain Oil & Gas Company.

Q. Is that a local enterprise in Shinnston?

A. At Haywood Junction, the Coletrain Oil & Gas Company, which I bought it the 31st day of December.

Q. And how much is that?

A. Two and one-half acres.

Q. That is the supply of the Shinnston Gas Company?

2862 A. Yes, they have two wells that they buy from.

Q. Now, the Horner Gas Supply has what territory and what wells?

A. It has five wells and I think about eighty acres of territory with wells on.

Q. Where does it market and what consumers does it supply?

A. One well they sell the gas to the Lumberport Gas Company, and the other four wells to the Monogahela Valley Traction Company.

Q. Where is its territory located and the wells now sold to the Lumberport Gas Company?

A. It is right out about five hundred feet outside of the corporation of Lumberport.

Q. And where are the four wells, the products from which is sold to the Monongahela Valley Traction Company?

A. Two of them are on the head of Robinson's Run—we call that the Rosetta Robinson, about three and a half or four miles away from Lumberport; and the other two on the Boggess farm, about the same distance from Lumberport, up Jones' Run.

Q. Was there any pipeline connection between those last
2863 mentioned four wells and the lines of the Lumberport Gas Company?

A. No sir.

Q. No way of getting in through except by the way of l-ying pipeline?

A. That is all.

Q. Would it be practical or feasible, from a financial standpoint, taking into consideration the size and production of the wells, to pipe that to Lumberport?

A. No, they would not have the pressure to get it to Lumberport.

Q. Would the production justify the installation of a pump station and the line?

A. I don't think so.

Q. Now, what community or consumers is supplied by the Eagle District Gas Company, if any?

A. They have any arrangement with the Hope Natural Gas Company, to use what—they have the privilege of selling what gas the Lumberport Gas Company needs, first, and the Hope Gas Company takes what they don't use.

Q. Let's see if I understand you? The Eagle District Gas Company does not supply any consumers direct, but sells to the
2864 Lumberport Gas Company and the Hope?

A. Yes sir.

Q. And the gas which it sells to the Hope Gas Company is such excess of production as is not needed by the Lumberport Gas Company?

A. Yes sir.

Q. How far away is this territory from Lumberport, Haywood and the other towns?

A. Two wells in Lumberport and five wells within a mile and a half of Lumberport; they have two wells on Robinson's Run, anywhere from two to three miles and a half, the first one is about two and the last one about three and a half miles from Lumberport; they have one well near Dola, West Virginia, and one well between Dola and Rosebud, and one at Dola would be about six miles from Lumberport, and the other would be about four miles.

Q. Are all of the wells of the Eagle District Gas Company connected by line with the wells of the Lumberport Gas Company?

A. No.

Q. How many are?

A. I think there is nine connected?
2865 Q. And how many not connected?
A. Three.
Q. Where are those three located?
A. One on the head of Robinson's Run, one close — Dola and
e other between Dola and Rosebud.
Q. What do you do with the gas from those wells?
A. Sell it to the Hope Gas Company.
Q. Has the gas from those ever been sold to the local company,
hat is the Lumberport Gas Company?
A. No, they have the right to use that if they can get to them.
Q. How far is it from the lines of the Lumberport Gas Company
o those three wells?
A. Two of them I would say three miles apiece, and other about
our or five miles.
Q. Let me ask you if it would pay, as a financial proposition, to
ay a pipeline from the Lumberport Gas Company lines to those
wells, in view of the amount of production from them?
A. We have figured on it several times, but never thought it was,
or we would have laid to them.
Q. Let me ask you if the pressure and volume would have to be
taken into consideration, *if* the laying of a line from the
2866 Lumberport Company's plant to these wells?
A. Yes sir.
Q. Now, is the pressure and volume of those three wells or any
one of them, sufficient to justify you in laying the line?
A. No sir.
Q. You mean to say by that that the rock pressure is not sufficient
to transport any appreciable amount that distance?
A. Not only that, but the wells have fallen off in size.
Q. Has the Lumberport Gas Company at any time had difficulty
in supplying its consumers?
A. Yes sir.
Q. How long?
A. Well, we have had trouble for the last three or four years, on
the outlying, such as Erie and Hepzibah and places like that.
Q. Do you know whether there are any companies having produc-
tions or lines near those outlying towns you mentioned, and if so,
what? Take Erie, for example.
A. The Hope and Philadelphia and Grasselli Chemical Com-
pany.
2867 Q. Did you make any effort to buy from those companies
at the point of shortage you have mentioned?
A. I don't know that we made any effort to buy. We tried once
to exchange gas, take it in exchange with the Hope.
Q. Just what do you mean by exchange, what was your proposi-
tion?
A. We figured we had gas, and our lines was too small and pres-
sure too small to get it to Erie, and we asked the Hope to give us
connections to Erie and take what gas we used there off of our bill;
in other words.
Q. Were you at that time selling gas from any of your wells to
the Hope?

A. Yes sir.

Q. Why could not you utilize that amount?

A. We could not get it distributed around with the natural pressure.

Q. Were you at that time selling to the Hope Gas Company from the three wells you mentioned awhile ago as not connected with the system of the Lumberport Gas Company?

A. Yes sir.

Q. Then, substantially, your proposition was to have the
2868 Hope give you an equal amount of gas at Erie, for a sufficient amount to take care of your consumers there?

A. Yes sir.

Q. I understand you to say you could not make that arrangement?

A. No sir.

Q. Now, the acreage you have mentioned as being held by the Lumberport Gas Company and the Shinniston Gas Company, the two companies which seemed to be engaged in supplying the public, was quite small. Let me ask you why your company has not acquired a larger acreage.

A. It has been expensive to acquire, and about all we could get would be some the Hope and Philadelphia had drilled on and surrendered it, and we have gas selling to other companies, we figured we would use when the contracts are out.

Q. Have you at any time taken up leases throughout Harrison County, scalping them, as it is commonly called?

A. Yes sir.

Q. Have you some degree of familiarity with Harrison County and the section surrounding Lumberport, with reference to gas territory or gas leases?

A. Yes sir.

2869 Q. Let me ask you if there has been any considerable body of gas land that has been open in the last few years.

A. None to speak of; might get a small piece here and a small piece there.

Q. That is to say, small and scattered?

A. Yes.

Q. What are the principal companies holding territory in that section and operating it?

A. Pittsburgh & West Virginia, the Carneigie and the Hope.

Q. Have each of those companies pipeline systems in that section?

A. Yes sir.

Q. Pump station?

A. Well, they all have pump stations, yes sir.

Q. How long has it been since any gas territory was available in that section, to be taken up?

A. I don't know that there has been but very little since 1910 or 1912; something like that.

Q. Was there much available when your company started out in 1907?

A. I don't really remember. I took several leases after our company was organized, that is, after 1910 or '11; something like that.
That is, some leases you have now and referred to?
No, I took other leases, but not in our immediate territory.
Well, were the leases you took up together or scattered?
Scattered.
I want to ask you now with reference to 1907, and before whether there was available any considerable body of terri-
I do not refer now to scattered leases here and there.
Yes, there was one piece of seven or eight hundred acres, I it was, I took the lease, but it was too extensive for me to le; they wanted a well on every twenty-five or thirty acres, ık it was.
Where was that?
Mr. E. F. Rogers on Jones' Run.
Had that ever been under lease before?
I think so.
It got loose and you took it up?
I don't remember who had it, but I am satisfied that it was under lease.
Q. Speaking generally now about that section, how long has it been under lease for oil and gas purposes?
Since 1900 anyhow, and longer than that. I can't remember that far.
But what could be had since 1900 is here and there, scattered s?
Yes sir.
Have you had occasion to estimate how long the Lumberport Company, with its present supply you have mentioned, will be to take care of its domestic and industrial consumers?
It is owing to conditions: if the same conditions remain, prob- take care of them four or five years.
What do you mean by changed conditions?
If they put all the country on a vacuum, we cannot supply consumers.
Ir. Weil: What?
If they put the community on a vacuum, we cannot supply consumers very long.
Are any of the companies taking gas on a vacuum, in the nity of Shinnston and Lumberport?
Yes sir.
Q. What company?
'2 A. The Carneigie.
Q. Explain a little more fully what you mean by taking on a vacuum.
A. If you have to shut the well in for the pressure to build up, y are taking it at more than atmospheric pressure.
Q. To put the matter briefly, is this what you mean? That the rnegie Company, through its pump station, is taking gas from well at less than atmospheric pressure?
A. Yes sir.

Q. Are any of the leases or territory of the Carneigie Natu Gas Company in the immediate vicinity of the holdings you a interested in?

A. Yes sir.

Q. What effect, if any, has that had on your adjoining wel

A. The rock pressure is about all gone; the volume is getti mighty small.

Q. Did you make a test of a well to ascertain that fact?

A. We test our wells quite often, and we also can tell by t check,—the money we receive.

2873 Q. Is that the way you ascertain that the Carneigie we are on suction or vacuum?

A. No sir.

Q. Tell us how you did ascertain that.

A. One well in particular I know right beside of ours, we clo the gate; in other words, we went to take the pressure of it, a there was not any pressure. We closed the gate so the well wou build up.

Q. Was that the Carneigie well you were testing?

A. Yes sir.

Q. Is that frequently done among operators, to test each othe wells?

A. Yes sir.

Q. Now, what would be the effect, if, as Mr. Corrin stated, of the companies would have to come to the use of suction vacuum, on wells in the near future, what will be the effect your wells in your neighborhood?

A. We won't be able to get any of the gas unless we get on s tion.

Q. In other words you will have to go to the expense of pu stations, yourself, or be without gas?

A. Yes, in a short time.

Q. And how long do you suppose you will be able to su

2874 ply your consumers if that contingency occurs?

A. I think a year or so.

Q. In the meantime would your wells have sufficient pressure, market, any appreciable amount, enough to take care of your co sumers?

A. No sir.

Q. Have you ever figured on putting in pump station?

A. Yes sir.

Q. Why didn't you put one in?

A. Well, money matters is one reason; we are not able to put one, unless we get help.

Q. Well, taking into consideration the holdings of the Lumb port Gas Company, is a pump station justified?

A. No sir.

Q. It was said on direct examination, I think, of the plaintif testimony, by some one, that local companies not operating in We Virginia had always or constantly made money in large amount What has been your experience, the experience of the companies yo are interested in?

A. Well, nearly all the money that we have ever received from gas has gone back into the plant and extending the lines.

2875 Q. Have you ever gotten your money out of it?

A. No sir.

Q. You referred to all of your companies?

A. Yes sir.

Q. Let me ask you if the Fairmont & Grafton Gas Company, now the Pittsburgh & West Virginia Gas Company, was ever in Lumberport, Shinnston and in that section?

A. Yes sir.

Q. When?

A. The old Fairmont & Grafton Gas Company was in there about 1900, when they came in, and later became the Philadelphia and later the Pittsburgh & West Virginia Gas Company, I think.

Q. Did it hold a franchise from the Town of Lumberport?

A. Yes sir.

Q. What is the size of the town?

A. Not very big, about nine hundred, that is inside of the corporation.

Q. Is the Pittsburgh & West Virginia Gas Company now there?

A. No sir.

Q. How long since?

2876 A. About two years I think, maybe three years, is the last consumers they supplied.

Q. You mean about how long?

A. Two or three years ago.

2877 Q. How long has gas been used in Lumberport and in the vicinities you have testified about, for domestic purposes and industrial purposes?

A. I think about 1900 was the first.

Q. To what extent has gas been used; has there been any other fuel used in that section?

A. Not until the last year or more.

Q. I believe you have stated the inadequate supply has developed within the last two or three years?

A. Yes.

Q. Prior to the development of these shortages were all of the industries served, and all the domestic heat and light supplied by natural gas, or was any other fuel used in that community?

A. Not in our community.

Q. What would be your estimate, from observation and experience, as to whether or not any more gas would be needed to supply that community now as compared with the period before the shortages occurred; would it take any more gas now than it did, say in the year 1916?

A. I don't really know. Well, the price has gone up and people have been more saving of it and so forth since there has been more consumers.

Q. There has been an increase in the domestic population?

A. Yes sir. Has not been in the industrial, for we never 2878 had but the one.

Q. You had that same industry in 1916 and theretofore?
A. Yes sir.
Q. And I understand that it would take such amount as necessary to cover the increased population, is that your idea?
A. Yes, what new families have been added on. I suppose that is what you mean by population.
Q. That, as a matter of fact, is a pretty hard thing to estimate, isn't it?
A. It takes somebody smarter than me to estimate it.

Cross-examination.

By Mr. Weil:

Q. How many consumers have you at Lumberport?
A. Seven hundred and twenty-eight. That is, you mean, Lumberport proper, or the whole system.
Q. No, Lumberport proper, how many consumers, not the people, but how many active consumers?
A. The Lumberport has 728 domestic and one industrial.
Q. And how much has the Lumberport line?
A. I don't know.
Q. And what is the average run from meter per month?
A. Well I don't know that.
2879 Q. Or per hour?
A. I think we sold twenty-three million feet of gas last month. I don't know what it would be per meter.
Q. And what price do you get now?
A. Thirty-five cents net.
Q. To the domestic consumer?
A. Yes sir.
Q. And how much did you get when you started in 1907?
A. I think all you could burn for a dollar in a cook stove, and I think the same for the other fires.
Q. That is you charged them a flat rate of one dollar per cook stove, and one dollar for any other?
A. I think the rate was ten cents per meter, but we did not use many meters.
Q. And the rate was ten cents per thousand for meters, if they used meters, but they did not use them, is that it?
A. Yes.
Q. The Lumberport Company owns all of the capital stock, doesn't it, of the Eagle District Gas Company?
A. No sir.
Q. Does it own any of the capital stock of the Eagle District Gas Company?
A. No sir.
Q. Who owns that, independent parties, or the same stockholders as are interested in the Lumberport Company?
2880 A. Well I own half of the stock of the Eagle District Gas Company, and J. H. Hornor owns the other half. The Lum-

berport Gas Company owns half of any profits of the Eagle District Gas Company.

Q. What is your interest in the Lumberport Company?

A. I don't believe I know the exact number of shares, something like one-third of it.

Q. And Mr. Hornor's interest?

A. He has seventy-five shares.

Q. And what is the capital?

A. I was figuring on the basis of two hundred and fifty shares, twenty-five thousand dollars capital, but the capital is one hundred thousand dollars, the new capital stock of it.

Q. Well, he would have the same proportionate increase, I suppose, in the new capital?

A. Yes sir.

Q. Was the new capital issued as stock dividend, or sold for cash?

A. Well I think a stock dividend partly.

Q. It was substantially a stock dividend; the increase from twenty-five thousand to one hundred thousand?

A. The capital stock was increased to one hundred thousand, but the stock never at any time sold for over six dollars a share, ten dollar shares.

2881 Q. I say the increase in the capital stock from twenty-five thousand dollars to one hundred thousand dollars was as a stock dividend?

A. I think so, I don't remember.

Q. Now you are interested, are you, in the Hornor Gas Supply Company?

A. Yes sir.

Q. And you have also stated you are interested with Schaffner Brothers?

A. Yes sir.

Q. And also interested with Schaffner and Hornor, are you?

A. Yes sir.

Q. And you have already explained your interest in the Eagle District Gas Company?

A. Yes sir.

Q. And also your interest in the Lumberport Company?

A. Yes sir.

Q. So that these companies are all more or less tied up by the same parties, having substantially the same control in those respective companies?

A. You can figure it that way if you want to, but we do not figure it that way. There is people in different companies. Take Coletrane, he hasn't any stock, and Schaffner is a very small stockholder in the Lumberport Gas Company.

2882 Q. But the people who do have the controlling interest in all of these companies also have the controlling interest in the Lumberport Company, as I understood your testimony, that is correct, isn't it?

A. Well, if I answered it that way I did not mean of course they manage and look after these companies.

Q. What price does the Lumberport Company pay to the Eagle District Company for the gas which it obtains from the Eagle District Company?

A. The same price that the Hope Gas Company pays the Eagle District Company.

Q. And what is that?

A. Eleven cents.

Q. And before they sold to the Hope Company, what price did the Lumberport Company pay the Eagle District Company?

A. They have always paid the same price, and that is four and one-half cents, I believe.

Q. That was at one time it was four and one-half cents, and it went up from that gradually until now they pay eleven cents, is that it?

A. Yes sir.

Q. Now you say the Eagle District Company, the Lumberport Company has one-half of all the profits made by the Eagle District Company, if I understood you right?

2883 A. Yes sir.

Q. That is by contract between these two companies?

A. Yes sir.

Q. And how did the Lumberport Company get its interest in the Eagle District Company, by purchase or by advances?

A. The Lumberport Gas Company—in the first place the Lumberport Gas Company had a contract to drill thirteen wells, and they could not drill them, and they turned it over to the Eagle District Gas Company and they agreed to drill them, and the Lumberport Company got half of the profits.

Q. That was, then, for turning over the leases, was it?

A. Yes sir.

Q. And the Eagle District Company got the leases and agreed to drill the wells and were to pay the Lumberport Company one-half of the profit it made out of those leases for the turning over to them of those leases, and the Eagle District Company was to drill the wells in place of the Lumberport Company?

A. Yes sir.

Q. And who furnished the money then to drill these wells?

A. Each well that made one million feet, the Hope Gas Company put up twenty-five hundred dollars, I think, and they was to take it out in gas.

2884 Q. And then you borrowed the money from the Hope Company to drill the territory of the Eagle District Gas Company, and if a well produced a million feet of gas they were to pay twenty-five hundred dollars and take it out in gas; that was the arrangement, was it?

A. That was the arrangement, yes sir.

Q. Then you turned over to the Lumberport Company the gas from nine of the leases and you sold the gas from the other three to the Hope Company, as I understood your testimony?

A. Yes sir.

Q. What price does the Lumberport Company pay to the Hornor Gas Supply Company for the gas it obtains from it?

A. Last year they paid eleven cents, the same as they pay the Hope.

Q. And prior to that time what did they pay?

A. Been based on what we paid the Hope, or what the Hope pays.

Q. In other words it was four and a half cents up, just as in the case of the Eagle District Company?

A. We are paying Coletrane twenty cents a thousand, and Horner and Schaffner fifteen cents, and Horner Gas Company fifteen cents.

Q. You testified that during a part of this time you were engaged in business personally as a lease scalper in this district
2885 about which you have been testifying that is correct is it?

Mr. Steptoe: He did not say he was engaged in the business, but he did do it.

A. I handled leases, yes sir.

Q. And during that period didn't you sell or offer to sell quite a large number of leases to the larger companies?

A. Yes sir.

Q. Leases which you took up during that period, that is correct is it?

A. Yes sir.

Q. And when did you begin to take up those leases?

A. I think in 1910 probably.

Q. And during what years did you continue that?

A. Well I have taken a lease whenever I could get one.

Q. Up to the present time?

A. Yes sir.

Q. And did you actually dispose of a number of those leases to the Hope and Pittsburgh & West Virginia and Carnegie Companies?

A. I don't know as I ever sold the Hope direct any. I sold to the Manufacturers Light & Heat Company, and the Hope afterwards got the lease.

Q. And to whom else?

A. Well I believe that is the full amount.

2886 Q. And do you recall how many of those leases there were, and what acreage they represented altogether?

A. Well I think there was seven hundred and fifty acres of scattered leases in one block, and the E. F. Rodgers, I don't know how much, four or five hundred acres, and maybe more than that.

Q. Were there any more that you can recollect?

A. No more that I sold. I had quite a bunch of leases and took them to the Hope and also took them to the Traction Company and could not sell them.

Q. Where were they located?

A. On Bingamon Creek.

Q. How far was that from Lumberport?

A. Well I would say anywhere from eight to ten and twelve miles.

Q. And you say you could not sell them?

A. Could not sell them. They had been leased, but had been let go by different companies as no good.

Q. They did not regard the leases as of any prospective value for oil or gas to speak of?

A. After I took the leases, one of the companies, the Traction Company, had their men go around and take new leases.

Q. After you had surrendered them?

A. After my time had run out.

Q. They changed their minds then evidently as to the value of those leases, did they? Isn't it a fact that one of the objec-

2887 tions made to one of these leases that you held was that the terms of the lease you had taken were too short?

A. I don't think they was short term leases. I think the rental was a little high, was the main thing.

Q. You say a large amount of this land was under lease for oil and gas purposes from 1900 and longer. Who was it first took up the block of leases in that section. What interest was it?

A. Well my father took up a good man- leases, and then Harn & Company took up a number of leases; T. M. Jackson and Com-pany took up a number.

Q. And who else?

A. The Hope Company took leases.

Q. That was afterwards, wasn't it?

A. After which?

Q. After 1900 that the Hope came in?

A. I don't know the exact date the Hope came in.

Q. These other parties were the pioneers in that field who took up the first block?

A. They took up the first leases and sold to the larger companies.

Q. Do you know whether or not Barnesdale & Company came into that section about that time, or 1904?

A. I could not say. I heard that he did.

2888 Q. And do you recollect any other operators that came into to that section prior to that time? Or at about that time 1900?

A. No.

Q. Well, you have been, of late years, particularly engaged in operating some of these wells or leases, have you not?

A. Yes sir.

Q. And are a practical operator, are you not?

A. Well, I don't know so much about whether I am a practical operator or not. I have been operating and we have had good success.

Q. You think you are a practical operator anyway, don't you? Now isn't it a fact that a number of these wells that you have described, such as the Eagle District and others, owned by some of these other companies, the production could be very considerably increased by drilling deeper or cleaning out?

A. Well, we have been cleaning out since October first. We have been cleaning out one and just got it through.

Q. That is of this year?

A. Yes sir.
Q. Well did that increase it any?
A. Yes sir, it made seventy thousand feet, and it did not
2889 make anything before.
Q. That was seventy thousand per cent increase, wasn't it?
A. But it has never paid for itself.
Q. Don't you think you could increase your supply by drilling deeper, or by cleaning out some of these wells?
A. The Eagle District wells, they are all in good shape. We have cleaned out a couple, and the others are in fairly good shape, and we have drilled down one and got very little gas.
Q. How far is Erie and Hepzibah from Lumberport?
A. Well between four and five miles.
Q. And what size lines, by what size lines are they connected?
A. I think four inch, most of the way. Maybe a little bit of three inch; I don't know exactly.
Q. And are those the lines through which the gas is being supplied?
A. Yes sir.
Q. It comes from Lumberport?
A. Yes sir, we have one well over close to Erie.
Q. And those are in different directions, Erie and Hepzibah, are they not? They are not on the same line?
A. Yes sir they are on the same line.
Q. Both on the same line, how close are they to one another?
A. Well, at Erie, that is not much of a place. The fact of
2890 the matter Erie and Hepzibah both would not make much of a place.
Q. How much of a place?
A. Three or four hundred people probably.
Q. And that line would be what you call a dead end, isn't it? It ends there?
A. It ends over there, yes sir.
Q. You know, from your own personal experience, don't you, that you always have trouble in supplying a district where the line into that district is comparatively small and ends there, or becomes a dead end line?
A. We have an old compressor plant when we get there, and we don't aim to have any dead ends on it.
Q. There is a dead end at that point on your transportation line, isn't there?
A. Yes.
Q. And you know you always have trouble where you have such a dead end on a small line, in supplying gas to that community, don't you? That is the experience of every gas company, isn't it?
A. We have not had much trouble furnishing Erie until the pressure got so we could not get it — run.
Q. You never would have any trouble if you had big enough pressure. A dead end only operates when the pressure gets
2891 low, doesn't it?
A. I don't know.

Q. What would it cost you to erect a small compressor station sufficient to supply that community which you say was a tributary to your line?

A. They way our wells are scattered and all, and to lay lines and so forth to them, I would say it would cost thirty or forty thousand dollars, not counting the building and so forth to put it in.

Q. With such a compressor station it would prolong the life of your supply very much, wouldn't it?

A. I would think it would, yes sir.

Q. What is the total gross receipts from this whole system, per annum?

A. From what I have mentioned here, the different companies?

Q. Yes?

A. Something like one hundred thousand dollars.

Q. Per annum?

A. Yes sir. That is the last year.

Q. I am speaking of the present time. About one hundred thousand dollars?

A. Yes sir.

—. ——.

A. You mean all these companies I have spoken of?

Q. Yes sir? What is the gross receipts of the Lumberport
2892 company the last year say?

A. I think it was thirty-eight thousand dollars.

Q. How much was originally invested in cash by the organizers of the Lumberport Company in that enterprise? I am talking now about their cash investment?

A. I think about seventeen thousand five hundred dollars was the cash investment.

Q. And all of the balance has been raised by the profits that went back into the business, or income that went back into the business?

A. I don't know whether there is any balance or not. We put the income back in it. I don't know today whether it is worth any more than seventeen thousand dollars or not.

Q. The whole system then represented seventeen thousand investment, and what has been put back into it?

A. Yes sir.

Q. And the amount of capital issued at the present time is one hundred thousand dollars?

A. Yes sir.

Q. The capital stock?

A. Yes sir.

Q. How much dividend have you ever paid?

A. We have paid this year ten per cent on the one hundred thousand dollars.

Q. That would be ten thousand dollars?

A. Yes sir.

2893 Q. What did you pay prior to that?

A. We have been paying about five per cent in the last few years. And there was a few years that we did not pay any.

Q. When did you increase the capital to one hundred thousand?

A. Well it has been six or seven years ago, I think, or along there.

Q. Then you paid the five per cent for five or six years on the one hundred thousand dollars and then last year you paid ten per cent on the one hundred thousand dollars, is that correct?

A. Yes sir. Well, we paid ten per cent last year, but I don't know whether it extended back five or six years or not.

Q. You said you had paid it for six or seven years, as I understood you, and so I deducted the one year?

A. I meant six or seven years all told. There was several years we did not pay any dividends at all.

Q. Then the dividend was paid, was it, on the one hundred thousand dollars, at five per cent?

A. Yes sir.

Q. And how much dividend, if any, did you pay when the capital was twenty-five thousand dollars?

A. I don't remember whether we paid any or not.

2894 Q. Then, according to that estimate that you have given us, you have taken out in dividends something over thirty-five thousand dollars, counting the ten thousand last year, and say five per cent for five years, would be twenty-five thousand, would be about thirty-five thousand dollars. Would that be about approximately correct?

A. I never kept any particular account, but I don't think it would amount to that much. I don't know.

Q. How many wells have you altogether in this list of companies which you gave us, including the Lumberport Company and Hornor Gas Company, and Gas Supply Company and Schaffner Brothers and Eagle District Gas Company and Schaffner & Hornor?

A. Something like thirty-five or forty wells.

Q. And the whole number of consumers on your whole district I think you said was seven hundred and how many?

A. Seven hundred and twenty-eight, on Lumberport, and about sixty on Shinnston.

Q. And that would be seven hundred and eighty-eight, is that correct?

A. Yes, and two industrial consumers.

Q. How much do you get from your industrial consumers, what price?

A. We get thirty cents a thousand.

Q. At the present time?

2895 A. Yes sir.

Q. What did you get formerly?

A. We got twenty cents. It is on a sliding scale. We started out in 1916 at four and a half, and it has been raised a time or two.

Q. Until it is now twenty?

A. Thirty.

Redirect examination.

By Mr. Steptoe:

Q. Mr. Hornor, with reference to these leases that you took up and had disposed of, or tried to dispose of, were they located

within such distance of Shinnston as to make them available to the Lumberport Gas Company?

A. Too far away to be of any benefit, except that Rodgers lease that I spoke of.

Mr. Weil: What was that?

Mr. Steptoe: That seven hundred acre lease.

Q. And to have used those would have required a pump station I presume?

A. Well it probably would not at the time I had the leases, but it would at the present time.

2896 Q. Did I understand you to say that seventeen thousand five hundred dollars was about the cash amount put into the Lumberport Gas Company?

A. I think that was the amount.

Q. You did not state the amounts put into the other companies, did you?

A. No sir.

Q. For example, you bought the Shinnston Gas Company. What did that cost you?

A. Seventy-nine hundred dollars, the first cost.

Q. And that was at public sale?

A. Yes sir.

Q. And none of the seventeen thousand five hundred dollars related to the investment of Schaffner and Hornor and Eagle District Gas Company?

A. No sir.

Q. You confined your answer on that to the Lumberport Gas Company?

A. Yes sir.

An adjournment was here taken until Thursday, February 10th, 1921, at ten o'clock a. m.

2897 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Thursday, February 10, 1921.

Defendant's Testimony.

2898 Thursday Morning, February Tenth, 1921.

And now, the hour of ten o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

B. F. ROBINSON, recalled, testifies as follows:

Redirect examination.

By Mr. Steptoe:

Q. Mr. Robinson, I had you recalled in order to call your attention to a question and your answer to it given on re-cross examination. I hand you now the typewritten manuscript, and call your attention to page four hundred and forty-four, where you were asked this question: "Isn't it the custom among the gas producers, if they obtain gas some distance from their line, that it can be turned into the line of other gas companies adjacent to the production; that they swap or exchange gas with each company and thereby obtain the immediate use of the right quantity of gas into their lines from that company having lines in proximity to your lines?" To which you answered as follows: "That is frequently the custom, or we can sell the production to that company, which we would doubtless do. We have exchanged territory once in a while, if we can make any exchange that would prove a value to us". I want to ask you now, if, in your answer to that question, you in-
2899 tended to say that there was a custom of exchanging gas between the gas companies, and especially as between the larger pipe line companies and the local utilities?

A. In answering this question the way I did I had in mind the situation which could arise, and has arisen with our company, in drilling in some productions where we had no line. When that has been done, on one or two occasions, we have temporarily sold our

gas and turned it into the lines nearest us until we could extend the line to that production. The arrangement, however, was only of a temporory nature.

Q. Well, was the gas you turned in to that gas line, or to the company's lines, transported for you to your system or exchanged? Just what was the result?

A. Whether or not it could be considered that it was transported to our system or not I do not pretend to analyze it. We simply sold the gas to them. We were purchasing gas from other points continuously and we received pay for it at the place where we sold it to the line, and in turn was paying them for such gas as we bought at other points.

Q. I understand you mean now to refer to the personal experience of your company?

A. I do.

Q. Did you mean to be understood as saying that there was a general custom of exchange whereby any local utili-es pro-
2900 ducing in the field and delivered to the pipe line companies, and it was exchanged?

A. I was only making answer to your question by our own action under those conditions.

Q. But as to the experience of other local companies along that line have you any knowledge?

A. What arrangements have been made by other companies with the Hope I do not know.

Q. Or any other company?

A. No, or any other company.

Q. And what I particularly desired to straighten out on the record was whether or not you desired to be understood as saying that there was a custom of transporting gas of one company for another and exchanging for the benefit of local utilities?

A. No, I have no desire to undertake to answer as to that case.

Q. Do you know of such by any other companies?

A. No, I do not, at this moment.

PARKE BOWSER, called as a witness, having been first duly sworn, testifies as follows:

Commissioner: I will ask the reporter to have this subpœna and return spread upon the record.

2901 "UNITED STATES OF AMERICA, *ss:*

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Marshal of the United States for the Northern District of West Virginia, Greeting:

We command you to summon B. F. Robinson and Park Bowser, if they be found in your Bailiwick, to be and appear before Levi Cooke, Esquire, Commissioner appointed by the Supreme Court of

he United States, at Clarksburg, West Virginia, on the 8th day of ebruary, 1921, to give evidence on behalf of the defendant in cer- ain causes now pending in said Supreme Court of the United States, herein The State of Ohio and The Commonwealth of Pennsylvania re complainants, and The State of West Virginia is defendant.

Hereof fail not, and of this writ make legal service and due return.

Witness the Honorable Edward D. White, Chief Justice of the nited States, this 22nd day of January A. D. 1921, and in the One undred and forty-fifth year of the Independence of the United tates of America.

JAMES D. MAHER,
Clerk of the Supreme Court of the United States.

902 (*Endorsement of Return.*)

NITED STATES OF AMERICA,
Northern District of West Virginia, ss:

Received this writ at Fairmont, West Virginia, on February 5th, 921, and I hereby certify and return that I executed the same upon he within named on February 5th, 1921, by delivering to him in erson at Clarksburg within said Northern District of West Virginia, duly certified copy thereof. Not executed as to the within named ark Bowser by direction of Philip P. Steptoe, attorney.

C. E. SMITH,
U. S. Marshal for the Northern District of West Virginia,
By HOWARD ADAMS,
Deputy."

Direct examination.

By Mr. Steptoe:

Q. Mr. Bowser, give us your age and place of residence?
A. I am forty-three years of age, and my residence is Parkers- urg, West Virginia.
Q. Is that in Wood County?
A. It is.
Q. What is your occupation?
A. Oil and gas business generally.
903 Q. How long have you been in the oil and gas business?
A. I have been in the oil and gas fields practically all of ny life. I began work when I was about fourteen years of age andling wells. But the business part, perhaps about fifteen or six- en years, as owner.
Q. You started in at fourteen years of age in what capacity?
A. I was pumping and roust a-boutting, roust a-bout work.
Q. Now, in your own way, just tell us generally how you developed long up to the producing stage on your own responsibility?
A. I lived in Pennsylvania and Western New York, in Olean, and radford, Pennsylvania, and Hancock County, West Virginia, and Wood County, Ohio, at Bowling Green. And I was in California

and worked in the oil fields there in about Los Angeles and Bakersfield, and then in West Virginia for about twenty years.

Q. Well, now what were you doing all that time? In what kind of work were you from time to time engaged in that business?

A. Pumping and roust a-bout work and general lease work for different companies; and some office work and foreman work and superintendent, and as owner.

2904 Q. For what companies did you work?

A. Why I first worked for John Coast of Olean New York.

Q. In what business was he?

A. In the oil business.

Q. And that was as roust about?

A. Pumper first.

Q. And next what did you do, and for whom?

A. That was in West Virginia; but later in Ohio I was with Coast and Finigan in Wood County Ohio, and next employed in the oil fields in California for the San Joaquin Oil Company.

Q. In what capacity did you work there?

A. In drilling wells. Tool dresser and driller.

Q. And next for whom did you work, and in what capacity?

A. For The South Penn Oil Company I expect.

Q. Where was that?

A. In Lewis County.

Q. West Virginia?

A. West Virginia.

Q. What was the character of your work with that company?

A. I did some lease work and office work and foreman work.

Q. And what year was that, or what years?

A. In 1901 and 1902 and 1903.

Q. And from that what business did you go in?

2905 A. I made some investments in oil royalty, and I was with the Guarantee Oil Company in Calhoun County in this state.

Q. In what capacity?

A. As foreman.

Q. And following that?

A. I had interests of my own and took those up, and been managing those, in oil and gas.

Q. That is after about 1902 or about 1903 to the present time?

A. 1904.

Q. To the present time?

A. Yes sir.

Q. Now in what sections of West Virginia have you worked, either for others, or operating on your own behalf?

A. Well, in Lewis County, Calhoun, Ritchie County, and Gilmer County, and some in Wood County.

Q. At the present time where are you- operations located? And give us an idea of the extent of them.

A. In Calhoun, Ritchie and Gilmer County.

Q. And what are your holdings?

A. I have about seventy oil and gas wells.

Q. You say you, do you mean you individually or are you associated with some others?

A. Some others are interested with me, but I have the control of the property.

2906 Q. How man- of your wells are gas wells, and how many are oil, approximately?

A. All produce some gas, but there is those that produce gas alone, probably about fifteen.

Q. To whom is your gas marketed, or if more than one, name all of them.

A. It is all now being marketed that I am marketing to Godfrey L. Cabot of Boston, Massachusetts.

Q. And in what business is Mr. Cabot, and what does he do with the gas?

A. He did use it for carbon black or lamp black, but it is now being delivered to the Hope Gas Company.

Q. By Mr. Cabot?

A. By Mr. Cabot.

Q. And where is that carbon plant located?

A. About two miles from Grantsville on the Little Kanawha River.

Q. Is that in Calhoun County?

A. Yes sir, Calhoun County.

Q. Is that plant now engaged in the manufacture of carbon, do you know?

A. No sir it is not being used for anything that I know of.

Q. Do you know why?

A. I understood that during the war period the federal department, or those in control of the fuel department did not like

2907 to have the gas used for that purpose. They needed it for manufacturing, and they brought pressure to bear to have it used for other purposes that they considered more necessary and for carbon black.

Q. With the result then, as I understand you, that the carbon black manufacturing has been abandoned, or at least has not been used since?

A. It has not to my knowledge.

Q. Do you know whether the price at which gas can now be sold had any influence on the abandonment of the manufacture of carbons?

A. It may have had, I don't know positively.

Q While we are on the subject of carbon plant-, do you know of any other carbon plants in West Virginia that have abandoned the manufacture?

A. I do not particularly.

Q. You have understood that there was a carbon plant in Doddridge County conducted by the Imperial Oil & Gas Company, Imperial Oil & Gas & Products Company. Do you know anything about the situation of that plant?

A. I do not.

Q. Do you know whether that company has under contemplation the sale of its gas?

A. No I do not.

Q. Do you know whether it is still operating?

A. No sir.

2908 Q. Let me ask you if you have any information as to th Imperial Oil & Gas Products selling its gas or contemplatin the sale of it to the company furnishing the consumers of Penn boro, Ellenboro, and Cairo?

A. I have noticed in the Harrisville Paper that they are co templating putting a line into Pennsboro. That is the only inform tion I believe that I have on it.

Q. Now in connection with your operation in the several counti you have mentioned, have you become, to some degree, familiar wit the oil and gas territory of those counties?

A. Somewhat.

Q. Do you look out for leases and available territory?

A. Yes sir.

Q. And have you been, in the course of your operations from 190 to date, looking out for territory which might be acquired?

A. Yes sir I have always been interested in it.

Q. With respect to Lewis County, how long since you have bee interested in that county?

A. I have not been for a number of years, to know definitely abou conditions there.

Q. At the time you were employed in Lewis County what was th situation there with respect to oil and gas territory?

2909 A. Well in the first part I was in the Fink Fields there and was there principally all the time in Lewis County.

Q. That is an oil field?

A. It was a very good oil field, and is very good yet; and it is als a very good gas field. There is a good many wells there that were let go into the air for a long time, and there was not much marke for the gas until I understood they arranged for a line through t Cleveland. And it was some time until the gas was taken care o or saved. We had wells there that made so much gas, and only little oil, and the sand coming out would wear the -ells out where i made the turns going into the tanks, and we wasted, of course an awful lot of gas.

Q. How much of that territory was under lease?

A. Well the field was several miles long there and The South Penn had all but two leases that were developed. One of those was the Wagoner, and the other the Alkire Farm, is the one that I re member.

Q. I was referring to what was considered the gas territory. Was that more or less under lease at that time?

A. It was, I think, held pretty solidly by the South Penn Oil Company.

Q. By what companies or interest, chiefly?

A. I understood at the time that the South Penn Oil Company held it, although the Hope or Mountain State had taken over the part that produced gas. Sometimes they would switch a well

2910 back and forth several times before it was allowed to rest under any one department.

Q. The holdings of the South Penn Oil Company or Hope are quite large, speaking in a general way?
A. Yes sir.
Q. And most of the territory was under lease?
A. Yes.
Q. Did that condition ma-ntain up until the time when you were no longer interested in that county?
A. Yes sir.
Q. Now with reference to Doddridge County and Calhoun County and Gilmer. What have you to say as to the territory, oil and gas territory there.
A. I don't know particularly about Doddridge County, only in a general way.
Q. I want to know whether or not it is pretty generally leased up?
A. I think it is generally held under lease. There are no large blocks unleased that I know of.
Q. How long has that situation ma-ntained, how many years?
A. I could not say definitely, but I know it seems to have been quite general for twenty years of so.
Q. Principally by what companies or interest has the property been held?
A. It has always been held, principally, as I have under-
2911 stood, by the different branches of the Standard Oil Company; the different branches.
Q. Name those companies?
A. Carter Oil Company, South Penn Oil Company, Mountain State Gas Company and Hope Gas Company.
Q. Are there any other gas interests in there besides the four you have mentioned?
A. Yes there have been at times, but I don't know generally about them. The Carnegie and Monongahela Valley Traction Company have some leases in that country, under the Philadelphia.
Q. How about the Carnegie Natural Gas Company?
A. I think they have held some leases in that territory.
Q. When you speak of the Philadelphia Company, does it go under that name now, or is it now under the name of Pittsburgh & West Virginia Gas Company?
A. I don't know.
Q. It is currently know- as the Philadelphia Company?
A. It is currently know- as the Philadelphia Company.
Q. Which is the parent company.
A. Yes sir.
Q. Are there many producers of natural gas scattered through these counties who have no pipe line system of their own?
2912 A. I don't know that there are.
Q. You have no pipe line system have you?
A. No.
Q. Are there others like you producing and have no lines?
A. There are some.
Q. Are the holdings of those producers, like you, possessed of any large acreage?

A. Not that I know of.

Q. As a rule, how are they taken up, in scattered leases or blocks?

A. They necessarily have to be taken in scattered leases, becau as a rule, there is practically no large blocks. I think they into it by drilling for oil and get gas and then sel- it as they c and sell it for such loss as they are able to.

Q. Where do they dispose of their gas? what market have th for their gas?

A. In any quantity it would be usually through the Hope G Company.

Q. Is that the principal one operating in the territory you fer to?

A. It is the principal one receiving gas now, excepting Godfr Cabot gets it and transfers it to the Hope.

2913 Q. Is all of your gas production being marketed to M Cabot?

A. All that I am marketing is being marketed to him. I only marketing part of the gas that I have. I have part of t gas shut in.

Q. How much of the gas have you shut in?

A. About two million feet. I am marketing about two milli and have two million shut in.

Q. Where is that production?

A. Principally in Gilmer County.

Q. Have you any market for that?

A. Well, I have had in a way. I had an offer of a market, b I did not like the marketing conditions.

Q. Well, where can you market it, to whom, if you could ag upon conditions?

A. I could market it to the Hope Gas Company, I expect.

Q. Is that the only available market you have?

A. It would be the only available market that I could mar to profitably, or with any hopes of profit.

Q. Where else could it be marketed at all?

A. The only other market I would know of would be, within reasonable distance, is Glenville, which is now supplying t

2914 company is supplying a part of the town. They are sho Q. That would require how much,—or would it be pro able or justifiable?

A. It would hardly be profitable.

Q. Why?

A. From the cost of the lines and market value, and the divid market.

Q. What is the best price you have been offered for your ga

A. The best price I have been offered for that gas that is sh in was three and a half cents, and to lay the line. That was so years ago. I would have to lay about two and a half or three mi of six-inch line to the Hope.

Q. And rather than accept that you shut in your well?

A. I have the gas shut in.

Q. Is your territory being affected by being shut in?
A. Not particularly.
Q. It is not being especially drained?
A. I used some of it for development there, and I am selling a little gas there at the present time. I am suplying the South Penn Oil Company with a little gas, and supplying some to the Village of Tanner. The gas I am supplying to the South Penn is
2915 just for a drilling well which happened to be located near one of the gas wells where they could get a supply.
Q. How generally is gas used for the heating of dwellings and domestic purposes, and industrial purposes, in the sections through which you operate?
A. All that can avail themselves of it would like to use it. They have it or would like to have it, as far as I know.
Q. Practically all of the communities are using gas for domestic purposes, are they not?
A. All that are able to get it.
Q. Have they been using it along for many years?
A. Generally for fifteen to twenty years. Some longer and some less.
Q. And I understand you to say now that some cannot get it?
A. Well, there is some places that it is too far removed from the supply to be furnished; and other places the supply is short. I understand at Glenville they are using coal. They do not have enough gas to supply them.
Q. Glenville is being supplied.
A. By a company—I don't know what company, by a company of Buffalo, New York.
2916 Q. That company owns the capital stock?
A. I don't know that it does. I know that Mr. Thomas of the Eastern Oil Company handles the business for them.
Q. Is Glenville the County seat of Gilmer County?
A. Yes sir.
Q. Is there much gas production in that county, in a general way; are there many gas wells?
A. Not as many as there are in some counties, but I think it is pretty fair. It has not been developed as much as some of the counties have. It has not been tested out yet thoroughly.
Q. What companies are in business in that county?
A. The Glenville Natural Gas Company and Hope and Philadelphia and South Penn.
Q. Is the Pittsburgh & West Virginia the holder of any leases or production in that county?
A. I don't know particularly. The Crude Oil Company have some holdings in that county. I think there are several others, but I don't know of them particularly and definitely.
Q. Now with reference to the independent producers of gas, I mean by that, those that have no pipe line systems of their own, what is the extent of their holdings, and nature *nature* of
2917 it, as a general rule, large or small, or scattered?
A. Usually small and scattered.

Q. Where they can obtain territory?

A. I think they often developed their property just by reason of having drilled a test well for oil and probably struck gas, and then tried to obtain market for the gas.

Q. And these people, in the search for oil, strike gas and discover a field, and the pipeline companies come in, is that the usual course?

A. As a rule.

Q. Now the sales by independent producers of their gas to the larger companies, are those sales in any way regulated by law or public service Commission, or are they merely matters of agreement or private contract?

A. They are principally by contract, as far as I know.

Q. Just a contract between the parties?

A. Yes sir.

Q. Are there any regulations in the State of West Virginia with respect to the amount of gas that may be taken from any well, or restriction thrown around the amount of production, and how it shall be taken?

A. I don't know particularly.

Q. You have never known it?

2918 A. I don't know if there are or not, or what they are.

Q. And no regulation or restriction as to the number of wells that may be drilled, or anything of that sort?

A. Not that I know of.

Q. How general are pump stations, or compressor stations, as they are generally called, used now in the gas field, are all of the larger pipelines using pump stations?

A. I expect that all of the larger companies are using them. They are in general use.

Q. Is the use of pump stations necessary now?

A. They are quite necessary in order to transport the gas any great distance.

Q. I believe you said you resided in Parkersburg?

A. Yes sir.

Q. For how long?

A. I have resided there about three years.

Q. What companies are serving gas there to the domestic public and industrial public?

A. Hope Natural Gas Company.

Q. Do you know how long the Hope Company has been furnishing that city?

A. I think about twenty years.

Q. Do you know whether it has always been under the

2919 name of the Hope Company, or whether it was ever supplied by the Mountain State Company?

A. I think it was the Mountain State at first.

Q. And taken over later?

A. Yes sir, and changed to the Hope Gas Company.

Q. Do you know where the Mountain State Gas Company served gas in West Virginia, before it was taken over by the Hope Company?

A. Well, I don't know particularly, but they used to handle field

work in Lewis County, and I understood that they did generally in several counties, and then it was taken over in the name of the Hope Gas Company.

Cross-examination.

By Mr. Weil:

Q. Mr. Bowser, you said this two million feet of gas, about, that you had shut in, that you had a chance to market it sometime ago, but you did not like the conditions?

A. Yes sir.

Q. And to whom did you have a chance to market it at that time?

A. To the Hope Natural Gas Company.

Q. What were the conditions that you did not like?

2920 A. Well, the price. The greatest thing I did not like, and I have been fighting against, was the minimum delivery clause which seemed that it would confiscate a property. I had to contract to that company any leases or wells at a minimum delivery which was so low that it would not pay rentals or royalties, and before I could get released from that contract, if it did go so low that you could not pay any royalties or rentals, outside of the running expenses, I would have to make a contract or deed or transfer to the Hope Natural Gas Company at the second hand value of the material for those wells, and give them the leases before I could be released.

Q. What do you mean by a minimum delivery?

A. It was as low, in some contracts that I saw offered as twenty thousand feet a day.

Q. Twenty thousand feet a day for certain wells, wasn't it?

A. Yes sir, for certain wells.

Q. And how many wells were there?

A. Well, as many as three.

Q. That would have been, then, about a minimum quantity of sixty thousand feet a day for three wells, twenty thousand each, wouldn't it?

2921 A. I am not sure, but I think one contract was twenty thousand for the three wells.

Q. And was that to be all the gas they would take, or simply the minimum quantity?

A. That was the minimum. Any gas wells failing to produce more, if the production got that low, they would still hold the contract, and there was no reason if it kept above that, but if it failed to produce that much, or went below that, then I could have the choice of releasing to them or drill to get the production from the territory for my own use.

Q. They agreed to take all the gas that those wells would produce?

A. Under certain conditions, but did not want it pumped. When it got down and would not produce, they would let it shut down.

Q. I am not speaking about the conditions when it got down, but as I understand the contract, it was that they would take all the gas production, all the natural gas that you had from those wells, and

the difficulty was that when it got down to the production of twenty thousand feet a day, then these conditions attached, is that right?

A. They would take it under conditions, that is, so much
2922 during the winter and so much during the summer months, natural pressure.

Q. I understand that, but they agreed to take all the gas that these wells produced, didn't they?

A. Under those conditions, yes sir.

Q. I understand under those conditions, but did they agree to take all the gas these wells produced? That is a simple question.

A. Yes sir, they did.

Q. And after it got down to twenty thousand feet, then these conditions attached that you have been telling us about?

A. Yes sir.

Q. And prior to that time, of course, those conditions did not affect the delivery?

A. No sir.

Q. And you say you have how many wells shut in?

A. I have, at the present time, four wells shut in.

Q. That would produce this estimated amount?

A. I have five shut in.

Q. That would produce this estimated amount or quantity of two million feet?

A. Yes sir.

2923 Q. And how far is Glenville from your wells?

A. Between eleven and twelve miles.

Q. And how far was the Hope Gas line from the wells?

A. About two miles or two and a half.

Q. And who was to lay the line to the Hope lines?

A. Under the contract that was presented to me I was to place the line and bear the expense of it and put in my own line.

Q. And what size line would it take to run this gas to Glenville, according to your estimate?

A. Some of the wells are as high as six hundred pounds rock pressure, and use a two inch line from the well, that is what is used now in that country.

Q. And how much would it have cost now to lay these lines from your wells to Glenville?

A. Since the gas has been short, and for the chance to market it, it would have taken perhaps twenty-five or thirty thousand dollars.

Q. To lay a line, a two inch line to Glenville?

A. At a place for to transport the gas.

Q. I am not speaking now of transporting the gas, but just to lay the line to Glenville so as to sell it to the company that is
2924 supplying Glenville, if you could?

A. It would have cost me for the pipe alone, for the last year or two, in the neighborhood of a thousand dollars a mile.

Q. And how much to lay it?

A. I expect the delivery and laying of the line would likely run a couple of hundred dollars a mile.

Q. And that would have cost then, for a line to Glenville, in the neighborhood of twelve to fifteen thousand dollars, according to that

estimate, or somewhere between twelve and fifteen thousand dollars, a ten or eleven mile line?

A. In that neighborhood.

Q. And you concluded that that was too large an expense to justify you in laying that line?

A. Yes, and considering conditions there. There is a company already supplying, and they might obtain other supply and be able to supply the place themselves.

Q. Your business, as I understood you to explain, was that of a producer?

A. Yes sir.

Q. And when you take up leases and go out for the purpose of drilling wells, you do it with the principal intention and purpose of getting an oil well?

2925 A. Yes sir.

Q. That is true of a majority of independent producers?

A. Yes, that far from the open market. For they have an open market for the oil and do not have for the gas.

Q. And when they take up a block of leases, as a rule, they take it up with reference to obtaining an oil production and not with the idea of getting a gas production?

A. I would think generally it was, yes.

Q. And when they get gas on their lease, of course, then they try to find a market for that gas and to operate their territory, if it will pay them to drill gas wells?

A. Yes sir.

Q. But the drilling of gas wells and operations by independent producers for the purpose of producing gas, as a rule, is incidental to their main purpose of producing oil, isn't it?

A. It is as a rule, I think.

Q. The independent producer, for example, when he started into a field where there have been oil developments picks up leases, or *trys* to obtain leases for the purpose of drilling wells for the production of oil, that is his main purpose, isn't it?

A. Yes sir.

2926 Q. And when he gets gas, why of course he tries to get as much out of it as he can by disposing of that gas?

A. Yes sir.

Q. Independent producers, as a rule, do not set out deliberately for the purpose of obtaining a block of territory for the production of gas alone?

A. I think not, generally.

Q. Only the companies engaged in the natural gas business, those who are producing, transporting or selling natural gas as their main business, are the ones who try to obtain the territory for the purpose of producing natural gas, is that true?

A. That is true, I think.

Q. And has been for a great many years?

A. Yes sir.

Q. The production of gas by the independent producers in former years, when they obtained a gas well, was regarded the next thing to a dry hole, wasn't it?

A. In some instances it was worse than a dry hole, on accoun of the trouble of plugging it. I have seen that right along in th gas wells, that they were really worse than a dry hole.

2927 Q. And it was regarded then as a failure when they ob tained natural gas instead of oil?

A. Yes sir.

Q. For a great many years, until the last three or four years, le us say, there was more gas production in the West Virginia field than there was market for the gas, was there not?

A. Well, yes, considering the lines that they had laid at that time If they had been reaching out to larger cities—I don't know whethe they was ever connected with Baltimore or Washington or not.

Q. Not at that time. I am speaking of three or four years ag

A. Yes sir.

Q. At that time, with the conditions then existing and lines lai and production of natural gas in West Virginia, there was more pr duction than there was market for the gas?

A. Yes, there was at that time.

Q. That, however, has changed during the last three or fou years?

A. Yes sir.

Q. And now, as you understand the general situatio

2928 there is a market for all the gas that can be obtained an turned into the lines?

A. Yes sir, there seems to be.

Q. That is, in that section.

A. Yes sir.

Q. This gas is being transported by these companies, that i these companies which have obtained authority in West Virgini through their lines of transportation, to many points outside of th state, isn't it?

A. Yes sir.

Q. To Pittsburgh, for example, and that section of Pennsylvani now, and to Ohio and to Indiana and Maryland and Kentucky all of those states?

A. Yes sir, I understand there is a market in all of these state

Q. Well, also, to New York. What are the sized lines?

A. I don't know definitely, only just in a general way that the are from a few inches up to twenty inches. There are several te and twelve and sixteen inch lines.

Q. You have seen these lines?

A. Yes sir.

Q. The ten, twelve and sixteen inch lines?

2929 A. Yes sir.

Q. And you have understood there are lines as large twenty inches?

A. Yes sir.

Q. And do you know how many miles of those lines there are?

A. No, I do not.

Q. And what companies, if you have a recollection of it, own tho lines?

A. I don't know particularly.
Q. Well, the Hope is one of them, isn't it?
A. Yes sir.
Q. And what about what you call the Philadelphia Company, or Pittsburgh & West Virginia?
A. Yes sir, the Pittsburgh & West Virginia and Reserve.
Q. The Reserve Gas Company?
A. Yes sir.
Q. Do you know about the Western Maryland?
A. Yes sir. Is that the West Virginia Central Gas Company, or eastern holdings?
Q. Yes.
A. Yes sir.
2930 Q. And Carneigie?
A. Yes sir.
Q. All of them have these large lines?
A. Yes sir.
Q. Transporting gas to these different points, some to one place and some to another, outside of the State?
A. Yes sir, I know in a general way, but not generally as to the mileage or real ownership.
Q. They are just known by that name in the field?
A. Yes sir, I have always been interested in the oil and gas business and know them the general way, but not the definite amount they have or the real ownership.
Q. Has Mr. Godfrey L. Cabot got any pipeline anyplace?
A. He must have somewhere in the neighborhood of one hundred miles of line, that is transporting line, in the section of Calhoun and Wirt and Ritchie, and some in Wood.
Q. And do you know what the size of his lines are, the largest lines?
A. Well no, six and eight inches.
Q. And how long has he been in there, about?
A. Twenty years, I suspect.
Q. As long as that?
A. Somewhere in that neighborhood.
2931 Q. And he put his lines in originally, as I understood you to say, for the purpose of obtaining gas for his carbon black works?
A. Yes sir, I think so; below Grantsville.
Q. And didn't he have more than one works there at near Grantsville?
A. He had one at Creston, and also at Spencer. He has holdings in Roane County also.
Q. I am not speaking of the gas, but the plants for the manufacture of black.
A. Yes sir, he has one there. He purchased one near his original plant at Grantsville from some Pittsburgh parties, Gillespie, I believe.
Q. And he has not only bought gas from others, but he produces gas himself, don't he?

A. Yes sir.

Q. And transported it to these carbon factories?

A. Yes, I understood he used something like ten million feet a day at the plant below Grantsville, for a number of years.

Q. At that one plant?

A. Yes sir, at that one plant.

Q. And within the last few years he abandoned the opera-
2932 tion of these plants and is now selling or disposing of the gas, as I understood you?

A. The plants at Grantsville, yes. I think, perhaps, at Creston too. They are not running that one.

Q. Is he operating any of the other plants now?

A. I don't know whether he is or not.

Q. Mr. Cabot put in a compressing station, one or more, on his lines, didn't he?

A. Not that I know of particularly.

Q. Do you know of a compressing station having been built in Grantsville by the Hope Company?

A. Yes sir.

Q. And do you know that they laid twelve or fifteen miles of twelve inch pipe?

A. Yes sir.

Q. So as to connect Cabot's lines with the Hope lines?

A. They laid that line of course, to get that gas out of there, and they have a good sized line. There were lines nearer at that time, but this line was for the special purpose of taking it out.

Q. And they built the compressor station for that purpose?

A. For that particular purpose I think.

2933 Q. And that has been in operation, I suppose, practically ever since?

A. Yes sir.

Q. Been in operation a little over a year?

A. Yes sir.

Q. Do you know how much they pay him for the gas?

A. No, I do not, definitely, only I suppose it is above ten cents a thousand, that or above.

Q. You have some information about that. That is the current rumor.

A. Not so much as the general situation, and knowing something about what gas companies are paying for gas in places.

Q. Do you know about what a compressor station like that would cost?

A. Well, it would run to several hundred thousand I expect.

Q. It would be at least three hundred and fifty thousand dollars, wouldn't it, or about that, according to your best information?

A. I expect it would, putting it up at the time it was.

Q. And the laying of the lines so as to connect up there
2934 would cost another between three and four hundred thousand dollars, wouldn't it?

A. It likely would.

Q. And so that the investment there of the Hope Company there

ould be in the neighborhood of seven hundred thousand dollars o obtain that gas from Mr. Cabot's lines?

A. Yes sir, I expect that would not be far from it.

Q. I believe you said that when the Hope offered you three and half cents for that gas it was some years ago?

A. Yes sir, it was some years ago.

Q. Do you remember how many years?

A. I guess as much as four or five years ago.

Q. And they are paying now, and have been for some time, ten ents a thousand, haven't they?

A. I understand.

Q. Have you made any effort to sell this gas that you have shut n to the Hope within the last year or two?

A. I think within the last two years I saw Mr. Corrin and talked he situation over with him in Pittsburgh, and he told me that he thought, according to their contract with Mr. Cabot, that he would not be able to take the gas direct.

2935 Q. They contracted with him not to take the gas from anybody that he had been buying gas from; and I thought it was rather an injustice to me, and it was placing me rather under Mr. Cabot's ownership, and I did not feel very well over it, and I thought it was wrong.

Q. He said to you that they would not take away the people who had been selling their gas to Mr. Cabot, was that it; that is, that was their arrangement with Mr. Cabot?

A. That seemed to be the understanding.

Q. Did you have a contract with Mr. Cabot at that time for the sale of your gas to him?

A. No contract whatever.

Q. How long had you been selling Mr. Cabot gas at that time?

A. Several years.

Q. And in what quantities?

A. Well, running from a million and two million feet a day. I am selling him about two million feet a day now.

Q. And you had been selling him, you say, in that quantity for several years?

A. Yes sir.

Q. At that time?

A. Yes sir.

2936 Q. When you had this talk with the Hope Company in Pittsburgh?

A. Yes sir.

Redirect examination.

By Mr. Steptoe:

Q. Mr. Bowser, you referred to instances where you knew of the discovery of gas fields there in close proximity to some pipelines which was considered a detriment?

A. The wells were rather a liability, as a dry hole they have no trouble about plugging, and sometimes there is a little trouble where

the gas would break out, and result in damage suits in some places, and the gas companies had too much gas at that time.

Q. And they would not take the gas?

A. They had their own gas, more than they could use, and they would not take the other at the price.

Q. It was a situation such as that that made the discovery of gas a detriment to the independent producer rather than a profit?

A. Yes sir.

Q. About what have been the prices from year to year which you have obtained yourself, and those prevalent on lines of the
2937 producers to the pipeline companies?

A. I sold gas for several years at a cent and a half, and two and a half; and two and a half up until about two years, and then four cents up to the first of November, and I am now getting six cents for what I am selling.

Q. That is, from Cabot?

A. Yes sir.

Q. And Cabot, in turn, sells to the Hope?

A. Yes sir.

A recess was here taken until 1:30 o'clock p. m.

2938 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Afternoon Session, Thursday, February 10, 1921.

2939 Thursday Afternoon, February 10, 1921.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

F. C. DEVERICKS, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Devericks, please state your age and place of residence.
A. I am forty-four years old, reside at Clarksburg, Harrison County, West Virginia.
Q. Are you a native of West Virginia?
A. Yes sir.
Q. How long have you lived in this State?
A. With the exception of just a few months at a time, all my life I have had my residence in West Virginia.
Q. In this section?
A. Yes, practically in this section; not right in Clarksburg, but close to Clarksburg in Doddridge and Harrison Counties.
Q. What is your present occupation, Mr. Devericks?
2940 A. I am engaged in producing gas.
Q. How far back does your experience in the oil and gas business date? And how did you start?
A. Well, my experience in the oil and gas industry, I suppose we would term it the making of roads and the digging of tank grades, the beginning of it, dates back to 1897.
Q. At that time, where were you and what were you doing?
A. I was in Doddridge County in McElroy District, back of West Union.
Q. By whom were you employed and in what capacity?
A. I was employed as a grader on the roads. I think possibly, it was the South Penn Oil Company, or some of those companies, I don't recall now just who it was.
Q. What was your next business along that line?
A. The next business along that line was pumping; that I commenced in the year of 1899, I think.
Q. For the South Penn Oil Company?
A. No, for the Carter Oil Company.
Q. In Doddridge County?
A. No—yes, in Doddridge County, in what is known as the Porto Rico field.
2941 Q. Well, in your own way, tell us, successively, your employment, for whom and the character of them.
A. I worked for the Carter Oil Company for a short period and then went to dressing tools, and I followed that a little while and a friend of mine had need for a man on a lease, Mr. Bishop, who was then with the Eastern Oil Company, had a place for a man on a lease, and I helped him out for a few months—I don't recall just how long—and then I returned again to dressing tools; and I dressed tools for some two or three years; something like that; two years I would say, dressed tools and drilled together, say about two and a half years; and then I came to Clarksburg and commenced taking leases; the first lease, I believe, that I took, was in Wetzel County. Judge Morris, then a young attorney, and I, took up some leases out in the Fishing Creek District, which we held for a while, and Judge

Morris disposed of them later. Then I went back to Salem, and
located in Salem for a few months, and I took up some leases at t
time for Mr. T. N. Barnsdale, in Doddridge County; the leases I t
up were in Doddridge County, and from there I came to Clarksbu
January, 1904, I think it was, and I again took up some leases a
organized a company for the operation of those leases, a
2942 being unsuccessful in finding any market for the gas—a
it looked like gas territory—I was obliged to abandon
idea, and the company's charter was surrendered. Then I engag
in the real estate business here and in leasing, occasionally. I h
been engaged in real estate and the taking of leases in connecti
with parties in Clarksburg for, I believe, it will be sixteen years
July since I have had this connection. That brings me up, I thi
to the present time.

Q. You referred to some territory you started out to develo
Where was that territory located?

A. That was in Doddridge County, in Southwest District.

Q. Have you since been engaged in or interested in any prod
tion, and if so, where?

A. Yes, I am interested in some productions in Harrison Cou
and a little in Ritchie County, and some royalties in Doddri
County.

Q. Are your Ritchie County and Doddridge County properties
properties?

A. Doddridge County is simply royalty; a gas territory.

Q. Where is that gas marketed?

A. The Hope Gas Company drilled this well. We had
2943 lease and drilled a well on the property which I owned a p
of the royalty?

Q. You simply owned a royalty?

A. Yes.

Q. What about your Ritchie County property?

A. The Ritchie County property is oil property.

Q. What about your Harrison County property?

A. The Harrison County property consists of gas wells, exclusive

Q. Where are those gas wells located?

A. In Coal District and in Grant District, Harrison County.

Q. Where do you market the gas from those wells?

A. We market the gas from the wells in Coal District, to
Hazel-Atlas Glass Company, and have been marketing to the R
land Glass Company until the Rolland Glass Company was clo
down recently; and then we supplied the gas to Liberty Glass Facto
and to the Clarksburg Glass Factory, and at the present time it
being used or marketed to the Clarksburg Light & Heat Compa
through the Rolland Glass Company, who has our gas under c
tract.

Q. Those Coal District wells, as a matter of fact, are in cl
proximity to the corporate limits of the City of Clarksbu
2944 are they not, and some of them within the corporate limi

A. Some of them within the corporate limits of Clarksbu
and the farthest of them, a direct line about a mile and a half.

Q. Now, what about your Grant District gas?
A. That is in the neighborhood of Lost Creek, the Town of Lost Creek.
Q. What do you do with that production?
A. Sell that to the West Virginia Central Gas Company. We formerly sold that gas to domestic consumers in Lost Creek, but we were unsuccessful in getting a rate that we thought would justify us in handling domestic consumption; we got rid of our domestic gas, or domestic consumers, rather; and are marketing to the West Virginia Central.
Q. In the course of your operations and the taking up of leases, and general interest in the oil and gas business through this section, have you acquired some knowledge of the gas territory and acreages available for leasing in the counties you have mentioned?
A. Yes sir, I have some knowledge of it.
Q. And I presume you have more or less familiarity with the properties for which natural gas has been and is used throughout those sections.
2945

—. —.

Q. How long has natural gas been used in Doddridge, Harrison, Lewis, Wetzel and other counties in the north central of West Virginia?
A. The first that I know of gas being used for heating and lighting, in a domestic way, was along about 1892 or '93, and the Big Isaac gas well, discovered in Doddridge County, and the gas was piped from there to Clarksburg and Weston, as I remember it.
Q. By what company?
A. I think at that time it was the South Penn Oil Company that discovered this well, but the Mountain State Gas Company operated it later.
Q. Now, following that, the use of gas spread, I presume?
A. Oh yes.
Q. To what extent did it become used?
A. It became generally used for heating and lighting and for manufacturing purposes, and of course, gas had been used prior to that for drilling purposes, but that is my first knowledge of domestic use of gas.
Q. About what year did that continue in general use for domestic and industrial purposes?
2946

Mr. Weil: You mean in this section?
Mr. Steptoe: Yes sir.

A. I would not be able to give the exact date, but the La Fayette Glass Factory I think was located here in the late '90s, or possibly 1898 or 1899, maybe not until 1900 or about that date. The La Fayette Glass Factory was, I believe the pioneer industry using natural gas in this section, as I remember it.
Q. Had Clarksburg been using gas for domestic purposes?
A. Oh yes, she had been using it for domestic purposes I think from along possibly 1893 or '04; something like that.
Q. Now what extent was it used by way of comparison with other fuels?

A. It became the exclusive fuel. When I say exclusive, I presume there was some people who at first had been a little bit afraid of gas on account of its explosibility, and some few continued to still use a little coal, but I think possibly by 1905 it had become the exclusive fuel for domestic purposes in Clarksburg and different places in West Virginia where it could be had.

Q. And has that use continued to the present time?

2947 A. That use has continued up until within the last few years; gas has been exclusively used for the manufacturing and domestic purposes until about the winter of 1915 and 1916, I think; and that winter we had a shortage of gas, a great many of our industries then were closed down and things were very panicky, especially among the men who had been working in the factories.

Q. To what extent were the industries closed down?

A. For a number of weeks, they were on what they termed dead fire, that is, just a sufficient amount of gas being used to keep their batch, as it is usually termed, hot enough so it would not become chilled; and it was generally estimated among the business men at that time, that it meant a loss of a million or possibly in excess of a million dollars a week to the community.

Q. By reason——

A. By reason of the shortage of gas.

Q. What community do you refer to?

A. I mean of the Clarksburg industrial district.

Q. Do you mean to confine your observations to the Clarksburg district, or was that shortage of gas any greater in extent?

2948 A. No, it was rather general throughout the State; the shortage of gas was.

Q. You are more familiar with the Monongahela Valley Section?

A. Yes sir.

Q. What effect was there on other places where gas was used?

A. The same conditions prevailed throughout the Monongahela Valley in a general way. I don't know of any town of any magnitude, or City, in the Monongahela Valley, that was not severely affected.

Q. That was the first severe shortage?

A. Yes. Of course it was a very severe winter.

Q. Now, what have you to say with reference to the effect on hotels and business houses, were they affected by the shortage?

A. Yes, hotels were very much affected, and in a great many cases they did not have a sufficient amount of gas for cooking purposes, and I recall our hospitals were in very bad condition, a great many of the patients suffered, due to the cold; schools were closed temporarily, I think the schools were only closed about two

2949 weeks, or something like that, possibly not fully two weeks.

Q. Churches and public buildings and places of that sort affected?

A. They were.

Q. In a similar way?

A. Yes.

Q. Until that time, the community, generally, was sufficiently taken care of in its supply, was it?

A. Yes.

Q. You referred a moment ago to changes in fuel. Where and what industries have changes been caused by reason of the shortage of gas?

A. The Glass factories located in the Monongahela Valley have nearly all gone to producer gas, or are making preparations to go to producer gas; a number of them have already made their installation of producers; the Wierton Steel Company have provided themselves with a process for pulverizing coal and using pulverized coal for fuel almost exclusively; the Grasseli Chemical Company, at its plant at Zeising, has installed producers, and when it is in operation uses a good percentage of producer gas and fuel there.

2950 Q. What have you to say with reference to any changes in public buildings, churches and office buildings and structures of that kind?

A. Well, I think that most of the hotels and public buildings have had, their directors have had the foresight to provide them with means of using coal; and the majority of those have gone to coal in an emergency measure, if not altogether.

Q. You mean now, of course, the change from the use of natural gas?

A. Yes.

Q. How about the schools and office buildings?

A. I don't think there has been any change made in our schools to take care of the shortage situation with coal. I know especially in the district where I live, there has been no provision made for using coal in the schoolhouses as yet.

Q. Do you know any of the larger office buildings that have gone to other fuel?

A. Yes, the larger office buildings have gone to coal I think, exclusively, especially the Goff Building, and possibly others.

Q. By the way, what price is industrial gas bringing in Clarksburg now?

A. Forty cents a thousand.

2951 Q. Has the increased price resulted in any curtailment of the use of it?

A. Very much, in fact the price is considered almost prohibitive for manufacturing purposes at forty cents a thousand.

Q. In view of the number of industries that have gone to the use of other fuel, and the decrease by reason of the increased price that you have mentioned, how would you say the amount of gas now being used at Clarksburg would compare with the amount used before the shortages developed?

A. Well, I would say that the present consumption of gas in the Clarksburg District would be possibly less than fifty per cent. of what it was before the shortage of gas and the increased price.

Q. Taking into consideration any changes, would you say that the amount of gas which was used in this community before the shortages would now fully supply the demand at Clarksburg?

A. I do not believe I understand your question, Mr. Steptoe.

Q. I will state it in this way. To supply the domestic and industrial consumption in Clarksburg now, would that require as much or more than the amount of gas that was used, say in the year
2952 1915, before the shortages developed?

A. I don't believe the manufacturers who are now preparing to use the producer gas and pulverized coal, at the present price of coal, would consider going back to natural gas at forty cents a thousand; and consequently, the consumption would be much less than it was in 1914 and 1915.

Q. That is when all of the industries, as well as the domestic consumers, were fully satisfied?

A. Yes, sir, I believe the domestic consumers would yet prefer the natural gas to coal, even at an increased price; they would prefer the natural gas to the coal.

Q. By reason of its cleanliness and other conveniences?

A. Yes, sir.

Q. Have you, in the course of your experience, had occasion to know the production of gas in the field by independent producers, and by independent producers I mean those who have no pipe lines.

A. I have.

Q. Has there always been a market for the gas production of these producers?

A. There has not always been a market for the gas, but in the last ten years there has been a market the greater portion of the
2953 time. A great many contracts that were originally made, were made to take all the gas for about two-thirds of the year, or eight months, and then about one-third of the gas for the remainder of four months.

Q. You refer to contracts. Generally, with whom were those contracts of sale made?

A. I think the Wheeling Gas Company was the first company that started buying gas in here from the independent producer; then later the Hope Gas Company and the Philadelphia Company, as it was known then, which is now the Pittsburgh & West Virginia Company.

Q. As a matter of fact, all of the companies now buy it?

A. All of the companies now buy it.

Q. And I presume those prices have varied from year to year on an upward scale?

A. Yes, sir, that is, most of the prices have, some of them have time contracts and possibly have not increased but very little.

Q. You say that there was not at first any market for the independent producers, that they were not able to market the gas to the pipeline companies in the early days?

A. No.

2954 Q. Why?

A. The natural answer was that, we have all the gas that we need and more too, we have no use for any further gas.

Q. And when they started selling it, what price did they commence with?

A. Three, three and a half, and four cents, that is to the pipeline companies; some gas was sold at less than that for carbon black purposes.

Q. A moment ago you said the answer was, "We have all the gas we want." Who made that answer?

A. Well, in one case which I recall, Mr. Pew, who was then with the Hopw Natural Gas Company, told me that they had all the gas they wanted, and more too, which I know was the case, for they had a number of wells shut in at that time.

Q. You mean your answer to apply only to the Hope Natural Gas Company?

A. That is the only one I know of personally, but of course I understand from other sources that the other companies gave virtually the same answer.

Q. At that time, there was more gas than could be handled, and the pipe line companies had their hands full, or at least so stated?

2955 A. They had, I guess there is no doubt about that.

Q. Was the Wheeling Natural Gas Company in this county, I mean Harrison County?

A. Yes, they had quite a line in Harrison County.

Q. You say that company was the first one to start buying from the small producers?

A. That was the first company that I know of, that is, the first of the large companies that commenced to buy gas from the independent producer.

Q. Do you know whether the Wheeling Natural Gas Company has its lines and holdings in any other county besides Harrison, and if so, what?

A. They have some holdings in Doddridge that I know of, but I don't know of any outside, by personal knowledge, outside of Doddridge and Harrison County.

Q. What became of that company in so far as concerned Harrison County, is it in here yet?

A. No, it was taken over by the Hope Natural Gas Company.

Q. What became of the gas purchase contract they had?

A. It was transferred to the Hope; possibly not transferred, but the Hope continued to take the gas from the line which

2956 they had purchased from the Wheeling Gas Company. I don't know that the contract was purchased, but the line, with its production, was taken over by the Hope.

Q. You don't know whether the entire company was taken over?

A. No.

Q. But just that part of its property?

A. It was my understanding that it was not.

Q. As a matter of fact you know the Wheeling Natural Gas Company was or is one of the subsidiarys of the Manufacturers Light & Heat Company, do you not, or do you?

A. Yes sir.

Q. Do you know of any other companies besides the present company, Clarksburg Light & Heat Company, that have been engaged in furnishing gas, natural gas, to Clarksburg?

A. Yes.

Q. What others?

A. To industries, you mean?

Q. To any part of the community, industrial or domestic.

A. The Shinnston Gas Company furnishes gas to the Grasselli Chemical Company, the Norwood Gas Company furnishes to the Pittsburgh Glass Company, and Lyon Gas Company furnish
2957 some gas to Rolland Glass factory.

Q. Those companies you have mentioned are smaller producers contracting directly with others?

A. Yes sir.

Q. So they are not engaged in public service?

A. No.

Q. I meant to elicit information with reference to those engaged in serving the public.

A. I know of no other gas companies serving the public in Clarksburg outside of the Clarksburg Light & Heat Company.

Q. That is at the present time?

A. At the present time.

Q. Do you recall the Hupton Gas Company?

A. Yes.

Q. The Monongahela Development Company?

A. Yes.

Q. Where were they serving?

A. They were serving Adamston, which at that time was a separate corporation, but now is a part of Greater Clarksburg, and a little section of the country on the Adamston, west, known as Johnson's Pike, I believe, and Ashcraft Addition.

Q. What became of those two companies?

2958 A. They became absorbed by the Light & Heat Company and the Hope Natural Gas Company. I think the Reserve took over the Johnson's Pike and Ashcraft Addition, west of Clarksburg.

Q. Do you recall a local company called the Home Company that was in business here awhile?

A. Yes.

Q. Where did it supply?

A. The Home Gas Company supplied what we term the New Fair Grounds Addition, which is southeast, or rather, east of town, a part of Broad Oaks, and the Haymond Heights, part of the Haymond Heights, I don't think all of it.

Q. What became of that company?

A. The Home Gas Company was taken over by the Hazel-Atlas Glass Company interests, so far as their wells and lines, or a part of their lines, their high pressure lines were concerned, and their low pressure gas was taken over by the Light & Heat Company.

Q. Do you know whether that company was a financial success?

A. I was not interested in it financially, but I understood it was not.

Q. As a matter of fact it is commonly known it failed?

2959 A. It was generally known to be a failure.

Q. Do you know anything about the situation of carbon plants in this section—in Harrison County—and its surroundings?

A. Yes.

Q. That is, with reference to whether or not they are now manufacturing carbon.

A. The carbon black factories in Clarksburg district, or Harrison County, I believe I can put that, have all dismantled or are dismantling their plants.

Q. Well, there were not very many to start with, were there?

A. No.

Q. There was one near Wilsonburg. Do you know how long ago it ceased?

A. There were two at Wilsonburg.

Q. What became of them, and when?

A. One of them has been dismantled, I will say, four years, approximately, and the other one possibly not quite so long.

Q. Was not there or is not there one out on the Shortline Railroad in this district, out near the Town of Dola?

2960 A. Yes.

Q. What about it?

A. I am under the impression that it is dismantling its plant; that is my understanding, at least; that they have decided to dismantle the plant, if they have not already done so.

Q. There was one, the Columbian Carbon Company, in Lewis County. Do you know what became of it, or its gas supply?

A. I know it was dismantled, I know that the gas was being used for manufacturing purposes for a while in Weston but what use is being made of the gas now, I don't know.

Q. You do know they have ceased making carbon?

A. Yes, I do know they have ceased to make carbon.

Q. What influence, if any, has the increased price of gas had on the manufacture of carbon black in this section?

A. The gas producers have come to look upon the production of carbon black from natural gas as a wasteful method of using natural gas, and its value for domestic purposes is so much greater than it was for carbon black, that they have ceased, due to the increase in the value of gas.

2961 Q. In other words, the gas was worth more for marketing to the public than for use in the manufacture of carbon?

A. Yes sir.

Q. That would obtain where the gas could be marketed, would it not?

A. Yes sir.

Q. Are there sections where gas is readily or usually marketable, where carbon is still being manufactured, or do you know?

A. I don't think that there is any place in the gas belt of West Virginia, that is, the old gas belt I speak of now, not some that might have been recently developed, but what there is a gathering line of the Hope Natural Gas Company or the Pittsburgh & West Virginia Gas Company, or the Manufacturers Light & Heat Company of the West Virginia Central Gas Company, that is in the known field, that is, fields that have been producing for any length of time.

Q. That would be substantially in the north central section?

A. Yes, and the southern end of the state is very well covered by the United Fuel Gas Company, so the known fields, I could see

no reason why a man would have any excuse for wasting gas in making carbon black.

2962 Q. About how long would you say the gas producing territory, or the proved gas territory of this and adjoining counties has been held under lease,—about how many years past?

A. Well, it has been more or less under lease practically every since I can remember. I remember when I was quite a small boy, of leasors coming through and leasing up the land for oil and gas purposes and I would think I would be safe in saying the past twenty-five years there has not been a period of any great length of time at which there was any material acreage that was not under lease by someone, usually the South Penn Oil Company, or, in the former days, the Carter Oil Company, Eastern Oil Company and the Southern Oil Company, which was Barnesdale interests.

Q. In the early days, what was the principal holdings company in this county?

A. The principal holding company was the South Penn Oil Company.

Q. And through what section and counties were its holdings?

A. I believe I could make that in practically every county in the State that has produced oil.

2963 Q. Do you know whether or not it held territory in the early days which later developed to be gas?

A. Oh yes.

Q. And where did the old South Penn Oil Company's holdings go when gas was developed in its territory developing gas?

A. The first thing I knew anything other than the South Penn Oil Company holding any, I guess was the old company that was called the Flaggy Meadow, and the gas was usually handled under the Flaggy Meadow, and then later the Mountain State, and then later the Hope Natural Gas Company, and on down to the present time.

Q. All of those companies were owned by the same interests?

A. They were supposed and generally understood to be connected with the South Penn Branch of the Standard Oil Company, until, of course, the Hope Gas Company, there was some kind of a divorce proceeding between the South Penn and Hope Gas Company by which there was not the co-operation, I will say, or close relationship, that there was between the old Flaggy Meadow and Mountain State.

Q. I think my specific question was, what became of the territory, the holdings, of the South Penn, when they devel-

2964 oped gas territory.

A. I had intended to answer that by saying that in the beginning I think they were turned over to the Flaggy Meadow and later to the Mountain State and later to the Hope Gas Company, such territory as proved to be gas territory.

Cross-examination.

By Mr. Weil:

Q. Mr. Devericks, you say about twenty-five years ago some of ese companies that you named, came into this section of the coun- y taking up leases?

A. Yes sir.

Q. And that was such companies as the Carter Oil Company and ie Southern Oil Company and the South Penn?

A. The South Penn, but not the Carter Oil Company; the Car- er Oil Company is the outgrowth of the old Kanawha Oil Com- any, I think, which was a later date.

Q. Aren't you mistaken about that? Was not the Carter Oil Company an independent company that was organized originally by John J. Carter, who was an oil producer for thirty or forty years or more?

A. I recall Mr. Carter being president of the Carter Oil Company, and he developed around Sistersville, but as I recall
2965 it, the Carter interests took over, when the Carter Oil Company was formed, that is, I am speaking now of the Standard Oil Company's Carter, as we term it, the branch of the Standard Oil known as the Carter Company, took over the holdings of the Kanawha Company, and it was about that time it was merged with the Standard interests, as I understand it, but before that Mr. Carter had operated, I think, independently.

Q. And had he operated in this section?

A. Oh no. Yes, in West Virginia, he had leases in Tyler County, possibly Preston, and especially in Tyler and Doddridge County.

Q. What about the section around Mt. Lewis in Lewis County?

A. I don't know where Mt. Lewis is.

Q. What about Lewis County, didn't he have holdings in Lewis County, I mean the Carter Oil Company?

A. It may have had. I don't personally know of any holdings they had in Lewis County.

Q. Leaving then, the Carter Company out of consideration for the present, about twenty-five years ago you say the South Penn Oil Company and the Southern Oil Company, which was a
2966 Barnsdale institution, as you stated, came into this section, taking up leases, and those leases were primarily were they not, for oil purposes?

A. Yes sir.

Q. Like most of the leases of that time, they covered both the oil and the gas?

A. Yes sir.

Q. That was the general form of lease that was then taken for oil and gas underlying a tract of land, leases for oil and gas purposes?

A. Yes sir.

Q. The primary purpose, however, of those companies, as generally understood, was to obtain oil development?

A. Yes sir.

Q. In those days natural gas was not regarded as a valuable find, was it?

A. No, we did not understand natural gas then as we understand it today and could not handle it. The pressure was very high and danger,—and it was not generally used then as it is today.

Q. And those companies came in, took up blocks of leases, and at that time it was surely wild-cat territory, was it not?

A. I do not believe I know what you mean by wild-cat
2967 territory.

Q. Well, it was territory that had not been developed by the drilling of oil wells.

A. Oh, not been defined, no; but Dr. I. C. White, who is State Geologist, had, even back at that time, given his opinion,—which later proved to be true,—that this was an oil and gas belt.

Q. Well, we may assume, may we not, that these companies would not have come into this section of the country and taken up a large block of leases for oil and gas development, unless they had some theory or the opinion of some geological expert, or other information that waranted them in assuming that it might be oil and gas territory?

A. It would not be likely, as conservative as they are.

Q. And they came in and took up these blocks of leases, then, for that purpose?

A. Yes sir.

Q. And began their operations then, or some years after, by drilling wells?

A. Yes sir.

Q. And as these wells were drilled by these companies, they developed the oil and gas in this section of the country?

A. Yes sir.

2968 Q. And those companies are entitled, are they not, to be designated as the pioneers in that developement in this section?

A. No sir, I would not term it that way, because there have been a great many independent operators, small operators, who gathered up just a few acres here and there, who have been developing a great deal in this section of West Virginia, and in fact, a great many of the finds have been due to investigation of smaller operators.

Q. But that was subsequently, wasn't it?

A. No, there was a spirit of adventure among the people who went after it and attempted to develope it.

Q. And these individuals and these parties whom you mentioned, found no difficulty in obtaining leases for that purpose, did they?

A. Well now, if you want to make that a lease here and there, I will say no; but if it came down to leasing in any great quantity, I mean in large blocks, there was but little territory that was not taken up, it being held by some of the larger companies.

Q. Did these individual operators whom you have referred to, as a rule, desire to obtain large blocks of territory? Were not
2969 they satisfied to obtain comparitively small areas, and drill their wells upon it accordingly?

A. I could not call them operators exactly; it is a condition that

exists in practically any community where there has been a leasor in and taken up some oil and gas leases, for the people in the community to imagine that the oil and gas is there, or those people would not be leasing; they work upon their imagination along that line; quite frequently somebody inexperienced in the business will get together a sufficient amount of money and drill wells and open up territory.

Q. Now then, let me repeat my question, regardless of the designation or the name by which you desire to call it, isn't it the fact that these parties, who entered into these operations, as a rule did not desire to obtain a large block of territory on account of the cost and expense of carrying it?

A. Not in every instance.

Q. I am asking you for the rule.

A. The rule was this: That those who were financially able to do it would rather have had the large acerage, but those who
2970 were simply promoters and cared but little whether it was a productive well or non-productive well, preferably non-productive, in some cases where they would be selling interests, and there would be more money in not having a well produce than there would be in having it produce.

Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be profitable for promoters, even in West Virginia, to take up a property and make more money out of it when it would not produce than when it did?

A. This is not for the record——

Q. Yes, this is for the record.

A. All right, then I will say this: There has been a great many men who came here following the oil business, who would promote a company, and not only here, but every other field throughout the United States, I think I am safe in making it the United States, who have gone into the territory and gathered up leases, or a lease, rather, a small acreage, and started out to sell a one-thirty-second or a sixteenth or a quarter or one eighth, or something like that, simply for the money that they would be able to obtain for those interests in excess of what it would cost to drill a well, and there has been men who lived on that; and we had a recent example of
2971 that in McKeesport, and I am surprised that counsel had never heard of McKeesport.

Q. Do you want that to go down to the court as your answer to my question?

A. I asked for permission not to put that in the record. Every word of which is true.

Q. Is that your answer to my question? And I ask the stenographer to repeat the question to the witness.

(The question read by the stenographer as follows:)

"Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be possible for a promoter, even in West Virginia, to take up a property

and make more money out of it when it would not produce than when it did?"

Q. Now, the question having been read, I repeat and ask you if you want the answer you just made to be your answer?

A. It is the formula you are asking for. That is the formula. The answer which I gave you is the formula.

Q. Who developed the Wolf Summit field?

A. The South Penn Oil Company.

Q. Who developed the Fink field?

A. South Penn Oil Company.

2972 Q. Who developed the Sand Fork Field?

A. The Copley field?

Q. The Copley field.

A. That is South Penn Oil Company.

Q. Who developed the Shinnston field?

A. I think the South Penn Oil Company.

Q. Who developed the Doddridge County field, around the center part, the first producing field in Doddridge County?

A. I don't know that I could answer who drilled the first producing well in Doddridge County.

Q. The well known Sullivan heirs well, wasn't that drilled by South Penn Oil Company?

A. Possibly.

Q. Now, will you give us the name of some of the fields in the early development that were developed by these small local companies, or groups to which you have referred?

A. The Cornwallis field, in Ritchie County.

Q. And when was that?

A. The Cairo field in Ritchie County.

Q. Just give me the date of that.

2973 A. I could not give you the exact date, but it was in the latter part of 1890, I would say.

Q. And the next was the Cairo, you say?

A. Yes sir.

Q. In what county was that?

A. Ritchie.

Q. About when was that?

A. 1897 or '98, somewhere along there in the '90's it was.

Q. The latter part of 1890?

A. Yes.

Q. What others?

A. The Buckie Run field, in Ritchie County, West Virginia.

Q. When was that

A. That was about 7, or 1908, somewhere along there.

Q. Anymore?

A. The Blue Creek field in Kanawha County.

Q. When was that?

A. That was along about the same time, possibly a little bit earlier than that.

Q. What is the date?

2974 A. 1905 or 1906, somewhere along there, maybe 1907.

Q. It was sometime after 1905?

A. Yes sir, and the Falling Rock section in Kanawha County.
Q. When was that?
A. The drilling on Falling Rock, I think the first drilling in there was possibly along about 1907 or '08, but the field was not opened up to what you could call a defined field until about 1910 or '11.
Q. But it was begun in 1907 or 1908, somewhere along in there?
A. Yes sir.
Q. What other?
A. I don't believe I call to memory any others now.
Q. In the latter part of the '90's, to which you have referred, 1897 and 1898, along there, there had been by that time a little drilling and operating by South Penn Oil Company and by the Barnesdale interests, in this section of West Virginia, had there not?
A. Yes, there had been some drilling; quite a little drilling, in fact a number of fields that were well developed.
Q. At that time?
A. Yes sir.
2975 Q. And that was then after these number of fields had been developed by the South Penn Oil Company and by the Barnesdale interests, when these operations to which you have referred took place?
A. Possibly in the Cairo and Cornwallis fields, because that was along about the same time.
Q. Were not these developements in these other fields, prior to 1897 and 1898?
A. Some of them possibly were.
Q. And had not some of these fields been developed, if not circumscribed or definitely defined, eight or ten years prior to that time?
A. These fields I have described?
Q. No.
A. Oh, West Virginia had become recognized as an oil producing state, yes sir.
Q. And when was the Wolf Summit field first opened up, and when was the first well drilled?
A. I think in 1897 or 1898, somewhere along there.
Q. Wolf Summit?
A. I think so.
Q. And when was the Fink Field?
2976 A. The Fink field was before that.
Q. About how long, approximately?
A. Approximately, I would say, '95 or '96, and possibly before that even, I am not real positive about that Fink field, but in there somewhere.
Q. What about the Sand Fork field, when was that developed?
A. It was developed about 1900 or 1901.
Q. And the Shinnston field?
A. That was 1907 or '08, somewhere along there.
Q. 1907 or '08 or 1897 or '98?
A. No, 1907 or 1908.
Q. And when was this first well drilled in Doddridge County which began the opening up of those fields in Doddridge County, do you recall about what that date was?

A. I think possibly 1892 or 1893, somewhere along there.
Q. 1892 or 1893?
A. Yes sir, something like that; possibly before that.
Q. It might have been, I suppose, 1890?
A. I said it might have been a little before the date named, b
cause I was not so particularly interested, more than a you
2977 chap who was excited over the oil business.
Q. At that time, you were not actively engaged in the
and gas industry?
A. No.
Q. When did Barnesdale come in?
A. I don't know the date at which Mr. Barnesdale commenced
operate in West Virginia.
Q. That was in the early part?
A. It was in the early stage of the game.
Q. It was in the early developement of the oil and gas fields
this section?
A. Yes sir.
Q. Would you say it was somewhere in 1890, along there?
A. I would say it was before 1900 that Barnsdale came in he
I think 1900, possibly the first I knew of any Barnesdale intere
I think, was in Ritchie County.
Q. And about what time, if you can approximate it?
A. I would say 1898 or 1899, somewhere along there.
Q. Did he drill some wells?
A. Yes.
Q. And got some developement?
A. Yes.
2978 Q. In the Ritchie County field?
A. Yes.
Q. What was that field known as?
A. This particular section now that I refer to is the Dry Ridg
I think they call it, Dry Ridge.
Q. After oil and gas had been discovered in any new territory,
new field, isn't it the general custom, from your knowledge of t
business, for independent operators, or those desiring to engage
the oil and gas business, to come in and take up what leases they c
and drill wells in the hope of finding oil or gas?
A. Yes.
Q. That is the universal custom in every field you have any know
edge of at all?
A. Yes sir, it is a natural thing for a man to try to get where t
money is, and they imagine it is in the oil and gas business.
Q. At the time the South Penn Oil Company began the taking
these leases in West Virginia and taking up the blocks of leases th
they were taking up at the time, do you recall that other oil and g
operators at that time ridiculed their efforts to obtain oil a
2979 gas on the advice of a geologist—do you remember the ge
eral discussions of those days?
A. Yes.
Q. That was true, wasn't it?

A. I remember Mr. T. Moore Jackson, I think it was, and Dr. I. C. White, took up a considerable amount of acreage, that is before I ever knew of the South Penn Oil Company, and that must have been possibly back as early as 1890, no, it was before that, something which transpired makes me place it before 1884—but they took up a considerable amount of acreage at that time, and there was quite a discussion about it. Of course at that time, I knew nothing at all of theoretical discussions or anything of that kind—I was too young at that time to recall anything of the nature of a geological character—but I recall later on, when the South Penn Oil Company, or when its leasors went South of the Baltimore & Ohio Railroad line between here and Parkersburg, that it was considered not good judgment to lease south of the B. & O. Railroad's line; that is in Doddridge County I am speaking of.

Q. You mean that was the comment of other operators?

2980 A. Yes, that was not the opinion of men who were learned in the oil business; it was some people remarked there was not any oil south of—not based upon any knowledge, but just a matter of comment; and of course when the South Penn Oil Company first commenced employing geologists, or the Standard Company, I will put it, first commenced to employ geologists, it was considered much of a joke.

Q. Do you know that as a matter of fact that after the South Penn Oil Company had taken up this block of leases and had drilled a large number of wells, that it was the current comment and report throughout the West Virginia fields and districts, that they had lost millions of dollars, and would never get out of the hole; that that was general comment of the oil and gas producers in this country, in this section?

A. I will agree that was the case as to comment, but I don't know that it was based upon facts. It might have been just simply an opinion of a layman who knew nothing at all about it, and it may have been facts for that matter, I don't know.

Q. So far as you know, was not that the first time in the history of the business where a large general movement of that character was undertaken by any large oil or gas company?

2981 A. Yes.

Q. The first time?

A. Yes, that is to my knowledge, and in fact, I have not, through what little oil and gas literature I have been able to get hold of, found of any such undertakings as was undertaken by the Standard Oil interests at that time.

Q. It was the first experimental move in that direction, so far as you have been able to learn?.

A. Oh no, not the first experimental move, because we have been producing oil for years before that.

Q. I don't mean that, of course. I mean it was the first of where any general movement had been made whereby they had taken up large blocks of territory with a view of subsequent development?

A. It was the first in which there had been such an aggregation of capital gotten together for such a large development, yes sir, at that time; had been in a small way before that.

Q. Did they get any aggregation of capital together for that purpose? Had not that aggregation of capital been in the business some fifteen or twenty years before?

A. That might be true, but they had the capital to do it.

2982 Q. The Standard Oil Company had been in the business a great many years before that, and they had the capital to do it before that if they had so desired, but this was the first time that they did undertake, or any one else undertook, to do it in that way?

A. Yes.

Q. You spoke of your property in what you call Coal District. How many wells do you have there?

A. I believe I have eleven wells in Coal District.

Q. And that, I believe you said, you sell to the Hazel-Atlas Glass Company?

A. Hazel-Atlas and the Rolland.

Q. How much gas to you deliver there, just approximately?

A. Approximately ten million cubic feet a month.

Q. And you- other holding is in Grant District, you said, near Lost Creek?

A. Yes.

Q. And that you sell to the West Virginia Central?

A. Yes sir.

Q. How many wells have you there?

A. Two.

Q. And how much gas to you supply them?

2983 A. The gas delivery there varies with the line pressure; from three to seven million a month.

Q. Three to seven million feet a month.

A. Yes; of course that depends upon the line pressure, the higher the line pressure, the less we are able to put in.

Q. You do not use a compressor?

A. No, we don't.

Q. Then how many years would you say that the natural gas business has been stabilized to the extent that there has been a steady market for the gas produced by the gas producers? Or, to put it in another form, is not it only substantially since 1915?

A. No, I would put it earlier than that. I believe that it has been on a substantial general use, I think possibly we can say in 1900, because it was pretty generally used in towns and cities of any size throughout the Monongahela Valley, and the western part of the State in towns of any size.

Q. You evidently do not understand my question. Gas has been in use in different sections of the country for the purpose of supplying certain towns or localities with gas since 1879 or '80, as in the Bradford District?

A. Yes.

2984 Q. But prior to 1915, there was produced in the West Virginia Oil and gas district more gas than there was a market for the same, is not that true? So that even the large gas companies, as well as individuals frequently shut their wells in?

A. That was true for the summer months, that there was more
s than had been—let me put it this way,—that the open flow or
livery power of the wells drilled in, was greater than there was
mand for gas in the summer months, and due to the extension of
eir low pressure plants throughout Pennsylvania and Ohio and
est Virginia, the larger companies had so extended their surface
the year 1915, the winter of 1915, that they did not have sufficient
s in reserve to take care of the peak of their load, was not sufficient
s in reserve; but during the period of time when it was not ex-
emely cold, there was more than ample gas.

Q. That shortage, however, occurred and first became manifest in
ie extreme winter of 1916 and 1917, didn't it?

A. Yes, it was worse then than ever before.

Q. And prior to that time—let us put the date then a little early—
rior to 1914, these extensions to which you have referred, in Ohio
nd Pennsylvania and Maryland and Kentucky and Indiana had
not at that time been made, had they?

2985 A. Some of them had.

Q. Most of them had not been made at that time, is not that
fact?

A. In 1914?

Q. Yes.

A. I don't know. Now, to be frank, I don't know when those ex-
ensions were made. I know the larger companies were making great
fforts to find a market for the gas which they had, were trying to
ind a market for it so they could go ahead and produce it and I
ould not state the date at which those extensions were made.

Q. Would not you feel safe in saying that that occurred some-
ime then, let us put it, I don't want to pin you down to any definite
late, sometime between 1910 and 1915? These extensions were then
eing made between 1910 and '15?

A. They were doing a great deal of construction work during that
ime.

Q. And building their lines, accordingly.

A. More pump stations, I think, and gathering lines, than ex-
tending lines, possibly.

Q. Now, when a gas field is developed by the operator, there
2986 is no way of marketing that gas until gas lines are brought
into that field, is there?

A. No, not unless there would be some carbon black or something
like that that would go to the local field; it is a matter of the con-
struction of pipelines to carry it to the point of delivery.

Q. And as to whether or not the local operator, or the producer,
would feel warranted in building certain lines himself, would de-
pend upon two considerations, would it, first, the quantity of gas that
he had developed, and secondly, the length of the line and the cost
and expense of laying it, those are the two chief considerations, are
they not, that the producer would have to consider before he could
undertake, or would undertake, the laying of a line to use his gas?

A. And you might add a third, the consumption of gas after he
had the line laid. I believe it would be possible, in a great many

instances, to lay lines to a town that you could not supply all the gas that the town would consume. It would be a profitable measure to do that, providing your gas was in sufficient quantities to warrant the laying of the line into this community.

Q. And also the length of the line, that you would have
2987 to lay.

A. Of course that would depend upon the length of the line.

Q. Now then, as these gas fields are developed from time to time, by producers, is it not the fact that the larger gas companies, depending up-n the quantity of gas that is developed, extend their lines into those fields for the purpose of obtaining gas?

A. Yes.

Q. And the producer relies upon obtaining his market in that way, if he finds gas instead of oil?

A. A great many, in fact nearly all cases, is a case of depending upon some of the larger companies to carry their gas or buy it, rather.

Q. The only way they can get this gas, if it is not directly upon their then constructed lines, is to lay a line into that field?

A. Yes sir.

Q. And frequently, when they lay a line into that field, and especially their gathering line, to obtain the gas, they are compelled to change the construction, either by putting in larger mains, when the gas production warrants or by putting in pressure stations
2988 upon the lines,—that has been the experience, has it not?

A. The experience has been of recent years, since the depreciation of the rock pressure, that it was necessary to enlarge the lines so they would have a greater carrying capacity, and installing pump stations for boosting the gas ahead.

Q. Any community in proximity, or in a practical distance of any such developement, has the opportunity, if it so desires, to organize these companies and lay their lines into those fields just the same as the larger companies, have they not?

A. If there is territory that can be obtained.

Q. I mean aside from the purchase of territory, buying gas from the producer who produces the gas, the independent producer.

A. Of course the local distributing company would have the same opportunity of going into the field and buying gas that the larger companies would.

Q. And the independent producers themselves, sometimes, are warranted, or feel warranted in laying their own line and transporting their own gas and such as they can obtain from others,
2989 to these centers of population or to industries or plants that are in the market for the purchase of gas?

A. Yes.

Q. Isn't it a fact that most of these plants, gas distributing plants, in most of these centers of population in West Virginia, in and around these fields, were originally built by local capital, or established by local capital, is not that the fact?

A. That was true with Clarksburg and a great many other cities, but there was another feature which entered into it, that possibly should be taken into consideration, and that was the competition of

larger companies, who invariably, well, possibly not invariably, most usually, also sought a franchise for the same purposes which local companies did, and sometimes it was the reverse, that the ger companies had the plant in, and local concerns saw or thought y saw money in it, and would also secure franchises and start de- ering gas.

Redirect examination.

By Mr. Steptoe:

Q. Did you ever hear of Colonel T. Moore Jackson?

A. Yes.

Q. And I believe you referred to Dr. White, State Geol- ogist?

A. Yes sir.

Q. Do you happen to have any knowledge of those two, and ssibly some associates with them, being interested in taking up ritory and developing it, in the very early days?

A. I know of their being interested in the very early days in king leases, but I don't know of any developement work that they d. I do know of leases, however.

Q. Where did those leases eventually land, in what company?

A. That, I can't say, where the leases went to, because the time hich I refer to, Mr. Jackson and Mr. White taking leases, I was ite a small boy, and I only recall the circumstances which happened ring that time.

Q. You do not know then that the earliest holdings of the Standard il Company were the leases taken by Colonel T. Moore Jackson?

A. No.

Q. You don't know of any drilling by these two?

A. Not in the early stages of the game. I know they did some drilling, but back in the time that I refer to, I have no knowledge of their drilling. I do know, however, later on ey did some developement work.

Q. Do you know anything about any holdings and developement Doddridge County by Dr. White and Henry Ash and some others?

A. I know of that.

Q. Was that before or after the days of the South Penn Oil ompany?

A. That I couldn't answer.

Q. You spoke of the local utilities having the same opportunity going out into the field, in the early days, and acquiring territory at the larger companies had. What have you to say of the ability f the local utilities to go out into the fields and lay lines? I mean to sk particularly about this: Some of these local utilities furnished mall places, did they not?

A. Yes.

Q. And local capital?

A. Yes.

Q. What would you have to say about their ability, from a

financial standpoint, of those companies to acquire large holdings?

2992 A. Well, take the small communities, were usually composed of men who put in a small amount of money into a small corporation, which didn't have a sufficient amount of money to go ahead and acquire vast holdings, and the consumption which they could anticipate for a small community would not have warranted it, from a financial standpoint; and the same would possibly hold good with some of the larger communities, it would not have been possible to have held acreage in any great quantity for future development, due to the limited demand for the gas and the expense of building extension of lines.

Q. Take a specific example, for instance the Lumberport Gas Company supplied the Town of Lumberport and vicinity.

A. What would be necessary for it to do in order for it to acquire holdings and obtain the use of reserve acreage, say in Lewis County?

A. If it could *bet* a reserve acreage, or if there was reserve acreage available in Lewis County, it would, even then, not be a practical proposition for them to pipe gas for such a small consumption as they would have in Lumberport.

Q. Now would you have to go as far away as Lewis County

2993 for that condition to be true?

A. No.

Q. And under the present existing condition of rock pressure throughout this section, could they hope to transport and appreciable amount of gas that distance by natural pressure?

A. Well, it would require a very large line under the present rock pressure to transport any appreciable amount of gas from Lewis County to Lumberport.

Q. What would you say as to the neccessity for its putting in pump stations?

A. Of course the pump station would facilitate its delivery through the smaller lines, but it would be an impractical proposition financially, I would say, to undertake to bring it anything near that distance for a place so small as Lumberport.

Q. In other words it would be out of proportion to its plant, consumers and enterprise?

A. Yes sir.

Q. Now assuming, for the sake of argument, that its reserve territory acquired was surrounded or adjacent to territory held by the pipeline companies using pump stations, the effect on the

2994 reserve acreage so held would be what?

Mr. Weil: That is objected to for the reason that the witness has not qualified as an expert so as to be able to testify upon this question.

Q. I will ask you first——

The Commissioner: Do you withdraw that question?

Mr. Steptoe: No.

A. If the pipeline companies operating their pump-stations with gathering lines surrounding the reserve territory held by themselves

r by any other companies, or by the Lumberport Gas Company, s we are illustrating, to the extent that the gathering lines would e taking that gas, it would be reducing the quantity of gas in such reservation, or reserve territory. It would be nothing more than resevoir of gas.

Q. Do you know whether or not any companies operating in this ection, and I refer especially to the Pittsburgh & West Virginia nd Carneigie and Hope Natural Gas Company and Reserve Gas Company, are using suction on their wells?

A. Now if you mean there by suction that they have it reduced below atmospheric pressure——

Mr. Steptoe: I do.

2995 A. I think that I know of no territory which they have reduced yet to the extent of a minus atmospheric pressure, that is in this Monongahela Valley. However, there might be some territory that they have on actual partial vaccu-m.

Q. What about the West Virginia Central Gas Company, do you know whether or not it is taking gas on suction, or below atmospheric pressure?

A. It is not to my knowledge. I do not think it is. It did at one time possibly get below atmospheric pressure, but is not, to my knowledge, at the present time, taking gas at less than atmospheric pressure, or even at atmospheric pressure. They have some line pressure. Those suction lines as we call them, are misleading in a way. While a line that is discharging gas into a compressor plant is spoken of as a suction, and really is suction line, that does not necessarily mean that those lines—that there is less than an atmospheric pressure on that line.

Q. It is used in the sense of being a feeding line?

A. It is used as a gathering line, yes.

Mr. Steptoe: On behalf of the defendant State, we desire here to offer in evidence a certified copy of the proceedings had in the condemnation proceedings of Wheeling Natural Gas Company against Enos D. Tennant and others, to be marked for identification,

2996 Exhibit "West Virginia No. 51."

Mr. Weil: The comdemnation proceedings are objected to as irrelevant and immaterial.

The Commissioner: Note the objection and let the exhibit be received.

Mr. Steptoe: We also offer in evidence certified copies of the following franchises granted by the County Court of Harrison County for the use of the public roads of the county, on the following dates and to the following persons or companies:

Franchise granted July 18, 1906 to the Reserve Gas Company;

Franchise granted under date of April 3, 1907 to Hope Natural Gas Company, with acceptance thereof by Hope Natural Gas Company under date of June 19, 1907;

Franchise granted under date of June 27, 1905 to the Hutton Gas Company, together with an order partially revoking that fran-

chise in the name of Hope Natural Gas Company, its then assignee, under date of September 14, 1908;

these five several papers being bound together and certified together, we wish to be identified as Exhibit "West Virginia No. 52."

Mr. Weil: This offer is objected to as incompetent, irrelevant and immaterial, there being no objection, however, to the form of
2997 certificate.

The Commissioner: Note the objection on the record and the statement of counsel, and let the exhibit be received.

Mr. Blue: The State of West Virginia now offers in evidence a copy of the application of the Hope Natural Gas Company for an increase of rates, filed with and before the Public Service Commission of West Virginia in case No. 663, verified by the affidavit of Mr. John G. Pew, under date of November 26, 1917, and which, for identification, will be marked "West Virginia Exhibit No. 53", and as such exhibit, is filed by the State of West Virginia.

Mr. Weil: Objections will be made to all of these exhibits after all of them have been offered.

Mr. Blue: The State of West Virginia offers in evidence an attested copy of application of the United Fuel Gas Company asking for an increase of rates, filed with and before the Public Service Commission of West Virginia in Case No. 585, and verified by the affidavit of Mr. R. J. Altizer, its vice-president, under date of May 21, 1917, which copy, for identification, is marked "West Virginia Exhibit No. 54," and so identified, is filed;

The State of West Virginia offers in evidence, and as part of the record, an attested copy of the application of the Pittsburgh
2998 & West Virginia Gas Company, applying for an increase of rates, in case No. 1105, and filed with and before the Public Service Commission of West Virginia, and verified by Mr. A. Hulburt under date of August 14, 1920, and which copy, for the purpose of identification, is marked "West Virginia Exhibit No. 55", and so marked and identified, is filed as part of the record;

The State of West Virginia offers in evidence, and as part of the record, an attested copy of an order entered by the Public Service Commission of West Virginia on the 25th day of November, 1918, filing the application of the Reserve Gas Company for authority to change its rates, in case No. 828, and which attested copy, for the purpose of identification, is marked "West Virginia Exhibit No. 56", and being so marked and identified is filed as part of the record;

An attested copy of the order of the Public Service Commission of West Virginia entered on the 11th day of March, 1919, upon application of the Reserve Gas Company for authority to change its rates, in case No. 828, allowing the rates and charges as set forth in said order, and which attested copy, for the purpose of identification, is marked "West Virginia Exhibit No. 57", and as so marked and identified, is filed;

2999 The State of West Virginia now offers in evidence an attested copy of an order entered by the Public Service Com-

ission of West Virginia on the 24th day of June, 1920, filing the pplication of the Manufacturers Light & Heat Company, in case o. 1071, for authority to change its rates, and which attested copy, r the purpose of identification, is marked "West Virginia Exhibit o. 58", and as so marked is filed;

The State of West Virginia now offers in evidence an attested copy f an order entered by the Public Service Commission of West Virinia on the 18th day of August, 1920, upon the application of the lanufacturers' Light & Heat Company for authority to change its ates, in case 1071, allowing the rates as set forth in said order, and hich attested copy, for identification, is marked "West Virginia xhibit No. 59," and being so identified, is filed.

Mr. Weil: These offers of exhibits Nos. 53, 54, 55, 56, 57, 58 and 9 are objected to as incompetent, irrelevant, and immaterial, there eing no objection however, to the form of certificates of these apers.

The Commissioner: Note the objection and let the exhibits be eceived, subject to the statement made by counsel.

Mr. Blue: It is agreed and stipulated by counsel for the
3000 plaintiffs, and the State of West Virginia, that if R. B. Bernheim were present and duly sworn as a witness by the commissioner, he would state under oath as follows:

First, that he is now and has been since the organization of the Public Service Commission of West Virginia in the year 1913, and at all times since that date, the secretary thereof; second, that the State House of West Virginia in which the offices of the Commission were located, was destroyed by fire on the 3rd day of January, 1920, and that the petitions or applications in case No. 1071, Manufacturers' Light & Heat Company, for authority to change rates, a petition or application in case No. 828, Reserve Gas Company, for authority to change rates, were lost or destroyed in and by such fire; third, that he would testify that the following named companies are Public Service Corporations having Tariffs filed with said Commission, although such tariffs were lost in the fire which destroyed the State House, but that the names of the Public Service Corporations appear on the list of Public Service Commission of West Virginia as follows:

Allen, Virgin I.
Bailey Gas Company.
Berea Heat & Light Company.
Bridgeport Natural Gas & Oil Company.
3001 Bristol Oil & Gas Company.
Buckhannon Fuel Company.
Cabot, Godgrey L.
Cameron Heat & Light Company, The.
Carnegie Natural Gas Company.
Cather Gas Company, J. B.
Charleston-Dunbar Natural Gas Company.
City & Suburban Gas Company.
Clarksburg Light & Heat Company.
Columbian Carbon Company.

Comet Oil & Gas Company, The.
Empire Petroleum Company.
Fay Company.
Federal Coal Company.
Gassaway Gas Company.
Glenville Natural Gas Company.
Harshbarger Oil & Gas Company.
Home Petroleum & Natural Gas Company.
Hope Natural Gas Company.
Huntington Developement & Gas Company.
Imperial Oil & Gas Products Company.
Jane Lew Light & Heat Company.
Keener's Oil, Natural Gas & Fuel Company.
3002 Light, Fuel & Power Company of West Virginia.
Lumberport Gas Company.
Manufacturers Gas & Electric Light Company.
Manufacturers Light & Heat Company.
Monarch Carbon Company.
Monongahela Valley Traction Company.
Montgomery Gas Company, The.
Mountain State Gas Company.
Natural Gas Company of West Virginia.
Northern Natural Gas Company.
Pittsburgh & West Virginia Gas Company.
Pt. Pleasant Natural Gas Company.
Raccoon Gas Company.
Randall Gas Company.
Reno Gas Company.
Reserve Gas Company.
Richter Oil Company.
Salem Natural Gas Company.
Shield's Oil & Gas Company.
Shinnston Gas Company.
South Penn Oil Company.
Centerville Pipe Line & Gas Company.
Columbia Gas & Electric Company.
3003 Southern West Virginia Oil & Gas Corporation.
Travis, G. B.
Troy Oil & Gas Company.
United Fuel Gas Company.
West Union Gas Company.
West Virginia Central Gas Company.
West Virginia Heat & Light Company.
West Virginia & Maryland Gas Company.
Wetzel Natural Gas Company.
West Virginia Traction & Electric Company.

But that the following companies do not appear on the list of the Public Service Commission of West Virginia, nor that the witness had personal recollection of their ever having filed tariffs with the Public Service Commission of West Virginia, although they might

ave made reports to the Inspector or Statistical Department of the ublic Service Commission, the companies being as follows:

Aizpuru Oil & Gas Company.
Dickinson, Joh. Q.
Gilmore, B. F.
Moore, Herman.
Ohio Fuel Oil Company.
Owens Bottle Machine Company.
004 Rosedale Fuel & Water Company.

Mr. Weil: This stipulation and agreement is made without *to* in- ending to admit that the companies named are all of them Public ervice Corporations, nor as an implication that they were all of them rganized and existing under the laws of the State of West Virginia.

Mr. John: The State of West Virginia here offers in evidence ertified copies of the reports and orders of the Public Service Com- ission of the Commonwealth of Pennsylvania in the following tyled cases, entered upon the dates following, namely:

Louis Franke vs. Johnstown Fuel Supply Company and People's Natural Gas Company, December 4, 1917;

People's Natural Gas Company vs. Public Service Commission of Pennsylvania, October 31, 1918;

Trades and Labor Council of Uniontown, and others, and John Duggan and others vs. Fayette County Gas Company, October 29, 1917;

Fayette County Gas Company vs. The Public Service Commission of Pennsylvania, October 31, 1918;

John O. Ulrich vs. Eastern Pennsylvania Light, Heat & Power Company, November 23, 1915;

3005 John O. Ulrich vs. Eastern Light, Heat & Power Company, April 3, 1917;

Fred Palmer-Porroner vs. The Consumers' Gas Company of Reading, October 29, 1917;

T. D. Washburn, and others, vs. McKeane Natural Gas Company, January 14, 1918;

William B. Horton vs. Shenango Valley Electric Light Company, December 10, 1918;

City of New Castle, and others, vs. City of New Castle Water Company, March 31, 1919;

H. C. Gibson, and others, vs. Union Heat & Light Company, April 15, 1919;

C. W. Dean vs. Abington Electric Company, May 13, 1919;

R. W. Peters, and others, v. Pennsylvania Gas Company, August 26, 1919;

H. N. Fleming vs. Home Heating Company, October 28, 1919;

W. Percival Johnson, and others, vs. Philadelphia Suburban Gas & Electric Company, October 28, 1919;

H. N. Smith, and others, vs. Home Electric Light & Steam Heating Company, November 6, 1919;

I. N. Hickman, and others, vs. Randall Gas Company, November 11, 1919;

F. L. Williams, and others, vs. Union Heat & Light Company, November 25, 1919;
Application of Glen Mills Electric Company, February 3, 1920;
Austin Borough Council vs. Potter Gas Company, April 20, 1920;

which reports and orders are certified by the Secretary of the Public Service Commission of Pennsylvania under the seal of said Commission, and are asked to be marked as "West Virginia No. 60."

Mr. Weil: The exhibit offered in evidence is objected to, first, as incompetent, irrelevant and immaterial; second, it is objected to as not being a proper order of the decisions of the Superior Court of Pennsylvania; third, it is objected to as not being an offer of any complete record in any of the cases referred to, but only an emasculated part of said record without having, together with the offer, the whole record showing the issues presented and the questions accordingly decided. It is further objected to as being an attempt to place in evidence what purports to be certain public reports of the Public Service Commission of Pennsylvania, containing the report of the Commission only, without the record upon which the report
3007 was made; and also certain alleged reports of what purports to be the Superior Court opinion in the Superior Court of Pennsylvania, and not the official reports of said court. All of the offers objected to as evidence, the same standing in relation to this controversy the same as would be the reports of cases decided in the respective states of the Union, or by the respective Service Commissions of the Union which can be referred to as precedents or arguments, and are not proper evidence with which to encumber the record. And lastly, objected to for the reason that not one of said cases or proceedings referred to purport to be the entire proceedings in any of those cases.

Mr. John: The State of West Virginia replies that the opinions of the Superior Court of the Commonwealth of Pennsylvania in the cases of Peoples' Natural Gas Company against the Public Service Commission of the said Commonwealth, and Fayette County Gas Company against the Public Service Commission of said Commonwealth are not offered by the State of West Virginia for the purpose of proving the law or facts therein stated, the same having been attached by the Clerk of the said Public Service Commission of Pennsylvania to and in connection with the findings and orders of
3008 the said Commission in the said cases, apparently for the purpose of showing that the findings of the said Commission were approved and confirmed by the said Superior Court of Pennsylvania; and the State of West Virginia therefore offers, with the consent of the complainants, States of Pennsylvania and Ohio, to withdraw and detach said opinions from the said orders and findings to which the same were appended by the said Clerk, and to which they relate. The State of West Virginia further replies that the said reports and orders of the said Commission, and its findings in the cases embraced in West Virginia Exhibit No. 60 are not offered for the purpose of proving the facts therein narrated or stated, nor in relation to the issues or controversies presented to the said Commis-

n upon such facts in any of said cases, but that the said opinions, lers and findings of the Public Service Commission of Pennsylnia are only offered for the purpose of *w*howing the rule and policy the said Commonwealth of Pennsylvania in respect to the matters l things involved in the said proceedings, as determined and exssed by the Public Service Commission of the State of Pennsylnia in relation to the matters of Public Service to which the said oceedings relate.

Mr. Weil: Counsel for complainants reserve their argu-09 ment on the admissibility of the testimony to the proper time and place, to-wit, when it is presented to the court.

Mr. John: The State of West Virginia, having offered the opinion the Superior Court of Pennsylvania in the cases of Peoples' tural Gas Company against the Public Service Commission of est Virginia, and Fayette County Gas Company vs. the Public rvice Commission of Pennsylvania, because the same were attached the findings of the Public Service Commission of Pennsylvania said proceedings, and the complainant states of Pennsylvania and io having objected to the same for the reasons stated in the jection, the State of West Virginia now withdraws from its offer, id opinion of the said Superior Court of Pennsylvania in the said o cases mentioned.

The Commissioner: Let the exhibit be received subject to the tements of counsel.

The Commissioner: Let the transcript show that counsel for the ate of West Virginia give notice to the counsel for the Commonealth of Pennsylvania and the State of Ohio that so far as they e at present advised they are now closing their case in defense for e State of West Virginia, subject however, to the further understanding that if they are advised to introduce further testi-010 mony or evidence, they reserve the right so to do until February 28, 1921, giving in this event, at least forty-eight hours' otice to counsel for the complainants.

ORIGINAL, #20 & #21.

1 THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Complainants' Testimony in Rebuttal.

Proceedings of March 22, 23, 24, 1921.

12 THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Complainants' Testimony in Rebuttal.

Proceedings of March 22, 1921.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, sq.

On behalf of the State of Ohio, Freeman T. Eagleson, Esq.

On behalf of the State of West Virginia, Fred O. Blue, Esq., Philip . Steptoe, Esq., W. S. John, Esq., and George M. Hoffheimer, Esq.

Pursuant to notice the Commissioner and Counsel met at room 905, 545 William Penn Way, Pittsburgh, Pa., for the purpose of taking testimony in rebuttal on the part of the complainants, 3013 and thereupon, pursuant to the order of the Court governing the taking of the testimony, the States of Ohio and Pennsylvania opened their testimony in rebuttal.

EDWIN ROBINSON, called as a witness, having been duly sworn, testified as follows:

Direct examination:

Mr. Weil:

Q. Mr. Robinson, where do you reside?
A. Fairmont, W. Va.
Q. What is your occupation?
A. I am Secretary of the West Virginia Oil and Natural Gas Association.
Q. How long have you been Secretary of that Association?
A. Since it was organized in 1915.
Q. What is the purpose of the organization?
A. The purpose is to gather information of the oil and gas industry of the State and to assist the different companies, different producers of the State, in matters that pertain to their business, giving them statistics that they ask for and need for rate making purposes and other purposes; and also to gather information relative to the amount of taxes paid and royalties and rentals and acreage; in fact, gather what statistics that is vital to the oil and gas industry 3014 in West Virginia.

Q. Have you been engaged as Secretary of this association in that work since you assumed that position, since its organization?
A. Yes, sir.
Q. Have you devoted your whole time and attention to the business and activities of the association?
A. My whole time is taken up with it.
Q. In connection with your work as Secretary of the association, have you compiled the statistical data from time to time for the purpose of being submitted to various committees of the Legislature and to the Legislature of the State of West Virginia, on the various hearings that have taken place during the last six years, on various bills introduced into the Legislature, affecting the oil and gas industry of the State?
A. I have.
Q. Have you appeared from time to time before the Public Service Commission in connection with hearings conducted by them, affecting the oil and gas industry?
A. I have.
Q. What is the membership of your organization?
A. There are about two thousand members.
Q. That is two thousand producers of oil and gas?
A. Oil and gas.

Q. In the State?

3015 A. Yes, sir.

Q. Is it limited to the State of West Virginia,—I mean to see who have oil and gas interests in the State of West Virginia?

A. Practiaclly so; there are a few outside of the State that are members of the association, but very few, and those people are interested in matters in West Virginia.

Q. Are you the active executive officer of the association?

A. I am.

Q. There is no other active officer than yourself?

A. No, sir.

Q. All this work has been under your personal and direct supervision, and much of it done by you personally?

A. Yes.

Q. In the preparation, collection and collation of statistical data, part of which I presume has been done by yourself and part you have secured from others——

A. Yes, sir.

Q. Have you obtained portions of this information from public records, and if so what?

A. I have obtained it from the Board of Public Works and from the Public Service Commission; some of it from the Counties, relative to the taxes, from the assessment books; some by making a personal inquiry from the people interested; in fact, in every way that I possibly could gather information that I could rely on.

3016 Q. Are you familiar with the situation of the local companies supplying the cities of Charleston, Huntington, Morgantown, Fairmont and Clarksburg, in the State of West Virginia?

A. I am.

Q. Do you know, in a general way, the lines through which gas is obtained and supplied by the various companies in those respective localities, as to their location and extent?

A. Yes, I am; I am pretty familiar with all those lines in those towns.

Q. It has been part of your business as secretary of this association, and by reason of your connection with the oil and gas industry prior to that time, to familiarize yourself with those conditions?

A. Yes, I have been interested in rate cases where these matters would come up.

Q. Were you in the oil and gas business prior to the time you were secretary of this association?

A. Yes.

Q. Just give us in a general way what your experience was?

A. In 1902 I was one of the organizers of what was known as the Fairmont Gas and Light Company, and I was the secretary up until 1911; then I was in business for myself from 1911 to 1915, in the oil and gas business; in 1915, this association was organized and I had been connected with that ever since.

Q. You say you were in business for yourself—you mean

3017 as a producer——

A. Yes, sir.
Q. Or operator?
A. Yes, sir, speculator in oil and gas leases, and drilling of wells.
Q. Taking up the town of Fairmont first, have they lines extending into the gas fields?
A. Yes, sir.
Q. To what extent?

Mr. Hoffheimer: This general line of testimony is objected to as not proper matter in rebuttal.
The Commissioner: Note the objection and let the witness answer.

A. The Fairmont Company has two lines from Fairmont to its compressing station on Dunkard Mill Run; they have an eight inch line, that was laid by the Fairmont Gas and Light Company in 1902. The six inch line that extended out that way was built by the Fairmont and Frafton Gas Company and extended from Fairmont to Flaggy Meadow Run. That line was laid by the Fairmont and Grafton Gas Company, the Fairmont Gas and Light Company having purchased that Fairmont plant of the Fairmont and Grafton Gas Company in 1902,—we got that six inch
3018 pipe line. This eight inch line, when we laid it, we laid it as far as James Fork, about eight miles from Fairmont; then extended the four inch line over to about four miles to some wells that we had drilled. The six inch line runs as far as Logansport,—near Logansport, in Mannington District, a distance of about eighteen miles from Fairmont. They also have a line, a six inch line that runs very close to the compressing station, in connection with an eight inch line near the compressing station, to the Carothers Farm at Cross Roads; that is about ten to twelve miles from the compressing station, about twenty miles from town, from Fairmont. They also have an eight inch line that connects with the line going from this line, starting about a mile from the compressing station and goes to Lumberport in Harrison County. That line is about fourteen miles,—that eight inch line from the point where it starts out in the field, gas is carried from that eight inch line about twenty one or twenty two miles. Now from those various lines, these six and eight inch lines that they have out in the field, there are a series of gathering lines to wells; they have wells clear over there; they did have wells away up on Robinson Run. I made a physical examination of their property for Mr. Wheelwright, President of the Fairmont Company in 1914.

Mr Hoffheimer:

Q. You are using the word "They." Who do you mean
3019 by the word "They"?
A. The Fairmont Company.
Q. Which Company?
A. The gas company at Fairmont, which is now the Monongahelia Valley Traction Company,—it afterwards took it over.

There are three main trunk lines of the Fairmont Company that come out of their compressing station. The compressing station is between six and seven miles from town.

Mr. Weil:

Q. Company now supplies this district of Fairmont with gas,—what is the name of the present company?

A. Monongahelia Valley Traction Company; it is the successor to the Fairmont Gas and Light Company.

Q. Give us the situation at Morgantown?

A. At Morgantown, there are two gas companies, the West Virginia Traction and Electric Company and the Randall Gas Company. These companies, both of these companies have lines into Pennsylvania. The West Virginia Traction and Electric Company has its compressing station,—I have got a memorandum here, I will have to look at that for these two companies,—it has a compressing station on Scotts Run, about six miles from Morgantown, and they have two eight inch lines from the compressing station to Morgantown. They have two six inch lines from the compressing station over into Marion County, a distance of about fif-
3020 teen miles to wells that they have over there. They have an eight inch line that goes back beyond Mt. Morris, six or seven miles back of the gas field in there. That line is about fifteen miles long from their compressing station.

Q. Is Mt. Morris in Pennsylvania?

A. Yes, sir, then they have a line that runs from the compressing station,—a six inch line, six to seven miles long, that runs from the compressing station to Point Marion; this line supplies some of the wells on this line; also supplies point Marion with some gas.

Q. Point Marion, W. Va.?

A. Pennsylvania.

Q. What is the actual length of those respective lines?

A. Those lines that come into, come about twenty miles from Morgantown, that is the line coming back of Mt. Morris, it is a distance of about twenty or twenty one miles, and this line that goes back into Marion County; some of those wells are within four or five miles of Fairmont. They have got wells that are drilled on Pharoahs Run; the Randall Gas Company have an eight inch line that comes down near Star City and crosses the river there and goes over into the Dunkard's District in Pennsylvania, in Green County; that is the Randall Company. That line is about seven or eight miles; that is an eight inch line; it is connected up with wells back in that country, gathering lines that run back two
3021 or three miles. They have a compressing station back about five to six miles on this line.

Q. From where?

A. From Morgantown on this eight inch line. Then they have a line, another line that crosses the river not far from the Eureka Oil Company's pipe line plant at Morgantown. That line goes

back into, back to Indian Creek, and up near to McCurdysville, that is sixteen to seventeen miles back in Monongalia County. They have a line that runs off that down on to the Hibbs Farm in Pawpaw District. That line is sixteen to eighteen miles from Morgantown. The other line, the eight inch line, I should judge is about eight or nine miles from Morgantown. They run in different directions; one goes sort of northwest, the other one almost due west from Morgantown.

Q. Have all these lines, gathering lines, extending out from the main line, so as to connect up with wells?

A. They have all gathering lines that connect up with wells in that neighborhood.

Q. Give us the situation at Clarksburg?

Mr. Hoffheimer: Objected to as not proper matter in rebuttal.

The Commissioner: Let the objection be noted and the witness will answer the question.

3022 A. Clarksburg is supplied by the Clarksburg Light and Heat Company; they have a sort of a belt line around Clarksburg, in which they have nine lines running out in different directions to gas fields. They have one line that runs, that goes out to Big Isaac in Doddridge County, about ten or twelve miles from Clarksburg, and from the end of that line there is another line up there, about two miles to some well—twelve to fourteen miles, altogether the length of that line. These lines are connected into this belt line that runs around the city; that line is composed of six and eight inch pipe that is tied in with these other lines, running out from them—a system that they have there. They have a line running down to Quiet Dell, five to six miles, I should judge down there. They have another line to Bridgeport, West Virginia, which is about nine or ten miles across there, and one to Glenn Falls, that is up on the river, that is about four miles. They have another line over to Ten Mile Creek in Harrison County, that is about four miles probably six miles from town, four to six miles from town. They have pipe lines running anywheres to fifteen miles—that is probably the furthest line, the longest line they have, the one going over towards Big Isaac. The other lines run anywhere from four to eight miles

Mr. Weil:

Q. You say they have nine such lines?

3023 A. About nine of them, yes, sir.

Q. Do all of these lines have their gathering lines too—

A. All have gathering lines connected up with the wells in that neighborhood.

Q. How many compressing stations did you say they had?

A. I think they are building a compressing station at Clarksburg; they may have finished it, but I am not so sure; I know they were talking about it last year, building a compressing station.

Mr. Hoffheimer: I move to strike out this testimony as to the compressing station as manifestly hearsay.

The Commissioner: Let the motion be noted on the record.

Mr. Weil:

Q. What is the situation at Charleston?
A. Charleston is furnished by the United Fuel Gas Company. ey have one gas line, eight inch gas line, that runs down from nawha City to Charleston, about two and a half to three miles. Kanawha City, they buy some gas there from probably four or e wells, and also have one well of their own. The main supply for Charleston comes from what is known as the Glendennin 24 Field; they have three lines from Charleston to their Walgrove compressing station on Elk River which is about four- en or fifteen miles above Charleston. They have two eight inch d one ten inch discharge lines from that station to Charleston. en they have three or four—three lines that run back into this endennin Field. They vary in length anywhere from five to ten iles. These lines have gathering lines into these wells, are con- cted up with them. These three lines running back from the con- essing station into the Glendennin Field are suction lines; they ve their wells connected up; that is where they get the gas for arleston. Those lines, some of them, are lines that go twenty-five iles into Charleston.
Q. Do all these lines have gathering lines connected up with the rious wells located in the respective vicinities?
A. Yes, sir, all connected up with gathering lines.
Q. What is the situation at Huntington?
A. Huntington is supplied by two companies, the Huntington evelopment and Gas Company and the United Fuel Gas Company. he Huntington Development and Gas Company gets its gas in ncoln County. They have two twelve inch lines about twenty iles long to their compression station at Hubball on the Guyan iver; these various lines run out into the field connecting up with her wells. They have one eight inch line running over to Nye in Putnam County about eight to ten miles long; that goes 25 about twenty-eight miles before it gets to Huntington. They have branch lines or gathering lines connecting up there. he Huntington Development and Gas Company has got a very rge acreage—that Lincoln Land Association property.

Mr. Hoffheimer: I move to strike out the statement that the luntington Gas and Development Company has a very large acreage being a statement of an opinion or a conclusion and not a state- ent of facts, and also as not proper matter of rebuttal.
The Commissioner: Note the motion upon the record.

A. The United Fuel Gas Company that supplies Huntington gets s gas from the Glendennin Field, a great deal of it. That line is bout forty-five miles long and that gas goes through the compressor t the compressing station on the Kanawha River there right by itro.

Mr. Weil:

Q. Turning to Charleston for a moment, does this Charleston Company supply South Charleston and other points adjacent thereto?

A. It furnished some; the other gas furnished there by the Charleston Dunbar Natural Gas Company. That company furnishes St. Albans and Dunbar and the Government plant, the
3026 Armor and the Projectile plant at South Charleston. The Company gets its gas over in Lincoln and also in Putnam County in that Nye Field, a distance of over twenty miles.

Q. What are the sizes of these lines?

A. They have one ten inch line; they have a compressing station back in there——

Q. About how long is that line?

A. That line is probably about eighteen miles back to their compressor plant.

Q. It has gathering lines, the same as these other lines?

A. Yes, sir.

Q. Does that Charleston Dunbar Gas Company also supply Charleston with gas?

A. No, I think not.

Q. Wheeling, is supplied by the Natural Gas Company of West Virginia?

A. The domestic consumers and a few of the industrial consumers.

Q. That gas is obtained by lines which run into Pennsylvania?

A. Yes, sir.

Q. From time to time, as the executive officer of your association have you obtained statements from the officials of the Public Service Commission and of the Department of Public Works?

A. I have.

Q. I show you statement marked for identification Pennsylvania Exhibit No. 50, and will ask you by whom was that state-
3027 ment furnished to you?

A. This statement was furnished to me by Mr. Nease.

Q. Who is Mr. Nease?

A. The statistician for the Public Service Commission of West Virginia.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 50.

Mr. Hoffheimer: Objected to on the following grounds: (1) That the paper is not proper evidence in rebuttal. (2) If offered for the purpose of contradicting the witness Nease, no proper foundation for such contradiction has been laid by calling the attention of the witness Nease thereto, when he testified on behalf of the defendant. (3) If offered as a declaration or admission by Nease, the same is not in any manner binding upon the defendant. (4) The paper has not been properly authenticated, nor has any proper foundation been laid for the introduction thereof in evidence. (5) Because the paper purports to be a mere ex parte statement by Nease, out of Court, not under the sanctity of an oath. (6) Because the paper

does not purport to be based upon, nor to set forth the figures
3028 or other information, contained in any public documents of the State of West Virginia. Lastly because the paper is incompetent, irrelevant and immaterial.

The Commission: Let the objection be noted on the record, and the paper received, marked Pennsylvania Exhibit No. 50.

Mr. Weil: This Exhibit is offered more particularly in rebuttal of the testimony of Mr. Nease as to the amount and percentage of the total production of the State of West Virginia, consumed within the State. Mr. Nease when on the stand having produced certain statements of the State's production, particularly for the year 1919, and the State's consumption, in which the figures given by him, differ materially from those contained in Exhibit No. 50. Exhibit No. 50 is here copied into the record.

Natural Gas Statistics—State of West Virginia.

The total production of natural gas, within the State of West Virginia, for the year ended December 31, 1919, was approximately 220 billion cubic feet. Approximately 80 billion cubic feet of the State's production (or the equivalent thereof) and 4 billion cubic feet of imported gas was consumed within West Virginia and approxi-
3029 mately 140 billion cubic feet piped to other States.

The production of natural gas within West Virginia for the years 1908 to 1919, both years inclusive, was as follows:

Year.	Cubic feet.
1908	112,181,278,000
1909	166,435,092,000
1910	190,705,869,000
1911	206,890,576,000
1912	239,006,682,000
1913	245,453,985,000
1914	236,489,175,000
1915	244,004,159,000
1916	299,318,907,000
1917	289,898,967,000
1918	280,289,044,000
1919	219,886,837,000

The statement following the quantity of natural gas exported from the State.

Year.	Exported from State (cubic feet).	Percentage of State's total production.
1908	61,644,618,000	55%
1909	96,074,387,000	58%
1910	120,508,811,000	63%
1911	132,867,059,000	64%
1912	151,144,250,000	63%
1913	155,501,876,000	62%
1914	150,161,936,000	63%
1915	154,630,164,000	63%
1916	200,004,740,000	67%
1917	196,679,263,000	68%
1918	174,664,650,000	62%
1919	139,939,062,000	64%

The consumption of gas within the State was as follows:

3030

Year.	Consumption within State (cubic feet).	Percentage of State's total production.
1908	50,536,660,000	45%
1909	70,360,705,000	42%
1910	70,197,058,000	37%
1911	74,023,517,000	36%
1912	87,862,432,000	37%
1913	89,952,109,000	37%
1914	86,327,239,000	37%
1915	89,373,995,000	37%
1916	99,314,167,000	33%
1917	93,220,204,000	32%
1918	105,624,394,000	38%
1919	83,769,937,000	36%

These figures include gas imported from other States. The importations for 1919 were 382,162,000 cubic feet.

Following are statements showing the consumption of natural gas within West Virginia by different classes of consumers.

Domestic Consumers.

Year.	Number consumers.	Gas consumed (cubic feet).	Percentage of of State's total production.
1909	57,208	9,907,023,000	5.6%
1910	71,900	11,173,508,000	5.9%
1911	70,880	11,311,715,000	5.5%
1912	74,985	13,288,159,000	5.6%
1913	82,139	12,961,799,000	5.3%
1914	88,344	14,265,209,000	6.0%
1915	94,098	15,220,207,000	6.3%
1916	109,216	15,237,221,000	5.1%
1917	122,329	16,404,234,000	5.5%
1918	125,341	19,618,873,000	6.9%
1919	130,780	18,753,986,000	8.5%

3031

Industrial Consumers.

Year.	Gas consumed (cubic feet).	Percentage of State's total production.
1909	60,453,682,000	36.4%
1910	59,023,550,000	31.1%
1911	62,711,802,000	30.5%
1912	74,574,273,000	31.4%
1913	76,990,310,000	31.7%
1914	72,062,030,000	31.0%
1915	74,153,788,000	30.7%
1916	83,767,519,000	27.9%
1917	76,816,465,000	26.5%
1918	86,005,521,000	31.1%
1919	65,015,951,000	27.5

Large quantities of natural gas are used within the State in the manufacture of carbon black. The average yearly consumption for the last ten years for this purpose was approximately 23 billion cubic feet per year. During the year 1919, approximately 21 billion cubic feet was used for this purpose. The figures for "Industrial Consumption" include this case.

Prepared by H. E. Nease, Statistician, Public Service Commission of W. Va.

3032 Mr. Weil:

Q. When was this statement, Exhibit No. 50, given to you by Mr. Nease?

Mr. Hoffheimer: Objected to as immaterial.

The Commissioner: Let the objection be noted and let the witness answer.

A. Last August, I think, along the later part of July or in August, sometime in there.

Mr. Weil:

Q. I now show you paper marked for identification Pennsylvania Exhibit No. 51, and I will ask you how you obtained that Exhibit?

A. I obtained this exhibit from Mr. Nease, statistician of the Public Service Company of West Virginia.

Q. Was that delivered to you at your request by Mr. Nease?

A. It was.

Q. And when was it delivered?

A. Either the last of July or along in August.

Q. Of last year?

A. Last year, 1920.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 51 in rebuttal to the testimony of Mr. Nease, in which certain
3033 statements and testimony was given by Mr. Nease, in which the figures and percentages differ from those contained upon Exhibit No. 51.

Mr. Hoffheimer: Objected to upon the same grounds as stated by way of objection to Exhibit No. 50.

The Commissioner: Let the objection be noted on the record and the paper be filed of record, marked Pennsylvania Exhibit No. 51.

Mr. Weil:

Q. I now show you paper marked for identification Pennsylvania Exhibit No. 52 and ask you who furnished you with that exhibit?

A. Mr. Nease, statistician for the Public Service Commission of West Virginia.

Q. When?

A. Either the last of July or sometime in August of 1920.

Q. Were Exhibits Nos. 50, 51 and 52 furnished you at the same time by Mr. Nease, or at different times?

A. No, at the same time.

Q. Were they furnished to you in compliance with requests by you for such information?

A. They were.

3034 Q. Did you ask this information from Mr. Nease to be made from the records of the Public Service Commission?

Mr. Hoffheimer: Objected to as immaterial.

The Commissioner: Let the objection be noted and the witness answer.

A. I did.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 52 in rebuttal to the testimony of Mr. Nease, he having in certain of his statements and in his testimony given facts and figures different from those contained upon this exhibit.

Mr. Hoffheimer: Objected to upon the same grounds as stated in objection to Exhibits No. 50 and 51. The further objection is made in connection with this offer and the previous offers of Exhibits Nos. 50 and 51 insofar as the same assumes that the papers offered are in contradiction of or inconsistent with the testimony of Mr. Nease on behalf of the defendant.

The Commissioner: Let the objection be noted and the paper be filed of record marked Pennsylvania Exhibit No. 52.

3035 Mr. Weil:

Q. I now show you paper marked for identification Pennsylvania Exhibit No. 53, from whom did you obtain this exhibit?

A. I got this from Charles B. Ebert, Acting Chief Inspector——

Q. Of the Public Service Commission?

A. Yes, sir, of West Virginia.

Q. When was that?

A. I got this statement from him early in September of last year; I was in his office when he was compiling these figures; he gave me that statement with one or two others.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 53 in rebuttal to the testimony of the defendant of certain facts and figures purported to have been compiled from the records of the Public Service Commission of West Virginia, said Exhibit showing facts and figures different from and in contradiction of some of those offered by the defendant, as compilations from the records of said Public Service Commission; said exhibit, when and if admitted, to be copied into the record at this place.

Mr. Hoffheimer: The offer is objected to upon the following grounds: (1) Because the paper is not proper evidence in
3036 rebuttal. (2) Because it is not properly authenticated, nor has any proper or sufficient foundation been laid for the introduction thereof in evidence. (3) Because the paper is or purports to be ex-parte declarations of Mr. Ebert, made out of court, not being sworn as a witness, and whose statements or declarations are not binding on the defendant. (4) Because the paper was not furnished in any official capacity, nor by any lawful authority vested in Mr. Ebert or any person holding or purporting to hold the office of Chief Inspector or acting Chief Inspector. (5) Because the paper is a statement of mere conclusion. (6) Because it does not purport to be based upon any official or public records in the custody or control of Mr. Ebert or over which he has any jurisdiction. (7) Because the evidence is incompetent, irrelevant and immaterial. Objection is also made to the statement in offering the paper in evidence to the effect that it contradicts or is inconsistent with the evidence or testimony introduced by or on behalf of the defendant.

3037 Mr. Weil: Pennsylvania Exhibit No. 53 which has be
objected to as not being rebuttal testimony and as not bei
competent evidence is offered and the admission thereof insist
upon by counsel for complainants upon the following ground: T
evidence in this case heretofore given shows that a large number
the records of the Public Service Commission and the Board of Pu
lic Works were destroyed in the fire which destroyed the Capitol
the State of West Virginia; the evidence of Mr. Nease heretofo
taken purports to be in many respects a compilation, taken from tho
records prior to their destruction, of the total production in the St
of West Virginia, of the total consumption in the State of West V
ginia, of the amount of production by seven designated compani
of the amount of the consumption both in West Virginia and ou
side, of these seven designated companies, of certain percentag
which the consumption in West Virginia bore to the entire produ
tion in the State of West Virginia, the amount of gas exported fro
the State of West Virginia, the amount of gas imported in
3038 the State of West Virginia, and like testimony. This tes
mony of Mr. Nease was stated by him to be compilations ma
by him as statistician of the Public Service Commission, from t
records on file in the office of the Public Service Commission a
in the office of the Board of Public Works. The testimony purport
to be what those records in those public offices would show. Th
testimony is offered in rebuttal to that testimony because the fac
and figures here put down are different, as being a compilation ma
by an officer of that same Public Service Commission of many
the same facts and figures, presented to the secretary of the Nation
Gas Association of West Virginia as being a compilation from t
same Public records, made by a public officer employed in that d
partment, having power and authority by reason of his office
examine and compile such data, and who we will show by the witne
on the stand was accustomed to and did from time to time compi
such information and data and published the same or present- t
same to the public; this being offered as a declaration by t
3039 Public Service Commission of West Virginia through one
its officers to the public of a state of facts and figures diffe
ing from and contradictory to those presented in this case by i
chief statistician.

It is further offered for the purpose of showing that those fac
and figures presented in this case by its Chief Statistician were
juggled and arranged as to present the facts and figures in a ligh
and from which an inference could be drawn contrary to the actu
facts and situations as presented by the figures and reports themselv
and the data there on file.

It is further offered as a declaration of the Public Service Com
mission of the State of West Virginia of what is shown by its ow
books and records and reports, as made by one of its authoriz
representatives.

It is further offered as the best evidence procurable at this tim
under the circumstances, where the originals of many of the repor
and records from which the facts and figures here compiled wer
taken, have been destroyed by fire.

3040 Mr. Weil:

Q. Mr. Robinson, this Exhibit No. 53 which I now show you, were copies of that printed and published by the Public Service Commission of West Virginia and circulated to the public?

Mr. Hoffheimer: Objected to because the witness is not shown to have any knowledge on the subject, and second, the printed report itself, if in existence or available, should be produced, and if not produced its absence should be accounted for.

The Commissioner: Let the objection be noted and let the witness answer.

A. I saw some of these figures in a newspaper report in Charleston along in the Fall.

Mr. Weil:

Q. Newspaper report of what?

A. Of the Public Service Commission of West Virginia, of the gas sold and produced in the State.

Mr. Hoffheimer: I move to strike out the answer as not responsive to the question.

3041 The Commissioner: Note the motion on the record.

Mr. Weil:

Q. Was that publication made as a report by the Public Service Commission of West Virginia?

Mr. Hoffheimer: Objected to as calling for the opinion or conclusion of a witness and as manifestly incorrect in that the Public Service Commission of West Virginia or any other department of that State does not make annual or other official reports by newspaper statement.

The Commissioner: Let the objection be noted on the record and the witness answer.

A. It simply stated that it was a report, came out from the Public Service Commission of certain figures and stuff put down there; I thought I had it written; It was just a little short article that I saw in one of the papers. I remember distinctly of cutting it out.

Mr. Hoffheimer:

Q. You saw the article and assumed that the Public Serv-
3042 ice Commission or one of its officers put it out?

A. Yes, sir, when I saw it in the newspaper.

Q. You saw it as a news item appearing in the public press?

A. It came from the meter department I think.

Mr. Blue:

Q. It was merely a statement appearing in the newspaper?
A. Yes, sir.
Q. Not under any official authority of the Public Service Commission?
A. No, sir, no name signed.
Q. Appearing among the general news?
A. Yes, sir.

Mr. Hoffheimer:

Q. It didn't even tell who issued it?
A. I think it set forth from the meter department.

Mr. Blue:

Q. Gathered up by a newspaper reporter among the State news, and that is all it purported to be?
A. I don't know how it was gathered up.
Q. It didn't purport to be anything else?
A. It gave some figures that I noticed; I remember of clipping it out; I thought I had it in my pocket.

3043 The Commissioner: Let Pennsylvania Exhibit No. 53 be received, subject to the objection of counsel.

Mr. Blue:

Q. Where does Mr. Charles B. Ebert live?
A. At Charleston, I suppose, I only saw him there.
Q. Charleston, W. Va.?
A. Yes, sir.
Q. As far as you know he is living there yet?
A. I don't know where he lives.
Q. So far as you know?
A. So far as I know, yes, sir.
Q. You have no knowledge or information that he moved away from Charleston?
A. No.
Q. West Virginia?
A. No.
Q. There is no reason that you know of why you cannot bring him personally to testify as a witness in this case?
A. Why, I, don't know anything about that.
Q. As far as you know there is no reason why the complainants in these two cases, Ohio and Pennsylvania, cannot bring him here to testify as a witness?
A. No, sir.
Q. He is available as a witness?
3044 A. Yes, sir.
Q. And so far as you know could be or can be produced by the complainants in this case if they chose to do so?
A. As far as I know.

Mr. Weil:

. Do you know anything about that?
. I don't know a thing about it.
. Why don't you say so?
. I don't know anything about it; I only know I saw him when
t this statement from him.

Mr. Blue:

. Do you know of any efforts that Pennsylvania and Ohio have
e to bring him or get him here as a witness?
. I don't know anything about that.
. They didn't make any effort to get you here except to ask
to come?
. That was all.
. You were not subpœnaed here?
. No.

3045 Pennsylvania Exhibit No. 53 is here copied into the record as follows:

Inspection Department.

Gas Utilities.

Summary of the Natural Gas Production, Importation, Sales, and Exportation for the Fiscal Year Ending June 30, 1920.

1. Sold in cities and towns in W. Va.	51,525,765 Mcf.		
J. " " field and main lines "	35,883,029 "		
K. Total Sales in W. Va.	87,408,794 "	87,408,794 Mcf.	
L. Sold to W. Va. utilities		48,806,800 "	
M. Exported from W. Va.		142,519,562 "	
N. Line loss, etc.		66,357 "	
O. Credit Total		278,801,513 Mcf.	
C. Purchased from W. Va. producers	34,932,777 Mcf. from 1,074-2/12 Wells.*		
E. " " " utilities	49,012,245 "		
F. Imported to W. Va.	5,435,663 "		
G. Error in reporting	326 "		
Total purchases and imports	89,381,011 "	89,381,011 Mcf.	
B. Produced by Utilities from 7,709-5/12 wells		*189,420,502 "	
H. Debit Total		278,801,513 "	

3046 *Monthly average of wells.

In item F, 755,666,000 cubic feet of the 5,435,663,000, was "forced importation" through a main trunk line, from the McKeesport, Pa., gas field, while the latter was in its prime. While the utility exports gas to Pennsylvania regularly and imports none from Pennsylvania, it was compelled to take the quantity named above during one month.

(Sgd.) CHAS. B. EBERT.
CHAS B. EBERT,
Acting Chief Inspector.

3047 Mr. Weil:

Q. Mr. Robinson, as part of your duties as secretary of the West Virginia Gas Association—is that the name?

A. Oil and Gas Association.

Q. Did you make any investigations and compilations of the acreage held by operators in West Virginia?

A. I have.

Q. Did you at our request separate the acreage held by operators in West Virginia other than the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, Manufacturers Light and Heat Company, which have been referred to in this evidence as the seven companies?

A. I have.

Q. Did you separate into developed and undeveloped——

A. Separated into developed and undeveloped acreage.

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been laid for this evidence, nor has the witness shown to have any knowledge on the subject.

The Commissioner: Let the objection be noted and the witness answer.

3048 Mr. Weil:

Q. What was the amount of the developed acreage held by other operators in the State of West Virginia other than those seven companies?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been laid for this evidence, nor has the witness shown to have any knowledge on the subject.

The Commissioner: Let the objection be noted and the witness answer.

A. 524,007 acres.

Mr. Weil:

Q. And undeveloped?

A. 1,416,659 acres.

Q. Total?
A. 1,940,666 acres.
Q. Does that purport to include all of the operators in West Virginia other than in those seven companies?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been
3049 laid for this evidence, nor has the witness shown to have knowledge on the subject and as calling for a mere opinion or conclusion.
The Commissioner: Let the objection be noted and the witness answer.

A. No, it does not include all.

Mr. Weil:

Q. Have you made any estimates of the amount held by other operators not included (interrupted)

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been laid for this evidence, nor has the witness shown to have any knowledge on the subject and as calling for a mere opinion or conclusion.
The Commissioner: Let the objection be noted and the witness answer.

A. I have.

Mr. Weil:

Q. What is that estimate as to development?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been
3050 laid for this evidence, nor has the witness shown to have any knowledge on the subject and as calling for a mere opinion or conclusion.
The Commissioner: Let the objection be noted and the witness answer.

A. Developed 100,000 acres.

Mr. Weil:

Q. Undeveloped?
A. 300,000 acres; total 400,000 acres.
Q. Taking the amount of the developed and undeveloped and total acreage of the seven companies as testified to by Mr. Nease, being 689,305 acres of developed, 1,866,720 acres of undeveloped and a total of 2,556,025 acres of the seven companies as testified to by Mr. Nease, what would be the percentage held by operators other than the seven companies, without including your estimates of those not ascertained?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal; for the further reason that no proper foundation has been laid therefor, nor is the witness shown to have any competent knowledge on the subject, being a conclusion or opinion of the witness, and lastly as incompetent, irrelevant and immaterial.

3051

The Commissioner: Let the objection be noted and the witness answer.

A. The developed shows 43.2.

Mr. Weil:

Q. Undeveloped?

A. 43.1 and the total 43.2.

Q. What was percentage including your estimate on unascertained acreage?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal; for the further reason that no proper foundation has been laid therefor, nor is the witness shown to have any competent knowledge on the subject, being a conclusion or opinion of the witness, and lastly as incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted and the witness answer.

A. Developed 47.5; undeveloped 47.9; total 47.9.

Mr. Weil:

Q. These calculations and percentages are figured as of what time?

3052

A. Up to the present time.

Q. Have you a statement showing the approximate acreage held by certain companies and individuals operating for oil and gas in West Virginia at approximately the present time?

A. I have.

Q. Calling your attention to paper marked for identification Pennsylvania Exhibit No. 54, the last page thereof gives the general summary of which you have just given us the figures?

A. Yes, sir.

Q. From what source of information did you obtain the various figures or estimates that are contained upon this estimate?

A. I obtained some of them from personal inquiry that I made of the operators from time to time and also we collated this statement by a personal investigator that we sent to all the counties and to the different operators in various counties of the state, and compiled this statement, which I believe is approximately correct.

Mr. Hoffheimer: I move to strike out the statement of the witness's belief as to the approximate correctness of the paper as not being responsive to the question.

The Commissioner: Let the motion be noted.

3053 A. It does not take in all of the operators; some of them could not be reached, and I also got information from inquiries that I sent out.

Mr. Weil:

Q. Have you checked up this statement by referring to any public records from time to time?

A. With those companies that make their reports to the Board of Public Works, those are always accessible on file in the Board of Public Works office.

Q. Those public utilities that make their reports to the Public Service Commission, are they checked up with this, or only with the Board of Public Works?

A. Only the Board of Public Works; also have verified it with inquiries to some of these companies that report direct to the Board of Public Works.

Q. Did you have any source of verification from the assessment books of the respective counties in which oil and gas acreage is held?

A. In some cases that was done from time to time when I was looking for the amount of taxes paid. I have been compiling since the first of the year a statement showing the taxes paid by producers which do not report to the Board of Public Works, but report to the county assessors.

Q. That is, those that are not public utilities?

A. Yes, sir, those that are not public utilities, both oil and
3054 gas operators.

Q. What is the fact as to these companies or individuals being members of the West Virginia Oil and Gas Association?

Mr. Hoffheimer: Objected to as entirely immaterial and somewhat irrelevant.

The Commissioner: Let the objection be noted on the record and the witness answer.

A. Some of them are.

Mr. Weil:

Q. Any large proportion or otherwise?

A. Those that are utilities, quite a number of them are members, and quite a number of individual producers, and some of the oil companies——

Q. Are members of your association?

A. Are members of our association.

Q. Has it been a part of your duty as the secretary of the Association from time to time to collate and obtain information of the character set forth in this Pennsylvania Exhibit No. 54?

A. Yes, sir.

Q. Have you been engaged upon that for several years, as secretary of this Association?

A. Yes, sir. Getting information of that character.

3055 Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 54.

Mr. Hoffheimer: The offer is objected to upon the following grounds. (1) That it is not proper matter in rebuttal. (2) That no proper foundation has been laid, nor is the witness shown to have any competent knowledge of the matter set forth in the exhibit. (3) Because the matter set forth in the exhibit had not been compiled from any official source, nor compiled by the witness in the performance of any official duty or authority. (4) Because the alleged information therein contained is manifestly and confessedly based upon hearsay. (5) Because, insofar as the paper sets forth estimated acreages held by operators, not specified in the first eight pages of the exhibit, the same is the expression of a mere opinion or conclusion of the witness. (6) Because the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted and the paper filed of record marked Pennsylvania Exhibit No. 54.

3056 Mr. Weil:

Q. Mr. Robinson, when was the company at Fairmont first organized to supply the city of Fairmont with gas, about what date, if you know?

A. The company that now is in there or the original company?

Q. The original company?

A. 1892.

Mr. Hoffheimer:

Q. The first company that supplied natural gas publicly when?

A. In 1892, in Fairmont.

Mr. Weil:

Q. Has some company or successor to that company, in some form or other, been supplying Fairmont ever since?

A. Yes.

Q. How is it about Morgantown, do you know about the date of the first company that supplied Morgantown?

A. E. M. Grant and T. B. Gregory were the first to put gas into Morgantown and Fairmont; they piped that gas in from the Shuman Heights field.

Q. Was that about the same time?

A. Yes, sir, they first went to Morgantown then brought a six inch line from the Shuman Heights field to Fairmont.

3057 Mr. Hoffheimer:

Q. Where was that field?

A. In Monongalia County; I would say it is fifteen to twenty miles from Fairmont.

Mr. Weil:

Q. How far from Morgantown?

A. It is probably twelve to fourteen miles from Morgantown.

Q. What about Clarksburg?

A. I am not so sure about that; the Mountain State Gas Company was the first to supply Clarksburg.

Q. About what year was that?

A. About the same time.

Q. What about Charleston?

A. I don't know about the date that they got gas in there; it was a good many years after that.

Q. Can you give us (interrupted)——

A. I think it was along in the nineteen hundreds, in the early nineteen hundreds they got gas in there. The United States Oil and Gas Company was the first I think in Charleston. That was afterwards taken over by I think the United Fuel.

Q. What about Huntington?

A. The Huntington Development and Gas Company, that company was organized, I think it must have been as late as 1911 or '12, along in there, 1910, '11 or '12. At that time it was a
3058 local company, the Huntington Development and Gas Company. All that stock was owned by local Huntington people, and the United Fuel were in there at that time selling gas. They had quite a gas war there as to prices. This Huntington Development and Gas Company is now a Delaware Corporation; they reorganized when they took in that Lincoln Land Association property.

Q. You say the United Fuel Company,—which company was it you said was in there first?

A. The United Fuel was in Huntington before the Huntington Development and Gas Company.

Q. When was it that it first went in there, so far as you can state, according to your recollection?

A. I have no way of knowing; I wouldn't know that.

Q. Was it prior to 1910?

A. Yes, sir, it was prior to that; Huntington had gas long before that; they had gas in Huntington before 1910, I know that.

Q. Do you know for how many years?

A. No, I do not.

Q. Do you know when Wheeling was first supplied?

A. When I was a boy, that has been a good many years ago; I can tell you about when it was; it was in 1883 or '4, along in there. I will give you my reasons for knowing that. Wheeling got gas before Bellaire. I lived at Bellaire then; we got our gas along about '84 or '85, piped down from Wheeling; the lines
3059 crossed over the river over towards Bridgeport and followed along the railroad most of the way. I remember that as a boy.

Q. All of these towns from the time they commenced to use gas, have been using gas for heat and fuel ever since?

A. Yes, sir.

Q. The companies supplying them have changed in character and ownership and so forth,—take Fairmont for example; it has been using gas and gas was being supplied to Fairmont by one or another company since 1892?

Mr. Hoffheimer: Objected to as very leading in character.

The Commissioner: Let the objection be noted and let the witness answer.

A. Yes, sir.

Mr. Weil:

Q. What about Morgantown, Clarksburg, Charleston and Wheeling, after they began to use gas, has such use been continuous?

A. It has been.

Q. Have the respective companies supplying those towns or cities changed as to ownership or in name or (interrupted)——

Mr. Hoffheimer: Objected to as very leading in char-
3060 acter.

The Commissioner: Let the objection be noted and let the witness answer.

A. Some of the companies have.

A recess was here taken until Wednesday, March 23rd, 1921, at ten o'clock A. M.

3061 Morning Session, Wednesday, March 23, 1921.

And now the hour of ten o'clock A. M. having arrived, hearing resumed, pursuant to adjournment.

Edwin Robinson resumes the stand.

Cross-examination.

Mr. Steptoe:

Q. I believe you live in Fairmont, W. Va.?

A. I do.

Q. Have you lived there for many years?

A. Yes, sir, over twenty.

Q. That is the same city in which Mr. R. T. Cunningham, one of the witnesses for the defendant, lives?

A. Yes, sir, Mr. Cunningham lives in Fairmont.

Q. I understood you to say that the West Virginia Oil and Natural Gas Association of which you are the secretary, was organized in 1915?

A. Yes, sir.

Q. Its membership consists of resident and non-resident members?

A. Some, yes, sir.

Q. All of the seven companies mentioned in these proceedings are members?

A. They are.

3062 Q. Are their affiliated companies members?

A. I don't just get what you mean by affiliated companies.

Q. For example, is the Philadelphia Company (interrupted)——

A. The Pittsburgh and West Virginia is, but not the Philadelphia Company.

Q. Let me get my question straight,—is the Philadelphia Company a member?

A. No.

Q. The Philadelphia Company of West Virginia, is it a member?

A. No, sir.

Q. Is the Equitable Gas Company?

A. No.

Q. Are any of the individual officers of the companies I have just last mentioned members?

A. That I don't know, I don't think they are; I don't think any of the Equitable (interrupted)——

Q. How is your membership made up in the case of a corporation, is it by some representative of that company or by the company itself?

A. Well, it is by the company itself, but most of our memberships are made up of individuals, individual members, of people, the field men and officers and operators in West Virginia.

Q. For example; how is the membership of the Hope

3063 Natural Gas Company reflected in the organization?

A. Only as a contributing member.

Q. I assume the contributions are in proportion to the size of the company?

A. Yes, sir.

Q. So that the contribution from an individual independent operator would be quite small as compared with one of the seven companies?

A. Yes, sir.

Q. Is the East Ohio Gas Company or the Peoples Gas Company members?

A. No, sir.

Q. Or any of their officers?

A. Not that I know of, I don't think so.

Q. You say the membership contributions are based on the size of the company, be a little more explicit?

A. It is based on the assessed valuation as made by the Board of Public Works.

Q. How about the Independent Producers?

A. The independent producers are only as a membership, $1.00 a year.

Q. Suppose you give us the names of the principal members from the standpoint of contribution?

A. Well, I haven't got that list with me.

Q. It would as a matter of fact include the seven companies which have been mentioned, and several others, quite a number
3064 of other utilities, a number of the other gas utilities?

A. Yes, sir.

Q. Is the South Penn Oil Company a member?

A. It is.

Q. Is the Carter Oil Company?

A. It is.

Q. The Ohio Fuel Supply Company?

A. No.

Q. Who are the officers of your association?

A. H. A. Wallace is President, and Pat McDonough of Parkersburg is Vice President, and I am Secretary-Treasurer.

Q. Is H. A. Wallace you have mentioned the General Manager of the United Fuel Company?

A. He is.

Q. He has testified in this case?

A. He has.

Q. The association's activities are, as I understand them, along the line of gathering data and assisting the members of the association in the matter of rate cases and things of that sort?

A. Yes, sir.

Q. And included among your activities is the matter of legislation; that is to say, all the matters coming before the Legislature of West Virginia relative to oil and gas companies for members of the association, are looked after by your association, are they not?

3065 A. Yes, sir.

Q. Does your association take an active part in all of the rate litigation or other litigation affecting members of the association?

A. Whenever they ask for information we get it for them.

Q. Your association assists them in the way of getting evidence?

A. Getting evidence and getting statistics and things of that kind; what is done in other communities.

Q. You assist them in opposition to the passage of any laws which in the opinion of the association are adverse to the interests of the association?

A. I don't know that they ever asked the opinion of the association, whether the association was opposed to any proposed legislation or not.

Q. That doesn't exactly answer the question, Mr. Robinson, as a matter of fact doesn't the association which you represent take an active part in opposing any legislation which affects the interests of the oil and gas producers (interrupted)——

A. Yes, the association does to the extent with anything that is detrimental in their belief to the oil and gas industry.

Q. As a matter of fact, it is pretty active in that way at every session of the Legislature, and has been since 1915?

A. Very active, because they are forced to be on account of
3066 the number (interrupted)——

Q. Without regard to the reasons, the fact remains that they have been?

A. They are active in opposing any legislation that is detrimental.

Q. And active in their opposition to the passage of this very law that is in controversy here?

A. Yes, sir.

Q. I presume your position as secretary is a paid position?

A. It is.

Q. You are on a salary?

A. Yes, sir.

Q. As a matter of fact you have been present at practically all these hearings and interested in this case from the start, have you not?

A. No, I have not.

Q. Have you not assisted in these cases?

A. The only hearing that I attended at any length was the one in Charleston in December; I spent, I think, one day in Clarksburg, part of a day, and I dropped in here once or twice for a few moments, when testimony was being taken in this office.

Q. I meant to elicit whether or not you had been gathering data or furnishing assistance in this case?

A. No, sir.

Q. To the complainants?

3067 A. No, sir.

Q. You haven't given any assistance or done any work along that line?

A. No, sir.

Q. To assist the plaintiffs?

A. No, sir.

Q. Other than what you have done on this occasion?

A. On this occasion.

Q. You had something to say about the lines of the local companies in Morgantown, Fairmont, Clarksburg, Huntington and Charleston, by which those towns were served, you don't mean to say that all of the gas served by these various utilities in these places was produced by these companies themselves, do you?

A. All the gas that is sold by these companies, you mean is produced by them?

Q. Yes.

A. No, not in all cases.

Q. As a matter of fact you know that the Randall Gas Company and the West Virginia Traction and Electric Company of Morgantown have both bought and have been compelled to buy for years gas to make up their own deficiency?

A. They have purchased, I think, in the last two years, both of them, from the Carnegie Company.

Q. Those purchases were made from the Hope and Carnegie Companies?

3068 A. I don't know so much about the Hope Company, they might have bought some years ago, two or three years ago,

but the Carnegie I understand has furnished them gas for the last two years.

Q. The same is true about Fairmont, the local company there has for some years been buying gas?

A. Been buying some of its gas.

Q. Been buying some from the Hope, been buying some from the Carnegie and have been buying some from the Pittsburgh and West Virginia?

A. Mostly from the Pittsburgh and West Virginia Gas Company and from the Carnegie.

Q. You also know that the local company at Clarksburg is dependent for its supply, very largely, on purchases from the Hope?

A. It buys some of its gas there, some little time; I don't know whether they are dependent on it now or have been this Winter.

Q. Don't you know they have been dependent for some years past?

A. For four or five years past they have bought some; I don't know what the condition is this Winter because there is so little gas sold.

Q. You do know that at Morgantown and Fairmont the local companies made application to the Public Service Commission to compel the larger companies to sell to the local companies?

3069 A. Yes, sir.

Q. Your association assisted there?

A. Yes, sir.

Q. Your assistance there was rendered to the Hope Company, was it and the Carnegie Company?

A. Only to a certain extent.

Q. You were on that side?

A. Yes, I was on that side because I personally believed that way.

Q. The point in those cases was to see whether or not the larger companies could be compelled to sell to the local utilities, and in that you were on the side opposing the sale by the larger companies to the smaller?

Mr. Weil: This line of examination is objected to as not being cross examination of anything that was developed by the complainants in the examination of this witness. No objection, however, is made to any of the questions along this line, with the understanding that wherever it is not cross examination, it is to be treated as testimony offered in behalf of the defendant.

The Commissioner: Note the objection and statement of counsel and let the witness proceed.

3070 A. I was there in opposition to the application of the Commission.

Mr. Steptoe:

Q. That application was to compel (interrupted)

A. The Hope and other companies to furnish gas.

Q. To the local utilities?

A. Some of the local utilities.

Q. So that the activities of the association extend to the opposition

to any proposed legislation affecting the companies adversely, as they think, to opposition to increases of rates, and opposition to compelling any of the larger utilities to sell gas or supply the local utilities?

A. The Morgantown Companies and the Fairmont Companies were not very desirous of having the application of the Commission carried into effect; that was my understanding of it at the time; it was forced upon them by some of their consumers in the two towns.

Q. The consumers took the initiative?

A. Yes, sir.

Q. Isn't it a fact that in those test cases the question was raised whether the Public Service Commission had the power under the then existing law to compel the larger utilities to sell to the smaller ones?

Mr. Weil: This is objected to as not cross examination; as
3071 incompetent, irrelevant and immaterial; as calling upon a layman for an expression of a legal opinion; as calling upon the witness to give a construction to litigation that is pending in the Courts, and as being wholly outside of any examination of the witness in chief upon any questions presented to him during his examination. It is further objected to for the reason that it is an attempt to introduce into the record the opinion of the witness as to what was involved in certain litigation, and the statement in the question of its being a "test" case is not warranted by the facts any more than any other case brought in the Courts as a test case to decide the questions there involved.

Mr. Steptoe:

Q. Neither of those two cases were ever passed upon by the Supreme Court of West Virginia, were they?

A. Not to my knowledge.

Q. (Following question read from the record by stenographer.) "Isn't it a fact that in those test cases the question was raised whether
3072 the Public Service Commission had the power under the then existing law to compel the larger utilities to sell to the smaller ones?

A. I think that is what it was; I am not sure on that.

Q. Going back to the local situation at Fairmont, as I understand you, the Fairmont Gas and Electric Company a good many years ago bought over the holdings at Fairmont of the Fairmont and Grafton Gas Company, is that correct?

A. The Fairmont Gas and Light Company in 1902 purchased the Fairmont holdings, and with that a six inch pipe line that ran from Fairmont to Flaggy Meadow Run in Mannington District, a distance of about fifteen or sixteen miles from Fairmont.

Q. What became of the equipment holdings and pipe lines of the Fairmont and Grafton Gas Company?

A. That was some years after purchased by the Philadelphia Company.

Q. The fact of the matter is that the Fairmont and Grafton Com-

ny continued in business under that name for a number of years,
d the Philadelphia Company acquired its capital stock?
A. I don't know how it was done?
Q. At any rate, it is the present Pittsburgh and West Virginia Gas
mpany?
A. Yes, sir.
Q. Such holdings as were not acquired locally passed along in
the name of the older company, Fairmont and Grafton Gas
073 Company?
A. Locally by Fairmont, is that what you mean?
Q. No, what was not sold by the Fairmont and Grafton Gas Com-
ny was held in the name of that Company until it changed its
me to the Pittsburgh and West Virginia Gas Company, and that
mpany now holds it?
A. I can't answer that, I don't know.
Q. You spoke of a belt line around the City of Clarksburg, as a
atter of fact isn't that merely a part of a distributing system?
A. Yes, sir, but in the form of a belt line.
Q. The gas pressure is reduced from that belt line and runs to the
rvice lines in the city?
A. Yes, sir.
Q. The line to Big Isaac, which is on the edge of Doddridge
unty, that was a line of the old Mountain State Gas Company,—
e Mountain State Gas Company piped that gas to Clarksburg, the
st gas used in Clarksburg, was it not?
A. I suppose that is where it came from; the Mountain State was
e first company in Clarksburg.
Q. Don't you know, as a matter of fact, that line was about the
ly line that the local company, Clarksburg Light and Heat Com-
ny, had that extended beyond five miles from Clarksburg until as
late as 1916?
074 A. No, I don't know that.
Q. Do you know of any other line the Clarksburg Light
d Heat Company had extending out in the field prior to 1917?
A. No, I don't know.
Q. The line to Quiet Dell and the line to Ten Mile Creek and the
hers that you mentioned, have all been built since, haven't they?
A. That I am not aware of.
Q. Do you really know much about that situation?
A. Not so very much, I have a general idea of most of the com-
nies in the state as I have mixed up with them in their rate mat-
rs; I got a very good idea as to where those lines are.
Q. The purpose of your testimony about these lines was to show
at they extended out into the field and had opportunities to get
her gas, wasn't it?
A. I don't know what my testimony was for.
Q. You do know this, that the Clarksburg Light and Heat Com-
ny had no territory except within a radius of five miles as late
1917, except the Big Isaac Well and a few acres out there?
A. No, sir.
Q. Do you know that that is not correct?

A. No, I do not know that it is not correct.

Q. If they reported to the Public Service Commission of
3075 West Virginia as of December 31, 1916, that they had only 8,600 acres total territory, developed and undeveloped, you would not be prepared to say that is incorrect?

A. No, sir.

Q. With reference to this Charleston-Dunbar Gas Company, is that Colonel Grosscup's company?

A. Yes, sir.

Q. It furnishes South Charleston and a few other towns?

A. St. Albans and Dunbar, I think it does South Charleston; they have the two Government plants there the armor and the projectile plant.

Q. That company has been buying of the United Fuel for some years to fill the deficiency in its own supply?

A. I don't know that is true for the last year or so; the Charleston-Dunbar Natural Gas Company purchased the gas interests which was held by the Wayland Oil and Gas Company; that was within the last couple of years; that gave them sufficient gas of their own.

Q. Up until that time it had been buying from the United Fuel to your knowledge?

A. Some little at times.

Q. Are you sure of your date when you say that gas was not introduced for general use into Charleston until about 1902?

A. I am not sure of that; it was out of my bailiwick, away
3076 down there.

Q. Still is out of your bailiwick?

A. The time is. I don't recall just when that was put in. My recollection is that gas was developed in the northern end much earlier than in the southern end of the State.

Q. That is true as a general rule?

A. Yes, sir.

Q. But as a matter of fact, to refresh your recollection, the United States Natural Gas Company wasn't the company that first brought gas into Charleston?

A. I don't know.

Q. Wasn't it preceded by the Charleston Gas Company, a local concern, that piped gas in there from over in the Glendennin Field some distance away, and that company was later absorbed by the United States Natural Gas Company?

A. It may be; Colonel Grosscup drilled the first well south of the little Kanawha River, drilled for oil, but got gas, and they drilled two or three wells over there, and if I am not mistaken, he laid a line into Charleston, had a line laid into Charleston, but just what year that was I don't remember.

Q. Colonel Grosscup then and at all times since has lived at Charleston, hasn't he?

A. Yes.

Q. I wish you would refer to your Pennsylvania Exhibit No. 50

and tell me how you obtained that paper, whether by per-
3077 sonal request or by letter?

A. I believe that I got all of these papers here, Exhibits 50, 51 and 52, by personal request when I was in Charleston. I got this information or I wanted this information for the purpose of making up a statisticial address for the president of our association to deliver at the meeting at Charleston the first of last September. He wouldn't bother, you understand, with getting out these figures and so it devolved on me to do it; that is why I asked for those things.

Q. Did you ask Mr. Nease for the specific data you wished?

A. I enumerated certain things that I wanted to show in this address, as we have them published; I don't remember just what I asked for.

Q. He gave you what you desired and what you asked for?

A. I get to him probably two or three times a year for information of various kinds.

Q. You understand this Pennsylvania Exhibit No. 50 to give, with reference to the production, the production of all the public utilities or public service corporations, whichever you choose to call them in West Virginia, do you not?

A. Yes, sir.

Q. You understand it also to include all the production by independent producers?

A. Yes, sir.

Q. Total production?

A. Total production of the State, as I understand it.

3078 Q. Do you mean to imply that the figures given on Pennsylvania Exhibit No. 50 with reference to the total production of natural gas differ or contradict in any way the figures given by Mr. Nease when he testified as a witness for the defendant?

Mr. Weil: Objected to as not cross examination. The witness' legal opinion as to whether it was rebuttal testimony or not was not asked for, nor was he consulted with reference thereto.

Mr. Steptoe: Evidence was offered in rebuttal, with the statement that it contradicted Mr. Nease's testimony. We want to understand where it contradicts.

Mr. Weil: Counsel for complainants will have to be examined on that question and not the witness. If the counsel desire to have a statement on the record made by counsel, in what particulars or some of them counsel believes it contradicts the testimony of Mr. Nease, he can obtain such a statement.

Mr. Steptoe: I don't want any more argument.

The Commissioner: Let the objection be noted on the record and the witness answer.

3079 Q. (Preceding question read.)

A. I don't know.

Mr. Steptoe:

Q. You don't know whether any of it contradicts a thing that he said?

A. No, sir.

Q. With reference to the amounts on Pennsylvania Exhibit No. 50 for export, you understand the figures given for exportation there for the years 1908 to 1919, both inclusive, cover all exportations from the State of West Virginia by all companies, public service corpo-ations?

A. My understanding.

Q. Taking the next heading on that exhibit, purporting to give the consumption within the State of West Virginia, you understand those figures to give for the years 1908 to 1919, inclusive, the total consumption in the State of West Virginia for all purposes, all classes of consumers, and by all users of gas, do you not?

A. I don't understand entirely in this total whether or not the total consumption within the State includes that gas which say the Hope Company sells to the Clarksburg Light and Heat, and that gas that is sold by the Carnegie to the Pittsburgh and West Virginia Gas Company and the companies at Fairmont and Morgan-
3080 town; that is the only thing I am not clear on.

Q. As to that, you don't know?

A. As to that, I don't know; otherwise I think this statement shows what is consumed in the State.

Q. It is apparent after an examination of the exhibit and the two headings following, namely; "Domestic Consumers" and "Industrial Consumers" that the aggregate of those two make up the preceding heading "Consumption within the State?

A. Exactly the same.

Q. The exhibit shows on its face that carbon black is included within that consumption in the State of West Virginia; by carbon black I mean the amount of gas used in the manufacture of carbon black?

A. Yes, sir, estimated amount of gas used for manufacture of carbon black.

Q. You also know, do you not, that the figures there given include both under the heading of "Consumption within the State," and under the heading of "Industrial Consumers," what we ordinarily speak of as free gas, that is gas delivered to lessors, as a part of the consideration for leases?

A. Yes, where a record of it is kept; it is not kept by all the companies.

Q. That amount is quite considerable, isn't it?

3081 A. It would be quite a little gas there.

Q. For example, if the Hope Company returned 1,750 such consumers, you would say it was a considerable amount, probably running in the neighborhood of 2 billion feet, wouldn't it?

A. No, not that much.

Q. Somewhere between one and two billion anywhere?

A. I wouldn't think it was that much.

Q. The heading that I have above referred to "Industrial Consumers" and "Total Consumption within the State," also include gas used for field purposes in the drilling of wells?

A. Yes.

Q. In the cleaning out and pumping of wells, oil and gas?

A. No, it doesn't include all that; gas that is used for pumping wells, a lot of that gas is produced on the lease where the wells are pumped. There is no record made of that gas to the Public Service Commission or anyone else in a great many cases, in the majority of cases, and in the oil fields.

Q. It does include the gas used in cleaning out the wells?

A. Probably so; it may not in some cleaning out of oil wells where they have got a little gas, more than they need, but not enough that they could sell.

Q. You know as a matter of fact that a number of the companies observe the practice of charging up to industrial consumption
3082 all gas utilized by itself or sold to others for drilling wells?

A. Yes, sir.

Q. And report that sale as a sale to industrial consumer?

A. That is my understanding.

Q. So that the industrial consumption and also the number of the industrial consumers include such sales as that?

A. Yes, sir, that is my understanding.

Q. Isn't it also true that the same headings include little amounts of gas that are imported into the State and used here?

A. I don't know whether it does or not; these figures include the gas imported from other states; the importations for 1919 were 3,822,162 M cubic feet.

Q. Do you know how much gas is used in field operations, including not only the items we have been talking about, but operation of pumping stations and so on?

A. No, I don't know just exactly; it is quite a little.

Q. In some of the companies it runs as high as ten per cent of their production?

A. I don't know whether it runs that much or not.

Q. Calling your attention to your Pennsylvania Exhibit No. 51, that is somewhat of a detail of the summaries shown in Pennsylvania Exhibit No. 50?

A. Yes, sir.

Q. The total production within West Virginia that you
3083 have shown on that sheet is for all of the Public Service Corporations of West Virginia?

A. Yes, sir.

Q. It also includes in the grand total for 1919 the carbon black companies?

A. It does.

Q. You have not shown there, however, the quantities purchased by the several companies, have you?

A. I don't think so.

Q. In addition to the production by the public service corpora-

tions, there is also included the production of the independents, is there not?

A. You mean by that the production of the producers that sell their gas to the utilities?

Q. Yes.

A. Yes, sir, that is included.

Q. In other words, you have given the total production for the State in that column?

A. As near as we can come to it.

Q. On that list you have a number of companies that are not public service corporations, or if so, only in an incidental way?

A. Yes, sir.

Q. For example, the South Penn Oil Company and the Ohio Fuel Oil Company do not pretend to be public service corporations?

A. No, sir.

3084 Q. The same is true for the several carbon companies, isn't it?

A. Yes, sir.

Q. Right at the bottom of the list you have a heading of miscellaneous companies which cover what we commonly speak of as the independent producers, in the sense of being those who make no pretense of marketing but sell to the utilities, to the other companies?

A. That is not my understanding of it.

Q. Pennsylvania Exhibit No. 51, in estimating the production, does not purport to include in the first column the importations, does it?

A. No.

Q. Coming to the fourth column, consumption within West Virginia, that is a mere detail of the summary shown for the year 1919 on Pennsylvania Exhibit No. 50, isn't it?

A. Yes.

Q. All the explanations that you give with reference to Pennsylvania Exhibit No. 50 are applicable to Pennsylvania Exhibit No. 51 *to* respect to what gas is included in making up that computation?

A. Yes, sir.

Q. That is to say, it includes gas used in the manufacture of carbon black, free gas furnished to lessors, gas used for field purposes?

A. Yes, I think it does, except as I have said before, I don't know how that gas is taken care of that is sold by the Hope

3085 Company to the Clarksburg and the Carnegie and Pittsburgh and West Virginia Companies, whether that is included in their sales of industrial gas or not? I do not know how that is taken care of.

Q. With respect to that consumption the Hope Company sale to the Clarksburg Light and Heat Company would be used and reported as used by the Clarksburg Light and Heat Company, would it not?

A. It should be.

Q. Don't you know that the figures given for the Clarksburg Light and Heat Company on your Pennsylvania Exhibit No. 51 show the total consumption in West Virginia from that company, that is to

say, the total gas served by the Clarksburg Light and Heat Company in West Virginia?

A. It may.

Q. Don't you observe from your Exhibit No. 51 that its total supply as shown in column 3 is considerably less than its total sales or consumption shown under column 4?

A. Yes, sir.

Q. Doesn't that indicate to you that the Clarksburg Light and Heat Company is there accounting for the gas it purchases in addition to its own production?

A. Yes, sir.

Q. Now, you see, that the company which actually furnishes the gas to the consumer is charged with the gas purchased?

A. In that particular case, yes.

3086 Q. Do you know of any other instance (interrupted)——

A. Yes, it is in the instance of the Randall Gas Company, show a difference there, and in the West Virginia Traction and Electric Company, also, they have reported more sales than their production lines.

Q. That is true generally throughout that exhibit?

A. I think it is.

Q. If you were to credit that same amount of gas which the Hope Company sold to the Clarksburg Light and Heat Company under the consumption of Hope Natural Gas Company, there reported, you simply have the same amount of gas reported twice?

A. Yes, sir.

Q. The total of exports as given on Pennsylvania Exhibit No. 51 is exports for all companies, I believe you said?

A. If I understand it, just one moment here, that is all right.

Q. Do you know whether Mr. Nease in his direct testimony undertook to give the total exports for all companies or persons from West Virginia?

A. I don't know.

Q. The fact is you don't know whether there is any discrepancy or not?

A. No.

Q. You don't know whether Mr. Nease took into consideration in his figures the matter of importations from other states, on his direct testimony?

3087 A. No.

Q. The export column of Pennsylvania Exhibit No. 51 shows the total exports, no matter how the gas was acquired by the exporting company; that is whether by production or by purchase?

A. That is my understanding of that column.

Q. For example, taking the Hope Natural Gas Company on that list, you will observe that its total production is 47,298,392 M cubic feet, and its total supply as shown in column 3, while its consumption within West Virginia is over 12 million cubic feet, and its exports in excess of 4 million cubic feet?

A. Yes, sir.

Q. So that shows that the purchases of gas are taken into consideration in the exports?

A. Yes, sir.

Q. Though not shown on Pennsylvania Exhibit No. 51?

A. Correct.

Q. Pennsylvania Exhibit No. 52 is still further a detail of some of the summaries shown on Pennsylvania Exhibit No. 50, is it not?

A. Yes, sir.

Q. You understand that the number of domestic consumers as shown under the first column of that exhibit includes free gas users, in the case of certain of the companies at any rate?

3088 A. Some of the companies.

Q. They are included in the case of the Hope Natural Gas Company and the Reserve Company?

A. Wherever there is a record made of them, I understand they are included.

Q. Does the heading "Number of Industrial Consumers" on Pennsylvania Exhibit No. 52 include those to whom gas is sold for drilling wells?

A. It so states on this report that it includes drilling wells.

Q. You have in mind the fourth column, industrial sales, giving the amount?

A. I would think that the third column did include the number of drilling well consumers.

Q. Do you know how many of such industrial consumers listed under that third column there are for the drilling of wells?

A. No, I don't.

Q. It might be a very considerable number, might it not?

A. It might be, it depends entirely upon how many wells were drilling and gas used that way and reported that way.

Q. As a matter of fact among the 745 industrial consumers shown on that list for the Hope Natural Gas Company, pretty nearly six hundred of them were for the drilling of wells?

A. I don't know.

Q. You wouldn't be prepared to say that is incorrect?

3089 A. No, sir.

Q. I believe you said that the amount of gas consumed in the drilling or cleaning out of wells also free gas to lessors is included in the amounts shown on the fourth column of industrial sales?

A. Where that cleaning out is done by a company and no report of it made to the Commission, and I don't know whether all of these utilities report their cleaning out, the amount of gas consumed in cleaning out, I don't know about that.

Q. Those facts might be reflected in the monthly reports made by the company to the Public Service Commission

A. They might be.

Q. If Mr. Nease gathered his statistics from that source, you would not be prepared to say they were incorrect?

A. No, sir, I am not saying they were incorrect, no.

A recess was then taken until one-thirty o'clock P. M.

3090 Afternoon Session, Wednesday, March 23, 1921.

And now the hour of one-thirty P. M. having arrived, hearing resumed, pursuant to adjournment.

EDWIN ROBINSON resumes the stand.

Cross-examination.

Mr. Steptoe:

Q. In your Pennsylvanian Exhibit No. 54, you have undertaken to collate all of the individuals, partnerships, associations or corporations, who produced natural gas in West Virginia, have you not?

A. Yes, sir.

Q. It is complete as far as you are able to make it?

A. If I had more time, I probably could get it more complete; it is a rather difficult thing to get complete.

Q. I find that you have practically two lists bound together in this exhibit, the first arranged alphabetically and tabulated with totals, while the second one, commencing with Columbia Carbon Black Company, is still another estimate or list, what is the explanation?

A. I do not know just why that was put in that way, unless it is that some of these did not report as early as the others.

Q. You may say the second list is a supplemental one stuck in after the first was stabulated, is that the size of it?

3091 A. No, Mr. Crouse made this list up, the way it is; you will have to ask him.

Q. Do I understand you Mr. Crouse made out the whole list?

A. He did the typewriting on it and saw a number of these people.

Q. Is the information on which this list is based derived from Mr. Crouse, or from you?

A. From both.

Q. Who is Mr. Crouse?

A. Mr. Crouse lives at West Union and is an employe of the Hope Natural Gas Company.

Q. Mr. George B. Crouse, is it not?

A. Yes, sir.

Q. The seven companies as we call them in this proceeding are not listed?

A. No.

Q. You have undertaken to list every other producer?

A. That is all.

Q. You have included oil producers as well as gas producers, have you not?

A. Yes, sir.

Q. Isn't it true that in very many instances the producers shown on this list are oil producers without any gas production?

A. I don't know about them; most all of them have more or les gas on their leases, but how much of it, I don't know.

3092 Q. Do you know how many of them use gas off thei leases?

A. No.

Q. Do you know whether half of them use gas off their leases?

A. No.

Q. Do you know certainly that all of them have gas productio of any kind on the leases or off?

A. No, I only know that the names that are here, firms, individu als, partnerships, have leases in various counties in the State of We Virginia for oil and gas purposes.

Q. Some of them are not even developed?

A. Some of them I suppose are not developed; there would b leaseholds here that would not be developed of course.

Q. Take for example the Heck Oil Company which has holding over in Roane and Jackson Counties, do you know whether tha company has any gas of any kind?

A. No, I don't know; they have some oil production there.

Q. The vast majority of those shown on this list are what we hav been terming independent producers, that is those having no pip lines, no market, but sell their production to the pipe line companies

A. A great many of them, and some of them here have pipe line

Q. Some have pipe lines?

A. Yes, sir and sell to the public.

Q. Don't you know as a matter of fact that the vast majority o those shown on this list that have any gas at all or sell any ga

3093 at all, sell it to the pipe line companies, especially the seve companies we have been talking about?

A. No, I don't know that to be a fact.

Q. Do you know how many of these people sell to the United Fu Company?

A. No, sir.

Q. Or to the Hope Company?

A. No, sir.

Q. Or any of the seven companies?

A. No, sir.

Q. If their own returns were to show that the seven companie purchased gas from something like three hundred or more of the in dependent producers, would you undertake to say that was wrong

A. No, sir, I wouldn't undertake to say that was wrong.

Q. You do know this that the majority of independent produce market to the seven companies, that is a well-known fact?

A. I don't know that it is a well-known fact; quite a number of th independent producers market their gas to the seven companies,— you mean there are quite a number that sell their gas to other pip line companies besides the seven.

Q. We may admit that there are some that sell to other servic public service corporations, but I am asking you if you don't know as a matter of fact, that a great majority of the independent pro ducers sell to those seven companies?

3094 A. I suppose they do, because they have a bigger market for it.

Q. That is commonly known?

A. Yes, sir.

Q. Your list includes those who produce natural gas and consume their own production, like the carbon*d* black companies, does it not?

A. The list is of the Carbon*d* Black Companies, and some of them consume their own, some buy and some of them sell their gas; some Carbon Black Companies sell their gas.

Q. Your list includes such companies as the Carter Oil Company, the South Penn Oil Company, Philadelphia Oil Company, Ohio Fuel Oil Company and others that are oil producing companies?

A. Oil producing and gas producing also.

Q. The gas in those companies though is not marketed by them directly, is it?

A. You mean to domestic consumers direct?

Q. Yes, sir.

A. In the case of the South Penn, they market quite a little.

Q. Is the greater part of the South Penn Oil Company gas production sold to the Hope Natural Gas Company or the United Fuel?

A. That I don't know; the South Penn Oil Company sells some gas to the Monongahelia Valley Traction Company back in Mannington District.

3095 Q. They sell to other companies?

A. Yes, sir.

Q. They don't market directly themselves?

A. They sell to other companies.

Q. Taking some of these larger companies, with respect to acreage shown on your list, I will ask you first and further about the South Penn Oil Company, that is commonly known as a Standard Oil Company, isn't it?

A. It was at one time a Standard Oil Company, but since the dissolution of the Standard Oil Company's subsidiaries, it is a different company, as I understand it.

Q. Legally that may be the situation, but the stockholders in control are about the same?

A. I don't know.

Q. It is listed as one of the Standard Oil Subsidiaries on the stock market?

A. It is on the stock market.

Q. In the oil producing end in West Virginia, the Carter Oil Company again is a Standard Oil Company?

A. That I don't know, whether it is considered or not, just those two companies.

Q. Do you or do you not know that the vast majority of acreage of the Hope Natural Gas Company was obtained by transfer from the South Penn Oil Company?

A. No.

Q. Do you know that is not correct?

3096 A. I don't know that that is not correct and I don't know that it is correct.

Q. Do you know where such gas production as is found by the South Penn Oil Company is marketed?

A. I suppose some of it is marketed to the Hope Gas Company and some of it is marketed to other companies that have lines in there in near the wells.

Q. You don't know how much is marketed to companies other than the Hope?

A. No, sir.

Q. Or to companies other than the seven companies?

A. No, sir.

Q. Don't you know as a matter of fact that at least in former years, it was the custom, whenever a gas well was struck by either the Carter Oil Company or the South Penn Oil Company, that that lease was turned over to the Gas Producing Company, the Hope Natural Gas Company?

A. Yes, sir, if I understood it, it was if the Hope Gas Company had lines in that section; if they were in some section where they did not have lines, it would be taken over by some other company.

Q. The oil rights of the leases were owned by the South Penn and the gas rights by the Hope Natural Gas Company?

A. That is what I understand.

Q. In the southern end of the State, the gas wells were
3097 turned over by those companies to the United Fuel?

A. That I don't know.

Q. With reference to the Fisher Oil Company, do you know where the natural gas production of that company is marketed?

A. No, I do not.

Q. Do you know whether it has any gas production?

A. No.

Q. Do you know whether or not the Fisher Oil Company's holdings are the oil rights under a large block of leases in which the gas rights are owned by the Pittsburgh and West Virginia Gas Company?

A. No, I did not know that.

Q. What do you know about the gas production of the Ohio Fuel Gas Company, as to where it is marketed?

A. I think that is marketed to the United Fuel Gas Company.

Q. The total acreage which you have given on your list to the Ohio Fuel Oil Company is 86,443 acres, is that the entire acreage held in the State of West Virginia by that company for oil and gas purposes, or is it merely such acreage as lies in prospective gas territory?

A. In both prospective oil and prospective gas territories.

Q. Do you know whether that is all the acreage of that company in the State of West Virginia held for oil and gas purposes?

A. All I have any record of.

Q. You think that is its total acreage?

A. I think it is.

3098 Q. You have further on your list the Pure Oil Company with a very large acreage, is the Pure Oil Company the

holder of acreage in the State of West Virginia now, or is it the Ohio Cities Gas Company?

A. I think it is the Pure Oil Company.

Q. Is that the successor to the Ohio Cities Gas Company?

A. So I understand.

Q. Does the Ohio Cities Gas Company or the Pure Oil Company supply any gas or engage in the public service of gas in the State of West Virginia?

A. I think they own what is known as the Mountain State Gas Company down in those counties, adjacent to those counties where they produce oil and gas.

Q. That is a subsidiary company?

A. Yes, sir.

Q. That is the only amount of gas you know of produced by the Pure Oil Company, which is distributed in West Virginia to domestic or industrial consumers?

A. I suspect they consume a little in their own plant, their refining plant.

Q. It is principally engaged in the production of oil and refining of it?

A. Yes, sir.

Q. Don't you know that the vast majority of the gas produced by it is marketed to the United Fuel?

099 A. No, I don't know how much of it is marketed to the United Fuel.

Q. You know that part of it is?

A. Part of it I think is; I was under the impression that some of it was marketed to the Owens Bottle Machine Company; I am not so sure of that.

Q. The Pure Oil Company does not pretend to be a public service corporation, simply sells some gas to the Mountain State Gas Company?

A. Yes, sir.

Q. Which in turn serves some consumers?

A. Yes, sir.

Q. Where is this Southern Oil Company's holdings?

A. They have leases in Kanawha, Lewis, Marion, Mingo, Pleasants, Ritchie and Tyleer Counties.

Q. Is it a public service corporation in West Virginia, or do you know?

A. No, I think not.

Q. It is primarily an oil company?

A. Yes, sir.

Q. It has some gas incident to its oil production?

A. Yes, sir.

Q. Where does it market that gas?

A. I don't know.

Q. In general, you don't know, except in a few scattered instances how much gas is produced by any of the companies on this

100 list, nor where that gas is used, do you?

A. No, sir.

Q. By this list, I mean your Exhibit No. 54?
A. Yes, sir.
Q. The Carter Oil Company is not a public service corporation, is it?
A. No.
Q. It is primarily an oil producing company?
A. I think so.
Q. Its gas is marketed where?
A. I don't know where they market their gas.
Q. Isn't it like the South Penn, when they strike a gas well, the well is turned over to either the Hope or the United Fuel?
A. That I don't know.

Redirect examination.

Mr. Weil:

Q. Mr. Robinson, your testimony in cross-examination on the exhibits in evidence, which were handed to you by Mr. Nease, being exhibits 50, 51 and 52, in which you gave your opinion as to what those exhibits intended to represent, was simply your deduction, was it not, from what is contained on the exhibits, without any other knowledge with reference to the same?

3101 A. That is all.

Q. What Mr. Nease, the statistician, who prepared those exhibits, intended to represent, you have no information, except what is contained upon the exhibits themselves?
A. That is all, what the exhibits show.
Q. Whether or not that is a correct deduction, I suppose Court or counsel are as able to draw their own conclusions as you are?
A. Everybody has a right to draw their own conclusions.
Q. In reference to a question propounded by counsel on exhibit 54, which contains eight pages of close space typewritten lists of producers, you stated that a majority of those in your opinion sold to the seven companies, whereas involved in the question that counsel stated was the fact that those seven companies reported that they purchased from about three hundred other gas producers, did you intend to say that?
A. No, that a majority of these sold to the seven companies,—what I meant was, what I understood his question to be three hundred producers, gas producers, whether the seven companies purchased the majority from those three hundred, what I understood from his question.
Q. You know as a matter of fact, do you not, that quite a number of the producers that are listed upon Exhibit 54 sell to various other parties in the State of West Virginia other than to those seven companies?
A. Yes.

3102 Q. They sell to companies that are supplying many of the cities and towns in the State of West Virginia gas for consumption in those respective cities and towns?

Mr. Hoffheimer: Counsel for the State of West Virginia objects to the form of the question.

The Commissioner: Let the objection be noted and let the wit-
ess proceed.

A. Yes.

Mr. Weil:

Q. You have no means, or have you any means of ascertaining
ow many of them make such sales or how many do not?
A. No, I have no means.
Q. You were asked if the oil rights in the leases of the South
enn were not owned by the South Penn Company, and the gas
ghts by the Hope Company, do you know that after the decree of
issolution was issued by the Supreme Court of the United States
nd the South Penn Company was taken out of the Standard Oil
ompany, that any arrangement to that effect previously made, was
ot continued, or have you any information on that subject?

Mr. Hoffheimer: Objected to, first as leading; secondly
103 because the question involves an assumption of alleged mat-
ters of fact not shown to be within the knowledge of the wit-
ess or otherwise proved, and also not proper redirect examination.
The Commissioner: Let the objection be noted and let the witness
roceed.

A. I know that the acreage reported here is of acreage that is
wned for oil and gas purposes by the South Penn Oil Company; I
now that much.
Q. In which the South Penn Oil Company owns the gas rights as
ell as the oil rights?
A. Yes, sir.
Q. In what you have reported on this list?
A. Yes, sir.
Q. Does that include, as far as you know, those leases formerly
wned by the South Penn Company, in which the gas rights had
een previously acquired by the Hope Company?
A. No, I don't know that, but I don't think it does include all of
hem.
Q. Do you know whether it includes any of them?
A. I think not.
Q. You were asked about the gas production of the Ohio Fuel
Company, you said that you think it is marketed to what
104 company?
A. United Fuel Gas.
Q. Have you any information upon that subject or is that just
our opinion?

Mr. Hoffheimer: Counsel for the State of West Virginia objects
the form of question.
The Commissioner: Let the objection be noted and let the witness
nswer.

A. It is just my opinion that is where they dispose of it.

1415

Recross-examination.

Mr. Steptoe:

Q. Do you know the amount of gas purchased by the seven companies from other producers in the State of West Virginia?

A. No, I do not.

Q. Do you know the amount of gas produced in the State of West Virginia by companies or producers, other than the seven companies which is marketed to local public service corporations in the State of West Virginia?

A. No, I don't know just the amount.

Q. Do you know the proportionate amount?

A. I only know what that report of Mr. Ebert shows, thirty some billion feet.

3105 Q. Are you referring to Pennsylvania Exhibit No. 54?

A. In this statement of Mr. Ebert's, it says purchased from West Virginia producers 34,932,777 M cubic feet.

Q. That means the total production of those other than the public service corporation?

A. Just what it says there, purchased from these producers.

Q. You don't know how much of that is purchased by the several companies, or how much by the local companies?

A. No, I do not.

Q. You don't know whether that statement is correct or not, other than what is on that paper?

A. I don't know any more about the correctness of that statement than I do about any of the others; I take them all for what they say.

SAMUEL S. WYER, recalled as a witness, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Wyer, you were a witness examined in this case heretofore?

A. I was.

3106 Q. And in your testimony gave your qualifications as a natural gas expert, I believe?

A. I did.

Q. Have you as a natural gas expert and engineer been called upon from time to time to investigate and report on the practicability of making transmission lines of natural gas companies, common carriers, for the purpose of transporting and transmitting to the market gas for other companies,—other parties or companies than the gas owned by the transmitting company or purchased by it?

A. I have.

Q. Have you prepared reports upon this subject for various scientific and other organizations?

A. I have.

Q. For what bodies and organizations have you prepared such reports?

A. The common carrier question first became active in 1913 and early in 1914; I prepared a professional paper, which was read before, and later published by the American Institute of Mining Engineers. The title of this paper is "Is it feasible to make common carriers of natural gas transmission lines." Shortly after that I made a rather extensive study and submitted a report to the Interstate Commerce Committee of the House of Representatives——

Q. Of the United States?

A. Correct. And in the latter part of 1914, prepared a
3107 report on the feasibility of using the main line of the Ohio Fuel Supply Company as a common carrier of natural gas; another report on the feasibility of using the main lines of the Kansas Natural Gas Company, a common carrier of natural gas; and another report on the feasibility of using the main lines of the Northwestern Ohio Natural Gas Company as a common carrier of natural gas; and on August 20, 1918, in a report that was prepared for the United States Bureau of Standards on the gas service situation at Louisville, Kentucky, pages 35 to 41 of that report discussed the undesirability, from the public service viewpoint, of making natural gas lines common carriers; and in December 1918, in the report published by the Smithsonian Institution, which is known as Bulletin 102 Part 7 of the Smithsonian Institute, Washington, D. C. entitled "Natural Gas, its Production, Service and Conservation", pages 30 to 34 discussed the undesirability of considering the natural gas company transmission lines as common carriers.

Q. In connection with those various reports and investigations, have you made a careful study of the data, conditions and propositions involved in making the transmission lines of natural gas companies common carriers, to carry gas for others than the company owning such lines?

A. I have.

Q. Before asking you to give the result of that examination and investigation, will you differentiate the respective transac-
3108 tions by which gas is placed in the lines of the transmission company by exchanges or sales or other arrangements, from the question of actual transmission as a common carrier?

Mr. Blue: The State of West Virginia objects to this question and excepts to any answer thereto as improper upon rebuttal, and otherwise irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer.

A. The term "Common Carrier" is used in the sense as representing one who undertakes for hire to transport persons or (interrupted)——

Mr. Blue: Counsel for the State of West Virginia observes that the witness is reading from some document, and desires to know what he is reading from.

A. I am reading from the report that I prepared for the Amer
can Institute of Mining Engineers, which starts out with the defi
tion of what we are trying to discuss, which if followed general
would very frequently simplify discussions.

3109 Mr. Blue: The State of West Virginia objects to the rea
ing by the witness from the document to which he refers
improper rebuttal evidence and immaterial and irrelevant; for t
further reason that the definition of common carrier is fixed
law and not the opinion of this witness.

The Commissioner: The witness appears to be reading from
statement which he himself has prepared, and the definition wi
which he prefaces the statement is apparently a part of that. I
the record show that fact, let the objection be noted and the witn
proceed.

A. The term "Common Carrier" as used herein means one w
undertakes for hire to transport persons or things, or both, fr
place to place, for all persons indifferently, the term implying
difference as to who shall be served, and an equal readiness to ser
all who apply, in the order of their application. The relation
ferred to in the question is one where after a definite contractu
relationship, a certain amount of gas is produced and put into
line, under certain specified conditions, and then a certain specifi
amount of gas is taken out of a line; the amount taken out m
be more or less than the amount put in, depending upon the ter
of the contract, but it is a relation which in no sense invi
3110 equality or the same treatment to all, but in the last analy
it is merely a private, contractual relationship between t
man who has the gas and puts it into the line and the man or co
pany that they transmit the gas for to some other point.

Mr. Weil:

Q. What is meant by the exchange of gas between gas transm
sion lines and of those who put the gas into the lines?

A. Very frequently one company will have gas in one part
the field where it does not have a transmission line, and will ha
need for it at some other point——

Q. Need for the gas?

A. Need for the gas. Very frequently so-called trade arrangemen
are entered into whereby a pipe line company will take gas fr
another company in one field, and in lieu thereof transfer certa
other gas to this same company at some other point.

Q. What are the engineering, economic operating conditions th
would make natural gas transmission lines unadapted as comm
carriers?

Mr. Blue: The State of West Virginia objects to this questi
as improper on rebuttal and immaterial and irrelevant.

3111 Mr. Blue:

Q. What are you reading from?
A. The same report.
Q. We will ask you to refer to the page?
A. Seven.
Q. Put in quotations what you are reading from the document and let your answer appear to be a quotation, as we understand it is a quotation and not an original answer on your part?

Mr. Weil: Objected to; there is no objection to referring counsel to the page of the report from which the witness is refreshing his recollection, this being a report made up by the witness, as he has already testified, which he is using to refresh his recollection, and make his answers shorter in consequence. It *it* not proposed to put it in quotations as if the report itself was being offered in evidence, because it can not be as we understand the rules of evidence. Moreover, it is expected and intended to have the witness elaborate many of these statements as made upon his own former report, from his own knowledge of the facts.

3112 Mr. Blue: The answer of counsel of West Virginia is that the paper from which the witness reads does not purport to be a report, in the sense that it is a report of figures and facts, but simply purports to be certain ideas that the witness had in February 1914, setting out the theories of this witness, and, therefore, if the witness is to be permitted to answer, it is insisted that he show what he is reading from, if he is using the same language that is contained in a document from which he is reading.

Mr. Weil: The objection already made covers the statement of counsel for complainants.

The Commissioner: Let the witness continue and let the statements of counsel be shown.

A. Gas can go in one direction only. This makes a common carrier service for a pipe line entirely different from a common carrier service or a railroad, where transmission may be carried on in two directions.

Mr. Weil:

Q. In that connection, Mr. Wyer, what are the facts as to transmission lines of substantialy all natural gas companies, as to whether the gas in those lines goes in the same direction at all times,
3113 or is it variable?

Mr. Blue: Objected to as improper in rebuttal, irrelevant and immaterial.

The Commissioner: Let the objection be noted and the witness answer.

A. In most cases, the gas in the transmission line always goes in one geographical direction. There are, of course, a number of cases in West Virginia, and more in West Virginia than in all other

parts of the United States combined, where there is a reversal of ga flow in the same transmission line; the gas may go in one direction part of the day, and in a diametrically opposite direction during another part of the day, but of course, in one direction only at one time, as contrasted with the constant current of trains going in both directions on railroads.

Mr. Weil:

Q. Now proceed——

A. Capacity of transmission lines is rigidly fixed and will not stand any overload——

Q. You are referring here to gas transmission lines?

A. Yes, sir. This has a marked effect in taking care of peak loads, in contradistinction to railroads, which may run extra trains to carry extra traffic.

3114 Q. What do you mean here by peak loads, with reference to a gas transmission line?

A. The term "load" as used herein refers to the volume of gas passing through the line at any given time, and because of peculiarities in the natural gas industry, this must vary through a large range not only in different hours of the day, that is the same day, but as between different days in the month, and as between different months in the same year.

Q. How much of a variation sometimes occurs,—the maximum for example, would you say?

Mr. Blue: The State of West Virginia objects to this question and to all questions of like kind and character as improper upon rebuttal and without repeating the objection from time to time, as to all such questions and answers, note upon the record that such objection is to be treated as made to each and every question of like kind and character to the one now propounded to the witness, as improper on rebuttal. And further, in this connection that the question of peak load has been gone into upon the evidence in chief for the plaintiff's case not denied, not contraverted, and for that reason the

3115 State of West Virginia further objects to this line of examination. Without repeating this objection from time to time to like questions, this objection is to be treated as having been made to all such questions.

Mr. Weil: It is understood and agreed that this objection may be considered as applying to any and all questions asked of this witness with reference to this examination, without the repetition thereof as stated by counsel.

A. No general statement can be made that will fit all cases, but a ratio of eight to one is a very common occurrence as between a minimum and maximum period.

Q. What is the next objection?

A. The third is that natural gas service is instantaneous. There can be no delays in rendering service, as is possible and universally practiced in other transmission agencies, such as railroads and trac

tion lines. For instance, a railroad can very easily start one hour late in case of congested traffic, but a natural gas service that delivers gas for cooking breakfast one hour after the consumer needed it would not only be valueless to the consumer, but would not be tolerated in any community. This instantaneous feature differentiates natural gas service from all transportation utilities and
3116 common carrier agencies. It may be argued that as between a domestic consumer and an industrial consumer, the domestic consumer could be given preference in cold weather, but sudden changes in temperature would not permit the transfer from the manufacturing to the domestic consumer in time for the protection of the latter.

Q. What is the next objection?

A. Fourth, while it has been urged that gas transmission companies be obliged to build additional lines so as to care for all common carrier gas offered them, it is patent that should this be done, the company would be burdened with a large indebtedness, with no assurance of continuous common carrier business, because of the uncertain life of the wells from which the common carrier gas would be offered. The well-known common law doctrine that "A utility cannot be forced to make an expenditure unless there exists a reasonable expectation that the income from such expenditure will justify the investment made" refutes this contention. Fifth, since the size and length of the transmission line remains stationary, the only variability possible in taking care of a large fluctuating load is to vary the pressure on the line within the strength limits of the pipe. The practical difficulties in taking common carrier gas into transmission lines on account of the great variation in pressure conditions necessary to insure satisfactory service to the consumers at the delivery end of the line, are insurmountable. The pres-
3117 sure on the line that is to receive the gas must obviously be lower than the well pressure, or else artificial means must be provided to increase the pressure of the gas that is to be injected into the transmission line. Sixth, the market for natural gas is not fixed, but varies largely with the season of the year, time of day, temperature of atmosphere, locality and consumer's caprice in using or not using gas on his premises. Seventh, gas consumers will not contract for or agree to use a fixed amount of gas each day, but are entitled by law to take gas as they need it. With industrial consumers the consumption is controlled by business conditions, and plants may be shut down for days at a time, or work overtime, without any definite arrangement with the gas company for such fluctuation in service demands. From this, it is evident from the very nature of the case, that a consumer cannot and will not contract for a definite supply of gas from some shipper, as he cannot tell the shipper how much to forward through the common carrier lines, or when to make deliveries. Eighth, leakage in transit must be taken care of, either in the rate paid for such transmission or by allowance for shrinkage at the delivery ends. Ninth, Storage facilities are not commercially feasible for storing natural gas at the intake end, in transit or at the delivery end of the transmission line. For instance,

an 18 inch pipe line which is one mile long, at 300 pounds
3118 pressure, will store but 200,000 cubic feet of gas as delivered to the consumer at four ounce pressure.

Q. What do you mean by storing facilities not being feasible for storage of natural gas at either the intake or delivery end?

A. In order to handle gas it will be necessary to have storage facilities at either the intake or discharge end of the line, for the simple reason that it would be impossible from an operating viewpoint to synchronize the *im*put of the line with the output to any particular consumer, unless provision is made for storage.

Q. What is the cost of constructing a holder of gas or storage facilities for gas——

A. On a pre-war price basis, a 55,000 barrel oil tank could have been built for about $9,500, and for comparative purposes oil at $3.30 per barrel could be stored at six cents per barrel on a pre-war price basis, and a five million cubic foot gas holder would cost about a quarter of a million dollars, and on the basis of fifty cent gas, one thousand feet of gas would cost in storage about $100.00, which gives you a ratio between cost, that is capital for storage, of the two units, of sixteen hundred to one, that is, the amount of capital necessary to store fifty cent natural gas per thousand would be sixteen hundred times greater than the cost to store three dollar and thirty cent oil, both of course referring to the same basis, as to what
3119 one dollar expended for storage for either gas or oil will accomplish.

Q. In your opinion would it be either practicable or feasible to obtain sufficient storage facilities at a reasonable cost, that would enable the transmission lines to provide such storage, either at the intake or delivery end of their lines?

A. It would not. Tenth, since the gas in transmission will be thoroughly intermixed, if the quality of the common carrier gas received by the common carrier is different from that delivered, a correction will have to be made for this difference.

Q. In that connection, what is the fact as to the quality of the gas varying in different sections, and even in the same section, produced on different leases?

A. The quality would be variable.

Q. To what extent is this variation?

A. No general statement can be made to answer that question; it may vary from a very small fraction of a per cent to as much as twenty-five per cent.

Q. What are the characteristics of variation?

A. That is all covered later——

Q. I would like to have that here?

A. The twelfth reason which is the second one from where we are speaking now, is as follows: Where common carrier gas is delivered to and removed from a common carrier line, it would
3120 be necessary to know: (*a*) specific gravity of gas; (*b*) pressure of gas; (*c*) temperature of gas; (*d*) quality of gas, that is its B. T. U. contents. The first three are necessary in order to determine the volume. The quality of the gas from different places may vary

considerably; thus, there may be a variation of several hundred heat units per cubic foot in the heating value. Occasionally freak wells produce large amounts of sulphur which, if introduced as common carrier gas into the main line, may viciate the supply in many communities. It is a well-known fact that gas as it comes from the wells contains an uncertain quantity of moisture and frequently salt water, which if not properly handled in the field, will get into the main lines, causing damage by lines freezing up and water interfering with the action of regulators and meters.

Q. Do you know as a fact that these freak wells for example, to which you refer, sometimes produce gas with an odor so offensive that makes it impracticable to use that gas for domestic purposes?

A. That is probable in some communities, although a little sulphur in a well would be quite an advantage to the gas industry in the way of preventing leakage.

Q. What effect would it have on the consumer, however, who would not be interested in that question?

A. In view of the fact that one-sixth of the gas that passes through the ultimate consumer's meter is lost on the consumer's prem-
3121 ises, the infection of sulphur with the gas for a few days would be a very grate advantage; after that of course it would become an abominable nuisance.

Q. Wouldn't it be even a nuisance the first few days, aside from the benefits in preventing leakage?

A. It would be a nuisance to the nostrils but an advantage to the pocket book.

Q. Return to your eleventh reason?

A. The volume of gas taken into and discharged from the common carrier line must be accurately determined. Gas being volatile and invisible cannot be transported or identified or measured in bulk as coal or oil or other commodities; and apparatus for measuring gas in large quantities is expensive to install and operate. Furthermore, the errors in gas measurement, due to defects in the apparatus or the calculations based on the apparatus readings, are not apparent as in other commodities, and after the gas has passed the meter, the volume cannot be checked to detect errors in measurements or settle disputes, as is possible with ordinary commodities.

Q. What are the elements that must be considered and taken into account in measuring gas as it goes into and goes out of a line?

A. The answers I read into the record under the twelfth reason.

Q. That is the specific gravity, pressure, temperature, and the quality?

3122 A. Just as read in under the twelfth reason.

Q. All of those enter into the question of measurement, do they?

A. Precisely as stated.

Q. What apparatus is now being used commercially by the companies for such measurements, how is it done?

A. Practically all large volume measurements at the present time is handled through the means of orifice meters, because they are

cheaper to install and easier to operate and more accurate than oth types of large volume measuring devices.

Q. What is done as to the method pursued for obtaining the sp cific gravity, pressure, temperature and the quality?

A. Just as stated in No. 12; the first three must be known in a cases of measurement work.

Q. What apparatus is used for obtaining the specific gravity?

A. Any one of three methods; you can use the effusion metho you can use the specific gravity balance, in which you actual weigh the gas, or you can have a chemist analyze the gas and com pute the specific gravity from its chemical composition.

Q. What was the first method you suggested?

A. The effusion method.

Q. What is that?

A. It is merely an old laboratory method, in which the speci gravity is determined by noting the difference in time required f air and gas to pass through a given orifice, and from that i
3123 formation then compute the specific gravity of natural g with reference to air as a unit.

Mr. Hoffheimer:

Q. Air at any particular temperature?

A. The same temperature as the gas.

Mr. Weil:

Q. I presume the pressure of the gas is obtained by the usu gauges?

A. Correct.

Q. How is the temperature of the gas ascertained?

A. Thermometer.

Q. The usual thermometer?

A. Yes, sir.

Q. How is the quality of the gas ascertained and determined?

A. Can be determined by any one of two methods; first you ca have a chemist analyze the gas and compute the B. T. U. conten from the chemical analysis, or you can determine the B. T. U. co tents directly by burning the gas in an apparatus known as calor meter.

Q. How do you ascertain the amount of moisture that is in th gas?

A. The easiest way is to weigh the gas.

Q. How do you determine whether or not there is oil or wate in the gas?

3124 A. If either oil or water is carried by the gas, it is of cours shown by the ordinary obvious senses of sight, feeling o touch, and the quantity can be determined by weighing.

Q. I suppose the odor of gas, to which you have just referred i determined by the nose?

A. Surely.

Q. Is it necessary to apply these respective tests at each point where gas is being received from any prospective party who desires to have his gas transported?

A. It would be necessary to have all the information enumerated in response to the twelfth reason previously given.

Q. As to each one?

A. Correct.

Q. Now, continue——

A. A common carrier natural gas line would be limited to handle one commodity; whereas railroads can handle every known commodity. Fourteenth, common carrier natural gas lines can have no extensive interconnection service with other lines; whereas every railroad can handle commodities from every other railroad.

Q. State why common carrier natural gas lines can have no interconnecting service with other lines?

A. For the simple reason you can have interconnection only in those particular local cases, where one line either crosses or is adjacent to another line, and those points are relatively very
3125 few. In the last analysis, as shown in the fifteenth reason, the transportation of natural gas is a local business, naturally centralized in the fields of production, and the deliveries must be made near those fields and not throughout the entire United States, as is possible with commodities on railroads, due to the fact that practically every railroad from Maine to California is interconnected, whereas relatively very few gas lines are so located that they can be interconnected. Sixteen, is merely a summary of reasons 1, 2, 3, 13, 14 and 15, and emphasi-s a common error made in comparing natural gas transmission lines with railroad transportation systems, under the fallacious reasoning that because railroads are common carriers, natural gas lines can also be made common carriers.

Q. What would be the effect to make natural gas company transmission lines common carriers upon the lines, service and the consumer?

A. It would practically demoralize the public utility service features of the natural gas industry, because it would present many features that are entirely impossible and none that are expedient, from a public utility service viewpoint.

Q. What would be the effect upon the consumer?

A. The greatest hardship would be upon the domestic consumer who would have his service so demoralized as to make the
3126 service practically useless to him most of the time. Of course, it is obvious that most of the agitation has come almost exclusively from certain manufacturing interests that are anxious to have the natural gas delivered to them, without any regard as to what may happen to the two and a half million domestic consumers of natural gas in the United States.

Mr. Blue: The State of West Virginia moves to strike out the answer of the witness, particularly that part of it, wherein the witness says in substance, that the agitation is by manufacturing inter-

ests, disregarding the personal comfort of two and a half millio people, as improper and irrelevant, and contrary to facts, and othe wise grossly improper.

A. The witness will now finish the answer: A casual study of th common carrier question makes obvious the conclusion that n domestic consumer in any town will go out into the field and pr cure a certain definite amount of gas to have delivered at his res dence, at a certain place, in a certain city, at a particular time; th only consumer that could possibly benefit would be the manufacture or the small producer in the field who has some gas to se
3127 and wants to get rid of it as quickly as possible. The sma producer could on a common carrier basis compel the g company to haul his gas to market, but in so doing he would destro the service to the domestic consumer. The question that must co trol as to whether main natural gas transmission lines are or are n to be common carriers is whether the two and a half million dome tic consumers in the United States, thereby representing over te million people, shall have their service protected, and shall be give precedence in matters of service, or whether the selfish financi interests of certain manufacturing groups, working jointly wit certain groups in the field, shall deliver such public utility line out from the public utility service to which they are dedicated, an which service they are now rendering, and turn such public utilit service lines over to the manufacturing interests for the deliver of common carrier gas on a common carrier basis, which means th destruction of the domestic consumer's service.

Mr. Weil:

Q. How would the domestic consumer be thus practically shu out of the line?

A. Precisely as I have stated in the answer. If the manufacturin plant uses the line capacity, first for handling gas, and secondly fo depleting the supplies in the field the domestic consume
3128 must go without natural gas service.

Q. How would it affect the domestic consumer in pur chasing gas from the natural gas companies under these circum stances?

A. If the natural gas company is operated on a common carrie basis, then the public utility features must be subordinate to th common carrier features; you cannot have the two; you have got t elect whether you are going to operate on a common carrier bas or on a public utility basis; the two cannot be mixed.

Mr. Hoffheimer: I move to strike out this dissertion on the feas bility of making transmission lines common carriers and the effec thereof as not proper matter in rebuttal; as not proper matter fo opinion or expert evidence; as contrary to the law, particularly stat tory law of the State of West Virginia, constituting transmissio lines and pipe line companies carriers; and as incompetent, irrelevan and immaterial.

The Commissioner: Note the motion.

Cross examination.

Mr. Blue:

Q. Are you qualified as an expert witness in this case?
3129 A. I am.

Q. Are you qualified as an expert from practicable experience or an expert from theory?

A. In view of the fact that I have in a professional capacity examined about eighty per cent of the natural gas industries of North America in an engineering capacity, I would say it was from practicable experience.

Q. To what extent have your examinations gone, and in what way have you made your examinations?

A. A good many years ago I made a very comprehensive investigation of the natural gas supply situation for the City of Columbus, Ohio, studying field conditions, transmission conditions and the utilization conditions, and at that particular time the question of the common carrier provision came up, because there was a certain demand and a belief that a common carrier provision there would help solve that problem. In 1912, I made a very thorough investigation of the entire pipe line situation of the Kansas Natural Gas Company, starting in with the production situation in Oklahoma, studying the pipe line conditions up to the gates of the various distributing plants. That engineering investigation was made for the United States District Court, for the reason that the plant was in the hands of a receiver under the control of the Court. A short time after that, I made a very thorough study of the production and transmission situa-
3130 tion of all of the property of the Ohio Fuel Supply Company, considering both the production and transmission end in Ohio. The next one was a thorough study of the property of the Northwestern Ohio Natural Gas Company, with a view of considering at that time in particular the common carrier situation as it might affect Toledo, Ohio, for the reason that a local glass company in Toledo, Ohio owned certain acreage in West Virginia and were threatening to make a fight to have that gas hauled to Toledo. I made a careful study of all the production, transmission and distributing property on the Logan Natural Gas and Fuel Company and affiliated companies in Ohio. I made an extensive study of the production, transmission and distributing property of the Warren and Chautauqua Gas Company in Pennsylvania, and the Manufacturers Gas Company in Pennsylvania, which is entirely separate and distinct from the Manufacturers Light and Heat Company. Made a thorough study of the production, transmission, distributing and wholesale town border delivery situations on the entire property of the Potter Gas Company in Pennsylvania and New York. Made an extensive study of the field, transmission and distributing conditions of the Pennsylvania Gas Company in Pennsylvania. Made a very exhaustive study of the field conditions, transmission conditions and the distributing conditions *fo* the United Natural Gas Company in Pennsylvania. Made an exhaustice study of the field

conditions, State line delivery conditions, transmission con-
3131 ditions from the Pennsylvania State line of the Iroquois Natural Gas Company in New York State. I made an extensive investigation of the properties, that is the natural gas properties, of the Eastern Oil Company in West Virginia, and on that particular property a special study was made of the common carrier situation, because of the threat of a certain glass manufacturer in Cumberland, Maryland, at the extreme eastern terminus of the line to go into West Virginia and get certain gas which he claimed he could get, and then compel the Eastern Oil Company to transmit that gas to him on a common carrier basis. Made an extensive investigation of the producing and transmission and local West Virginia distributing conditions of the United Fuel Gas Company in West Virginia, coupled with the transmission problems that arise in that producing company in deliverying of gas to the Columbia Gas and Electric Company at Cincinnati, and also to the Ohio Fuel Supply Company, to the Ohio River. Made a thorough investigation of the producing and transmitting equipment of the Hope Natural Gas Company, especially in connection with the problem of transmitting West Virginia gas up to the Ohio River where they have physical connection with the main lines of the East Ohio Gas Company, to a large number of towns in Eastern Ohio, including Cleveland at the extreme northern terminus. Made an extensive investigation of the transmission and
producing and distributing problems of the Peoples Natural
3132 Gas Company in Pennsylvania; a thorough investigation of the wholesale, State line measuring situation and local producing situation of the Fayette County Gas Company in Southern Pennsylvania. Made an extensive investigation of the producing and transmitting problems of the American Natural Gas Company in Pennsylvania. Also a detailed study of the natural gas property of T. W. Phillips Oil and Gas Company. Made an extensive study of the Pennsylvania producing situation coupled with the transmission into Ohio, coupled with the transmission out of Ohio into Wheeling, West Virginia, of the gas production of the Natural Gas Company of West Virginia. Made a thorough investigation of the interstate features, as well as the local Texas features of the production, transmission and town border measuring situation of the Lone Star Gas Company in Texas. Made a thorough investigation of the producing, transmitting, town border measuring and local distributing plant problem of the Oklahoma Natural Gas Company in Oklahoma. Made a thorough study of the producing problems, the interstate transmission problems, local distributing plant problem and town border measuring problem of the Arkansas Natural Gas Company in Arkansas and Louisiana. Have also made an extensive investigation of the pipe line system and the field situation, supplying the City of Hamilton, Ontario, Canada. Made an extensive investigation of the production transmission and distributing prob-
lems of the Municipal Natural Gas Plant at Medicine Hat,
3133 Alberta, Canada. Also a thorough study of the natural gas resources of northern Montana, with a study of the transmission of those resources to the smelter interests in southern Montana.

Also an extensive study and investigation of, first the producing end, secondly, the transmission, and third, the distributing problem of the Canadian Western Natural Gas Company, supplying natural gas to the City of Calgary, Canada. At the present time I have an investigation under way for the Canadian Government of the natural gas situation in western Ontario, Canada. I have acted as consulting engineer for the United States Bureau of Mines on all natural gas conservation problems that have come before the Bureau since the Bureau became active on the public side of the natural gas conservation question, although in this hearing I am testifying solely in a private capacity, and not for or on behalf of the United States Government, although I am a consulting engineer for the United States Bureau of Mines at the present moment. I have also made an investigation of distributing, transmission, field and purchasing situation of the three companies that are interested in supplying Louisville, Kentucky. Have aso made a study of the producing, transmitting and distributing conditions at Lexington and Frankfort, Kentucky.

Q. When were you working for the United States Government?

A. I have acted as consulting engineer for the Bureau of Mines on a number of occasions, starting in a year ago last

3134 January.

Q. January of what year?

A. January, 1920; I have since that time acted as consulting engineer for them on natural gas conservation problems.

Q. Continuously since January, 1920?

A. Well, by continuously, you must bear in mind that I am only giving the Bureau a very small part of my time.

Q. How much of your time?

A. I cannot give it to you in terms of percentage.

Q. Are you working for the United States Government without compensation?

A. No, sir. I get the magnificent sum of $10.00 per diem with an allowance of $4.00 a day for subsistence, whatever that might mean.

Q. Your connection with the Government began in January, 1920?

A. I have done considerable work for the Bureau of Mines in the last six or seven years at various times on individual problems, and during the period of the war I was Chief of Natural Gas Service for the Fuel Administration, and also acted as consulting engineer for the United States Bureau of Standards, in the investigation of the Louisville, Kentucky natural gas problem previously referred to.

Q. Have you appeared at any time as a witness before Public Service Commissions or utility bodies? as an expert witness?

A. A great deal of the time.

Q. During the last three or four years, will you state what

3135 commissions you have appeared before and at whose instance?

A. I have appeared before the Corporation Commission of Oklahoma——

Q. When?

A. I cannot give the exact dates; I have appeared before them several times for private companies.

Q. About when?

A. Within the last two years, and twice for the Bureau of Mines.

Q. Will you be a little more specific, can't you be a little nearer in your dates as to when you appeared before the Oklahoma Commission on behalf of those persons, or firms or corporations other than the Government?

A. I was before the Oklahoma Corporation Commission on St. Patrick's Day last for the United States Bureau of Mines.

Q. That was 1921?

A. Yes, sir. I was before the Oklahoma Commission sometime in February, that is February, 1920, for the Oklahoma Natural Gas Company.

Q. As an expert for the Oklahoma Natural Gas Company?

A. Yes, sir, and paid by them. I have been before the Kansas Public Service Commission a number of times, appeared before the United States District Court of Kansas a large number of times, because I had handled all the engineering work for the Court since the receiver of the Kansas Natural Gas property started in 1912, up until the termination of the receivership, the later part of 1920.

Q. You appeared for the Receiver?

3136 A. For the Receiver.

Q. The Receiver of the Gas Company?

A. The Receiver for the gas company, under the direction of the Court, I have appeared before the Public Service Commission.

Q. Was that the Landon case that you appeared in for the Receiver?

A. That was one of them.

Q. What was the other?

A. There was a great deal of various administrative matters not only before the Court, but before the Commission. I have appeared before the Illinois Corporation Commission, the Indiana Public Service Commission——

Q. Whom were you represent*at*ing when you appeared before the Illinois Commission?

A. Manufacturers Gas Company, owning and operating the Manufacturers Gas plant at Bloomington, Illinois, and before the Indiana Commission for the Manufacturers Gas Company owning and operating the Manufacturers Gas Plant at Terre Haute, Indiana, and the natural gas company owning the natural gas plant and the electric plant at Richmond, Indiana. Before the Ohio Commission I have appeared for the Ohio Fuel Supply Company, Ashtabula Gas Company, Logan Natural Gas and Fuel Company, the Northeastern Ohio Oil and Gas Company, the Northwestern Ohio Natural Gas Company, for a private concern,—I cannot even give you the name, it is a partnership that owned and operated a small gas plant

3137 at Elmore, Ohio. Before the Pennsylvania Public Service Commission, I have appeared for the Pennsylvania Gas Company and for the Philadelphia Company and for the Fayette

as Company. Before the New York Second District Commission, r the Iroquois Natural Gas Company in Buffalo; before the Mary- nd Public Service Commission for the Eastern Oil Company's Nat- al gas properties in the State of Maryland, and also for the Co- mbia Gas and Electric Company at the time when that company as contemplating taking natural gas to Baltimore. In West Vir- nia, for the Weston Gas Company, the Morgantown Gas Com- ny, Clarksburg Light and Heat Company, Hope Natural Gas mpany, United Fuel Gas Company, and the Eastern Oil Com- ny's natural gas properties in the eastern part of West Virginia. efore the Arkansas Corporation Commission for the Arkansas Nat- al Gas Company. Before the Louisiana Service Commission for e Arkansas Natural Gas Company.

Q. What is the Morgantown Gas Company that you appeared for efore the Commission in West Virginia?

A. Randall Gas Company.

Q. When did you appear for all these several gas companies be- re these several public service commissions?

A. I cannot give you the dates.

Q. In a general way?

A. Within the last ten years.

Q. Hasn't it been in a later time than that?

A. Some of the earlier ones were about ten years ago.

3138 Q. Your appearance for the Hope and the United Fuel and the companies in Ohio, and in fact most of the com- anies that might be interested particularly in this controversy, as been within the last two or three years?

A. That is untrue.

Q. Will you state when it was then?

A. I can furnish for the record a complete statement, giving the xact dates for every one of the cases; I cannot furnish you that rom memory.

Q. We will ask you to do that; we will ask you to have it in the norning, in view of the statement made on the record?

A. I am not sure that I can do it in the morning; I will have to elephone to the office——

Q. We will ask you to bring it so as to cross examine you upon t. Did those companies pay you for appearing before the Commis- ions?

A. Yes, sir, every one of them.

Q. Are you in any way connected with them now or retained by ny of them now?

A. I am doing work for a number.

Q. How many are you retained by now?

A. Lone Star Gas Company, Arkansas Natural Gas Company, British Empire Trust Company of London, England, controlling he Calgary plant, the Ohio Fuel Supply Company in Ohio, the Philadelphia Company, Manufacturers Light and Heat Company,

3139 Peoples Natural Gas Company, Hope Natural Gas Company, Oklahoma Natural Gas Company, the Potter Natural Gas Company, the National Fuel Company which owns the Penn-

sylvania, United and Iroquois Companies, the Taylorstown Natural Gas Company, a small company here in Pennsylvania. That includes all at the present moment.

Q. By the Philadelphia Company, you mean the Pittsburgh and West Virginia Company?

A. I mean the Philadelphia, which owns the Pittsburgh and West Virginia Company, as well as the Monongahelia Gas Company and the Equitable Company; The Philadelphia Company is the holding company.

Q. When did your retainer or employment with the United Fuel Company cease, if it has ceased?

A. When I completed the investigation of the company, about a year and a half ago.

Q. Your investigations of the properties of these companies is followed by your appearing as an expert witness for these companies, isn't it?

A. Not necessarily always.

Q. Your employment by the United Fuel was in regard to rate making?

A. Yes, sir.

Q. You were an expert witness before the Public Service Commission of West Virginia?

A. Yes, sir.

Q. The same is true of the Hope?

3140 A. Yes, sir.

Q. The same is true of the Pittsburgh and West Virginia?

A. There had been a large number of operating problems handled, separate and distinct from the rate end.

Q. The Clarksburg Light and Heat Company had you make one of these investigations and you were called upon for the purpose of your testifying as an expert?

A. Yes, sir.

Q. Before the Commission on rate making?

A. Yes, sir.

Q. The same is true with regard to your appearance before the Ohio Commission——

A. To a great extent, I have done a great deal of engineering work in gas companies in Ohio that had no bearing on the rate making question.

Q. Within the last two or three years I am talking about, your work for these companies, your appearance for them before the Commissions as an expert, has been in connection with rate making?

A. To a large extent rate making and service,—and the two go together. For your information when I went to the Government service I filed with the Secretary of the Interior an itemized statement giving the name of every plant for whom I was doing work at that time.

Q. Where did you first locate on the ground a right of way for a pipe line?

3141 A. I have never located a right-of-way for a pipe line.

Q. Where did you build or have built under your supervision a pipe line for the transportation of gas?

A. There has never been one built under my supervision, for the simple reason that natural gas companies do not employ a consulting engineer until they get into trouble.

Q. I am trying to find out what experience you have had to determine whether you are capable of testifying?

A. I can anticipate that by saying I never handled a shovel of dirt, never handled a monkey wrench, have never done any manual labor of that kind for natural gas companies; I am a profession-engineer, not a ditch digger.

Q. I want to know what pipe line system was ever put in under your supervision and where?

A. None, I have never been in the pipe line business.

Q. Can you mention a pipe line that has been laid out and constructed under your supervision?

A. None.

Q. Can you state where you have located compressor stations, the places where you have located them or had them built under your supervision?

A. Never been in the compressing station business; they don't go into the compressor investigation until after they get into trouble. I made a very exhaustive investigation of the entire compressor
3142 situation for the State of Ohio, traveling in that time approximately 7,000 miles, studying the operating conditions at probably every compressing station in the State, and later I extended that investigation to West Virginia.

Q. I am not asking you about what you know theoretically, I am trying to find out what you know from practical experience as an engineer, and in the usual line of an engineer's experience, in what oil field, or gas field have you laid out a location for a well?

A. I have never laid out any, for the simple reason that engineers are never used for laying out gas wells.

Q. As an engineer you have done nothing whatever in a practical way from the time you left school up to this time?

A. That statement is incorrect.

Q. We will ask you to correct it?

A. There are two kinds of engineers in this world; one who goes on the ground and handles a monkey-wrench and goes out and does manual work, and the other who fulfills the fundamental definition of an engineer as being an architect controlling the great forces of Nature and working out engineering problems for the use and convenience of mankind.

Q. You haven't answered my question, at least no- satisfactory to me; what practical experience have you had as an engineer in laying out and doing the usual things that engineers do; I am not
3143 asking you about digging ditches nor using monkey wrenches; I am asking you about what things you have done as a practical engineer?

A. I have never laid out a compressing station nor a gas main

line; my work has come in after the station has been laid out or after the line has been laid, when I was called in to solve some engineering problem in connection with that line.

Q. Have you operated a gas line?

A. I have not.

Q. Have you ever operated or had you under your direction the operation of a gas compressing station?

A. No, sir.

Q. Now, as a theoretical engineer, you have some theories about how the natural gas business ought to be carried on?

A. As a practical consulting engineer thoroughly familiar with the operating problems in connection with the industry, both theory and practice, either or both, where necessary, I have studied the engineering phases of the natural gas industry very thoroughly within the last ten years; have made a large number of investigations and have worked out a large number of operating conditions which have later been carried into practice in connection with the operation of existing natural gas plants.

Q. Out of this study and investigation of yours, isn't it your judgment that the transportation of natural gas is a local business, naturally centralized in the field of its production?

3144 A. Yes, sir, without any reference whatsoever to State lines.

Q. When you testified a while ago from this paper that you read at the New York meeting in 1914, you read substantially word for word all of the provisions except No. 15, we are going to ask you to read number 15 into the record?

A. Fifteen was read into the record once and I object to reading it in the second time, mostly in the interest of saving space, but I now read it in the second time as follows: "The transportation of natural gas is a local business, naturally centralized in the fields of production, the deliveries being made near those fields, and not throughout the United States, as are other commodities. The limited area producing natural gas, and limited population using natural gas in the United States, are emphasized in Fig. 2" on this paper.

Q. "On this paper" does not appear in the one you gave me?

A. I am putting that in in order to make it definitely understood, because if you put a period after "Fig. 2", without any reference, it will be meaningless to whoever reads it, because there is no Fig. 2 in this record.

Q. Out of your experience it is your opinion that natural gas is a service and not a commodity, isn't it?

A. It is a commodity in which the service is the predominating feature; it is neither a commodity alone nor a service alone; it is a combination of the two, that is a delivery of the commod-

3145 ity under public utility service features.

Q. Let me ask you whether it is not your opinion that the furnishing of natural gas is as a service rather than a delivery of a commodity or product and that the service is a predominating feature of the Natural Gas Company?

A. That expressed it accurately; that is the very reason why the common carrier proposition which has been put up here would demoralize that service, and therefore kill the domestic service to the domestic consumer.

Q. Who has put up this common carrier business here?

A. I haven't put it up; I have merely been answering a lot of questions about it.

Q. Why all this dissertation on this common carrier question that we have been talking about all afternoon?

A. It has been merely responsive to questions that have been asked by you lawyers.

Q. Who started it?

A. Mr. Weil, I presume, is guilty.

Q. In your opinion, considering gas as a commodity is fundamentally wrong in the gas business?

A. Yes, sir, it was true when the report was written; it is true today; I subscribe to everything pertaining to it.

Q. Inasmuch as you recognize the pamphlet which I have in my hands, I will identify it by saying that it purports to be one prepared by you with the heading "Natural Gas: its production, service and conservation." On Page 34 appears a paragraph which I will ask you to read into the record indicating to you the paragraph I have in mind?

3146

A. In response to the question the paragraph reads as follows: "The furnishing of a service, rather than the delivering of a commodity or product, is the dominating feature of the natural gas business. To consider the gas merely as a commodity is fundamentally wrong. When a natural gas utility prospects for, finds, and reduces the fugitive, wandering and uncontrolled natural gas to possession, and then converts this crude natural gas—made up of a mechanical mixture of permanent gases and condensible vapors—into a controlled and usable service delivered to the consumer's fixtures usually many miles from the gas field, the service features pertaining to the method and manner of delivery, and standing ready to serve are of much more importance than the product or commodity. The difference between rendering a service and marketing a commodity is an important one. The commodity may be manufactured at a uniform rate of production and then placed in storage until it can be sold to advantage, while a service must be used at the moment it is offered or it will become forever useless. The load factor data on page 35 emphasized first, the erratic nature of natural gas loads and, secondly, the potential opportunities for rendering service that can never be used." That ends the quotation. It is specially pertinent to read with this one isolated section the entire page 64 which reads as follows——

3147

Q. You were not asked to read that; you can read that later on if you so desire, I grant you that?

A. I am merely calling attention to the fact that you have picked out one isolated paragraph and I am insisting that the other paragraphs that belong with it should at least have attention called to their location, on page 64.

Q. I am conducting this examination, and when I get ready for you to read Page 64, I will ask you?

A. It is my duty as an expert to prevent my own testimony going in in a form that will be grossly misleading to a layman.

Q. Isn't it also your theory and belief that as gas fields decrease that the limited service should be brought in towards the source of supply?

A. Yes, when the time comes that the companies can no longer render adequate service to the domestic consumers, who from the very nature of the case must take precedence at the extreme end, due to domestic demands between the extreme end and the field, except in those cases where a very large part of the total business is at the extreme end of the main transmission line, it will be then necessary and desirable to begin curtailing. For instance, at Cleveland, Ohio, where you have most of your consumers at the extreme end of the line, if you take Cleveland off that line you cannot afford to
3148 operate the four transmission lines for the other smaller towns en route.

Q. Inasmuch as you have stated that natural gas is a service haven't you then explained the next step that a usable service to a limited number is better than a poor service to a larger number?

A. Yes, sir.

Q. You have adopted what you call the New York view of it?

A. Yes, sir.

Q. You have expressed yourself to that effect?

A. Yes, sir, very emphatically; I reaffirm that statement today.

Q. In the same pamphlet to which I called your attention a while ago?

A. Yes, sir.

Q. I am handing you the same pamphlet again and am going to ask you to read into the record beginning at page 50 that part of it that comes under the head of "Extension of service," which I will indicate to you?

Mr. Weil: This question is objected to as well as the preceding questions, in which the witness was asked to read from this pamphlet that has been referred to as not being cross examination of the witness on any subject about which he was examined in chief,
3149 but calling for his opinions upon other matters and other subjects other than the question of common carrier transmission of gas by gas companies upon which he was examined in chief; these questions referring in no way shape or form to that subject directly or indirectly, approximately or remotely. There is no objection to the witness answering these questions and reading into the record these excerpts, but counsel for complainants give notice that they propose to cross examine the witness upon this subject, and to treat him as the witness for the defendant, and will insist to the Court when the evidence is presented that the defendant is bound by the testimony of this witness, on these subjects as if he had been called and examined as their witness, there being no opportunity here at this time under the circumstances under which this evidence is taken to have this evidence ruled out as not being cross examina-

tion, but the same under the orders of the Supreme Court are necessarily taken and will appear as a part of the record. Notice is given to the attorney for the defendant that complainants will insist to the Court when this record comes before it that this testimony is
3150 testimony in chief on part of the defendants and that they are bound thereby, and the complainants propose to cross examine the witness upon the same, after this examination is terminated.

The Commissioner: Note the objection and let the witness proceed.

A. The paragraph asked for is from Smithsonian Institution Bulletin 102, Part 7, beginning in the middle of page 50 and extending over to the top of page 51, and when this paragraph was written, it was merely a part of the Bulletin as a whole, and the text on page 64 of this Bulletin must be read with the text on pages 50 and 51,—the text asked for reading as follows: "Extension of Service" "In considering the question of the desirability of making new extensions after a natural gas supply has become depleted, so as to make satisfactory service for all impossible, two distinct viewpoints have been developed, namely: The Indiana Supreme Court in 1901 held that: A natural gas company * * * can not refuse to permit connection with its mains by unsupplied citizens because the gas pressure has fallen so low that existing customers can not be adequately supplied, and that the court should compel the company to permit participation in the supply of gas furnished by it, although it can not furnish enough to satisfy the needs of its existing
3151 customers. (State of Indiana ex rel. Wood versus Consumers Gas Trust Co., 55 Lawyers' Reports, 245). The New York Public Service Commission, Second District, in 1915, held that: Consideration must be given to a safe and adequate service on the part of the company, within its means and facilities, and if service of this character is being given to a comparatively few customers in a certain locality, with the eliminated amount of gas available for such purpose, it is manifestly the duty of this commission to permit the continuance of such service rather than order the company to turn its gas into a larger field where a safe and adequate service could be given. (New York Public Service Commission, Second District, North Tonawanda case No. 4478, Feb. 25, 1915.) The Indiana viewpoint is merely a blind following the obsolete precedent. Furthermore, it is based on the erroneous theory that it is a matter of no consequence whether adequate service can be given to any customers, so long as all of the customers stand on an exact equality, and fails to recognize that there is a clear distinction between equity and equality, and that the two are not synonymous. The New York viewpoint is in accordance with the spirit and letter of up-to-date public utility regulation and recognizes the inherent characteristics and natural limitations of the natural gas industry, and that usable service to *s* limited number is better than poor or no service to a large number. This New York viewpoint is the just and equitable

one to apply to all new service extension problems, as well as
3152 to the inevitable problem that will arise in the near future, of limiting or discontinuing the service entirely in certain localities, because the available supply as furnished by nature will not permit the continuance of a usuable service to all."

Mr. Blue:

Q. Now, coming down to the practicable proposition of this question of carrying gas, do you not know that the Pittsburgh and West Virginia Company is carrying gas for the West Virginia Central Gas Company and delivering it to the West Virginia Central Gas Company under an arrangement between those two companies?

A. It is carrying gas on a transfer basis, but not on a common carrier basis.

Q. It is transporting it or transmitting it or whatever the technical word may be?

A. No, it is merely a cooperative agreement whereby they buy certain gas at once place and sell other gas at another place; they do not transmit and deliver the same gas that goes in.

Q. Have you seen the contract or do you know the character of the contract between those two companies?

A. I cannot tell you the exact terms of the contract now; I saw it originally before it was signed.

3153 Q. Does not the contract instead of reading just the way you state it, say in substance they shall redeliver to the West Virginia Central Gas Company one half of this gas, or whatever proportion they agreed among themselves should be redelivered to it?

Mr. Weil: Objected to as not cross examination, incompetent, irrelevant and immaterial and an attempt to prove by the witness the contents of some written instrument without the same being introduced.

Mr. Blue: Counsel for West Virginia concede that the contract would be the best evidence. We are not asking the question for that purpose. The question is being asked of this witness as an expert who has testified upon his theories, to ascertain whether or not certain things are not being done, practically in the face of these theories.

The Commissioner: Let the objection be noted and the witness proceed.

A. It is neither a matter of theory or contractual relation. If such a contract provides that such a thing shall be done, it is not done, for the simple reason you cannot contract to do that
3154 which is impossible; no contractual relation can abrogate engineering law.

Mr. Blue:

Q. Do you mean to say that one producer cannot deliver gas into a pipe line and have the same quantity of like gas delivered to him at the other end of the pipe line?

A. Not the same gas; you can similar gas; you use the expression deliver the same gas.

Q. As an engineer, is it not perfectly feasible if a quantity of gas is put into a pipe line that a like quantity will be delivered by that pipe line at the other end?

A. Yes, sir, but not the same gas.

Q. What is the difference between that and an elevator delivering a certain quantity of wheat, it does not deliver the same wheat but delivers the same quantity of wheat, where is the difference?

A. You have insisted all along that one producer would put in a certain amount of gas and have that same gas taken out at the other end or taken out under common carrier conditions. This contract in no way, shape or form provides for common carrier service. Its provisions are merely for transfer of gas between the two companies. They do not hold themselves out to render service to the public.

Q. What is the difference whether they do or not, if the thing can be done?

A. It is the difference between being a common carrier and not being. You can deliver a quantity of gas but cannot deliver
3155 it under common carrier conditions.

Q. What is the difference if you have a million feet of gas in a pipe line which you deliver at the other end of it, or put in one million feet to take the place of it, what is the difference (interrupted)——

A. That is merely a private relationship.

Q. Couldn't you carry the private relationship to the extent that you make it a common carrier relationship?

A. Certainly, but the minute you do that, your common carrier relationship would kill the public utility end of the business.

Q. If by contractual relation gas is transported between parties, why cannot it be done in (interrupted).

A. It is merely a transfer of gas; it isn't the transporting of the same gas; it hasn't any of the elements of common carrier service.

Q. What is the difference between that and the transfer of oil in a pipe line?

A. Because oil is not a public utility.

Q. The pipe lines used to carry oil are common carriers?

A. By Congressional action.

Q. Now then, will you tell me why and wherein if you put a barrel of oil in a pipe line you couldn't do that same thing as to gas?

A. You would not still render public utility service. The
3156 converting of natural gas transmission lines into common carriers presents many features that are impossible, and none that are feasible or expedient. Could not require a company operating a pipe line to pick up gas anywhere along its line and take it to a market except under the legal, engineering and economic conditions herein defined. Could not require the pipe line company to find a market for the gas. Would so disorganize the existing

business as to make it impossible to render satisfactory continuous service to either domestic or industrial consumers. Would make the consumers, especially the domestic, subordinate to occasional producers; that is, to men who have no intention of following the business of hunting for gas for future service, but would be interested only in finding a good market, at the expense of others for such gas as might be found as a result of an occasional venture. In all cases, where tried will impair and usually destroy the cooking heating and lighting service of the domestic consumer. Would greatly increase the amount of gas used for manufacturing purposes, thus hastening the day when natural gas will be merely the memory of a wasted and unappreciated resource. Could be based only on distinctly local and selfish interests, and would have to ignore entirely the broad public insterest in an effective and continuous service and a future generation's equity in a conserved fuel supply.

3157 Q. Don't you know also that these oil pipe lines deliver oil from these lines?

A. Yes, sir, they do. Storage facilities for natural gas are not feasible, either at the intake, in transit or at the delivery end.

Q. You have the best storage in the world for your natural gas at the point of intake in the well itself?

A. You could have storage in both places.

Q. Take up one at a time; the well itself is storage?

A. Yes, sir.

Q. The gas is there for you to take?

A. It is there whether you take it or not.

Q. Gas can be delivered from the wells adjacent?

A. Oil can be piped into the line; gas runs into the line; you could pump oil right into the line; gas is a different proposition gas goes through the line from increased expansive force from the higher pressure, provided the rock pressure is high enough. You cannot transmit natural gas in the atmosphere.

Q. Don't you know that gas flows only in one direction?

A. At one given time, as far as putting it into a pipe (interrupted)——

Q. Then gas and oil are the same in that respect?

A. Yes, sir; I did not limit my exception to one feature.

A recess was here taken until Thursday, March 24th, 1921, at ten o'clock A. M.

3158 Morning Session, Thursday, March 24th, 1921.

And now the hour of ten o'clock A. M. having arrived, hearing resumed pursuant to adjournment.

SAMUEL S. WYER, resumes the stand.

Cross-examination.

Mr. Blue:

Q. On yesterday, you were asked to file a statement, showing your appearance before the various Commissions in behalf of various natural gas companies in the several states, and the dates thereof, for the period mentioned in the question, do you have that statement this morning?

A. I do not have it here this morning; I cannot give that information from memory for various obvious reasons, it being impossible to fix the dates several years back, but have all the necessary information in my files and could, after returning to the office, build up such a statement giving the exact information in chronological order. I will not arrive at my office until the latter part of next week.

Q. Your office is at Columbus, Ohio?

A. Yes, sir. I will be very glad to furnish such a statement and mail it to you.

3159 Q. Inasmuch as that is some days remote and our general understanding is that these depositions will be completed here this week, I will not ask you to go to that trouble or to hold the depositions open until you can furnish that information. You are therefore excused from that in order to avoid any delay?

Redirect examination.

Mr. Weil:

Q. Mr. Wyer, the excerpts from a certain publication which you were asked by counsel in cross-examination to place in the record and which you referred to as being on certain pages of a certain book, were taken, were they not from Bulletin 102, Part 7, of the Smithsonian Institution, United States National Museum entitled: "The Mineral Industries of the United States; Natural Gas; its production, service and conservation" by Samuel S. Wyer of Columbus, Ohio, published by the Washington Government Printing Office, 1918?

A. Correct.

Q. Do those excerpts taken out of their context without the explanations given sometimes previously and sometimes following, correctly set forth your views on those respective subjects about which you were interrogated?

A. They do not.

Q. There was called to your attention one portion of that book particularly enumerated on Page 64 but as I understand you
3160 to say there are other portions of this pamphlet which have a direct bearing on the subject, other than the excerpts that you were requested to place on the record?

A. That would be true; the book as a whole should be taken. That is especially true with regard to the conservation features of gas. If the State of West Virginia were to spend as much money and as much energy in conserving natural gas as it is in this Interstate Commerce controversy, they could have satisfactory gas service for many years.

Mr. Blue: The State of West Virginia moves to strike out this learned observation of the witness as wholly uncalled for, irrelevant, immaterial, voluntary and argumentative.

The Commissioner: Note the motion.

Mr. Weil:

Q. I show you paper marked for identification Pennsylvania Exhibit 55 and ask you if that is the pamphlet from which you read the excerpts to which you have just referred in your testimony?

A. It is.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 55 in connection with the cross-examination of this witness.

3161 Mr. Blue: The State of West Virginia objects to Pennsylvania Exhibit No. 55 as irrelevant, immaterial and improper and as uselessly incumbering the records upon the material issues involved in these causes. The State of West Virginia calls attention to this: That the cross-examination of the witness yesterday in respect to certain parts of the book or pamphlet related to certain theories of the witness respecting the question of the transmission of gas and of the service, the matters whereof the witness has spoken about on his direct examination, and the purpose of the cross-examination and introduction of such parts of the pamphlet or book was in respect to the matters upon which the witness had testified upon his direct examination, namely in respect to the transmission of gas by gas lines and the service to consumers by gas companies. And as further giving and throwing light upon the state of mind and the theories of the witness, as reflected in such parts of the book or pamphlet, the State of West Virginia had the witness read into the record such parts thereof when on the stand yesterday.

3162 The Commissioner: Let the statements of counsel be noted and let the Exhibit be received.

Mr. Weil: In reply to the statement made by counsel, the sections of the pamphlet which were read into the record on cross-examination, were not subjects upon which any examination had been made of this witness in the examination in chief, but were upon entirely different subjects, and attention was called thereto at the time. The witness protested during his examination that these excerpts did not correctly portray his opinions as they were

qualified by what had preceded and what had followed in this bulletin, and offered to read in to the record those qualifications, which was objected to by counsel for the defendant. This is the only opportunity therefore which in fairness to the witness his opinion can be correctly presented to the Court, and therefore not withstanding the burden upon the record, we have offered this Exhibit No. 55.

Mr. Blue: Counsel for West Virginia calls attention to
3163 counsel for the plaintiffs that when the witness was inquired of and asked to read into the record certain parts of the pamphlet or book, it was stated to the witness that such qualifying parts as he wished to read in, he might do so, after the examination had been finished by counsel, and no objection is made to the witness reading into the record such parts as he referred to yesterday, wherein he claimed that such parts qualified his statements or tended to do so, further than the fact that the same would be immaterial and irrelevant.

Mr. Blue: The State of West Virginia without waiving any right of objection to the book or pamphlet introduced in its entirety, on recross examination will ask the following questions of the witness:

Recross-examination.

Mr. Blue:

Q. On yesterday you read into the record pages 7, 8 and 9 of a little pamphlet containing an address that you made at a New York meeting in February, 1914, giving your sixteen reasons why a natural gas pipe line cannot be a common carrier, did you
3164 not?

A. I did.

Q. The same sixteen reasons appear in the printed pamphlet which you have filed as Pennsylvania Exhibit No. 55, do they not?

A. The discussion in Pennsylvania Exhibit No. 55 which begins on page 30 and extends over to the top of page 34 is merely and abridgement of the common carrier paper referred to yesterday.

Q. This Pennsylvania Exhibit No. 55 was written by you?

A. Yes, sir.

Q. It is a collation of a number of papers, expressing your theories, isn't it?

A. Yes, sir, and viewpoints.

Q. It is a collation of a number of papers on your theories and viewpoints?

A. No, it is not a collation of a number of papers; it is a complete discussion in which we have used a lot of material previously prepared on certain particular individual subjects.

Q. Who do you mean by "We"?

A. I am referring to the fact that the Smithsonian Institution had arranged for this investigation. This was of course prepared for them; was put out after a thorough discussion with the various officials and after they had written a foreword for the en-
3165 tire paper, in order to tie it into the mineral conservation program of the institution.

Q. I do not know yet who "We" means; I don't know who you mean by we?

A. I have answered once before the term "We" as used herein refers to myself and those officials of the Smithsonian Institution that discussed first the manuscript form of the circular, and then secondly furnished a foreword for tying this discussion of natural gas into the general conservation program of the Smithsonian Institution.

Q. In other words, this Exhibit No. 55 is a collation of the theories and viewpoints of you and some other theorists respecting natural gas and the handling of it?

A. No, I think the last paragraph of the foreword expresses that more accurately: "This particular discussion sets forth the technical issues as viewed by a practical engineer who alone is responsible for it in a concise, readable presentation, which makes it a distinct contribution toward clarifying the situation."

Q. Who is the engineer referred to there?

A. Myself.

Q. This Exhibit No. 55 is a collation of different papers read at different times by you and other theorists upon the subject of natural gas and the handling of natural gas?

A. Pennsylvania Exhibit No. 55 is a thorough discussion of the natural gas production, service and conservation situation as
3166 viewed from a practicable viewpoint, of, first operating natural gas plants, and secondly, conserving the natural gas supply for the future. That was prepared with the special purpose of educating the public, and especially the Public Service Commissions in the proper carrying out of natural gas conservation work in the interests of the public, and in the interests of the domestic consumer, as distinguished from diverting natural gas to manufacturing industries.

Q. This Pennsylvania Exhibit No. 55 includes, either in exact form, or, if not in exact form, in substance, the statements and papers that you read from time to time before various gas associations or upon other occasions, doesn't it?

A. Yes, it contains reference to probably three or four previously written papers and quotations from those papers.

ROBERT W. CUMMINS, called as a witness, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Cummins, you reside in the City of Pittsburgh?

A. Yes, sir.

3167 Q. What official position do you occupy to the South Penn Oil Company?

A. Secretary and a member of the board and counsel.

Q. How long have you held those official positions with the South Penn Oil Company?

A. About 19 years.

Q. Reference has been made in this examination of other witnesses to certain contractual relations existing between the Hope Natural Gas Company and the South Penn Oil Company, and the parties examined were unable to give us the exact situation, are you in a position to tell us just what that relationship was and when it began, as to leases of the South Penn Oil Company, in which the Hope Natural Gas Company obtains some kind of interest?

A. In April, 1902, an agreement was entered into between the South Penn Oil Company and the Hope Natural Gas Company, by which, when the South Penn Company in drilling for oil, developed a gas well, they were to turn that well over to the Hope; and on the other hand, if the Hope Company, in drilling for gas discovered an oil well, it should be turned over to the South Penn Company; the company to which the well was turned over, paying the cost of its drilling. The agreement also vested in the Hope Company the gas rights under the leases that the South Penn held for oil and gas both, and vested the oil rights of the Hope Company under the leases it held, in the South Penn Oil Company.

3168 Q. Did that apply to the leases then held by the respective companies?

A. Yes, sir.

Q. How many acres were involved in that agreement?

A. About 214,00- acres.

Q. Did that arrangement apply to leases subsequently taken by the South Penn Oil Company after that date?

A. No, it was not intended, it was not originally intended that it should apply to after acquired leases, but I think perhaps in a few isolated cases leases were treated as if they had been under that agreement.

Q. I suppose that applied to renewals of leases that were comprehended in that agreement at that time?

A. Yes, sir.

Q. How many acres of leases has the South Penn Oil Company at the present time, which it is operating for both oil and gas, in which the Hope Company has no interest whatever?

A. About 584,000.

Q. How much of that do you carry as developed and how much as undeveloped?

A. In round numbers 136,000 as developed and 448,000 undeveloped.

Q. When the South Penn Oil Company on any of this territory in its operations develops gas, is it under any obligation to sell it to any particular party?

A. No, sir.

3169 Q. What is its practice in that respect?

A. Sell it to the purchaser who pays the most for it.

Q. How have you from time to time been selling gas thus produced by you?

A. Do you mean selling the output?

Q. Selling the gas or selling the well whichever it may be, either selling the gas well or selling the output of the well?

A. We sold by meter to the Peoples Natural Gas Company.

Mr. Steptoe:

Q. Where is the Peoples Natural Gas Company you have just named, where is it located?

A. In West Virginia.

Q. Whereabouts in West Virginia?

A. I don't know where the gas comes from; I only know the persons to whom it is sold. Manufacturers Light and Heat; Equitable Gas Company; Pittsburgh and West Virginia Gas Company; Montgomery Gas Company; Hope Natural Gas Company, United Fuel Gas Company; Continental Gas and Pipe Line Company; G. L. Cabot; Diamond Carbon Company; Oscar Nelson Carbon Company; in addition to that a great many contractors who drill wells through the West Virginia field.

3170 Mr. Weil:

Q. Did you sell any gas to the Monongahelia Gas Traction Company?

A. Yes, sir.

Q. You didn't mean that (interrupted).

A. No, sir, I didn't mean those were the only ones; I mean those were only the sales by meter or on flat rate, sold by the thousand feet.

Q. In addition to those are there others to whom you have sold gas wells from time to time?

A. Yes, there are a few; the Philadelphia Company is one of them. Monongahelia Traction Company is another; I think the West Virginia Company.

Q. Which is that, the West Virginia Central?

A. No, the Philadelphia Company of West Virginia I should say.

Q. Pittsburgh and West Virginia?

A. Yes, sir. I do not at the moment recall any others.

Q. Of the acreage originally covered by that contract to which you have testified, how much of that was developed and how much of it was undeveloped?

A. About 62,000 acres developed, and 152,000 undeveloped.

Q. You say that was the acreage covered by the contract made in 1902?

A. Yes, sir.

Q. Have you had any contract since that time of a similar character as between the Hope and the South Penn Company as

3171 to the oil or gas rights in their respective leases?

A. I think not, although there may have been a lease or two here or there, as to which they did make such a contract, but it is negligible.

Q. I was referring to a general contract of that character?

A. No, sir, no such general contract.

Q. In disposing of your gas or gas wells from time to time are

re any preferences given in sales to the Hope Company as com-ed with other producers?
A. Yes, in a way there are; if they pay as much as anyone else, same price as anybody else, we will sell it to the Hope.
Q. If they pay as much as anybody else,—what about the con-y if they wouldn't pay as much?
A. They wouldn't get it.

Cross-examination.

Mr. Steptoe:

Q. In a general way, where were those 214,000 acres of developed l undeveloped leases which the South Penn sold to the Hope Com-ny, located?
A. In twelve or fifteen different counties.
Q. In the northern section of West Virginia?
A. In Calhoun, Doddridge, Gilmer, Harrison, Lewis, Marion, rshall, Monongalia, Pleasants, Ritchie, Taylor, Tyler, Wetzel, Wirt.
72 Q. How many wells were there on the developed portion?
A. I don't know that, but roughly speaking I should say o or three hundred; I couldn't give you any accurate statement to that.
Q. Prior to that time had any of the gas from those wells been rketed by the South Penn?
A. Some of it locally.
Q. Through what agencies?
A. Directly.
Q. To what cities, towns or villages?
A. Mostly to the contractors who were drilling in West Virginia.
Q. Did it sell to any companies that were engaged in marketing the public?
A. I think not.
Q. Does the South Penn Oil Company today engage in the pub-service of gas?
A. No, sir.
Q. It is not now a public service corporation?
A. No, sir.
Q. And all the sales made of such gas production as the South nn Company now has are private sales, and matters of private con-ct?
A. Yes, sir.
Q. I understand you to say that the price being equal, the gas is a rule sold to the Hope Natural Gas Company?
A. Yes, sir.
73 Q. Does the Hope Natural Gas Company discriminate against you on the price, or does it pay what others pay or e willing to pay?
A. It sometimes wants it for less money.

Q. Are you able to give up for the calendar year 1920 the total gas production for the South Penn Oil Company?

A. No, sir.

Q. Are you able to tell us the total of the sales of gas of the South Penn Oil Company during that year?

A. No, sir.

Q. Do you have that data available in your office?

A. Yes, sir.

Q. I will ask you if you can have made and presented later in the day a statement showing the total production of natural gas in West Virginia for each of the calendar years 1919 and 1920, and the distribution thereof respectively to the drilling of wells of the South Penn Oil Company for itself; to sales for the drilling of other wells to contractors; and the total sales to each of the following named companies: Hope Natural Gas Company, Reserve Gas Company, Pittsburgh and West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light and Heat Company, Columbia Gas and Electric Light Company, and the United Fuel Company?

A. I think I can furnish most, and possibly all of the data called for by the question, but it may require several days to get it.

3174 Q. What particular part of that information desired will delay you several days?

A. The quantity used by the company in its own operations in the field.

Q. You would be able to show from your office here the total sale of gas, outside of what it consumed itself and sold in the field?

A. I think so.

Q. You could also show the total production, or approximately the total production?

A. I hesitate to answer that question one way or the other. I don't know whether I can or not.

Q. I will ask you to investigate your records available here in Pittsburgh and give us the statement this afternoon as near as possible to what I asked for above, and especially to give the total sales exclusive of field service, and the amount of the total sales to each one of the seven companies I have named. Has the South Penn Oil Company during the last calendar year sold many gas wells?

A. I think not.

Q. Is it the practice of the company to sell its gas wells or hold them itself?

A. It is the practice to hold them where it can itself utilize the gas, and sell them where it cannot utilize the gas.

Q. What do you mean by the company utilizing the gas?

3175 A. For drilling and operating its own well.

Q. That is where the South Penn Company can use that gas production in drilling and operating for its oil wells, is that the idea?

A. Yes, sir.

Q. The South Penn Company is engaged in the oil business?

A. Yes, sir.

Q. And such gas as it has is acquired incidentally in the course drilling for oil?
A. Yes, sir.
Q. What is the practice of the company where it cannot use that handily in its operations for oil?
A. Sell it to a purchaser.
Q. Sell both the gas and the well or just sell the gas alone?
A. Sometimes they sell the well, but more frequently they sell the
Q. Sometimes where the particular lease appears to be gas territ-, the idea would be to sell the lease if possible, would it not ?
A. Yes.
Q. I presume when you gave your figures of 584,000 acres of oil d gas territory now held by the South Penn Oil Company, you ant that acreage in the State of West Virginia?
A. Yes, sir.
Q. In fact all of your figures and statements related to
76 operations, territory, sales and so forth in the State of West Virginia?
A. Yes, sir.

Redirect examination.

Mr. Weil:

Q. Mr. Cummins, weren't you mistaken when you said you were ling gas to the Peoples Natural Gas Company in West Virginia?
A. I think not. I took this from the record downstairs, possibly m mistaken.

A recess was here taken until two o'clock P. M.

Afternoon Session, Thursday, March 24th, 1921.

And now the hour of two o'clock P. M. having arrived, hearing umed, pursuant to adjournment.

JOHN B. CORRIN, recalled, testified as follows:

Direct examination.

Mr. Weil:

Q. In some of the tables submitted with reference to the holdings leases in West Virginia by natural gas utilities in the testimony of Mr. Nease, he states the holdings of the Hope Natural Gas
77 Company for December 31, 1919 as being 1,028,870 acres, and divides it into undeveloped and developed acreage, giving undeveloped 690,094 acres, and developed 338,776 acres, and testi- d that these compilations were taken from the reports made by the pective utilities to the Board of Public Works of the State of West rginia, did you make the reports for the Hope Natural Gas Com-

pany of which you are the general manager, I believe, as to undeveloped and developed territory?

A. The accounting department got up those figures.

Q. Under your direction?

A. Yes, sir.

Q. You are familiar with the territory held by the Hope Natural Gas Company?

A. I am.

Q. I wish you would explain what is meant by undeveloped territory in your report?

Mr. Steptoe: Objected to; that matter has already been explained on direct examination and is not proper in rebuttal.

The Commissioner: Let the objection be noted and the witness proceed.

3178 A. It constitutes all class of territory of the company that does not have production on it. That territory is made up of several different classes. I have here a statement in which the figures differ slightly from those of Mr. Nease, both of which are correct. These were taken from the land books showing the actual number of acres given by the land department. The accounting department acres and the land department acres differe very slightly. Now, the unoperated acres held by the company, according to the land books was 683,121 acres on December 31, 1920. Of these 683,121 acres, there was 27,676 acres operated exclusively by the South Penn Oil Company and in which the Hope Gas Company owned the gas. That was oil territory on which no gas was found.

Mr. Steptoe: We move to exclude the answer of the witness as not proper or rebuttal, in that he was interrogated about the year 1919, and the figures given on behalf of the defendant are for the year 1919, and no figures have at any time been given for the year 1920.

The Commissioner: Note the motion on the record.

3179 A. Then we have, of these 683,121 acres there is included 20,527 acreas which is operated exclusively for oil by the Hope Construction and Refining Company. Included in this six hundred and eighty three thousand odd acreas there is 234,953 acres of what we term wild cat acreage, in which the Hope Gas Company owns both the oil and gas, which has been more or less tested with mostly unsatisfactory results for gas. Included in this acreage is 63,000 odd acres in Barbour County on which ten wells have been drilled, two of them dry, eight producing with an average original open flow of 263,00[illegible]ubic feet per day and an average rock pressure of 761 pounds, [illegible]d 30,162 acres in Braxton County, in which six dry holes have been drilled; also east of the Monongahelia River in Marion and Monongalia Counties thirteen wells have been drilled, eleven of them being dry, two producing with an average of 215,000 cubic feet per day and rock pressure of 98 pounds. There are 185,040 acreas included in this 683,000 odd acreas which is unoperated, in which the Hope Construction and Refining Company owns the oil rights, which is either mainly oil territory or wildcat territory.

There is also included 3,551 acreas unoperated in which the Hope Construction and Refining Company owns the oil rights, which is probably better gas territory than it is oil territory. On those 3,551 acreas we are paying one or more gas well royalties on each lease.

Also included in this acreage is 46,379 acres in which the
3180 South Penn Oil Company owns the oil rights and which may probably be considered more as oil territory than as gas territory. Also there is included 5,095 acreas, in which the South Penn Oil Company owns the oil rights, which is more probably gas territory than oil. On this territory we obtain on each lease an agreement in lieu of drilling for one or more wells. Also included in this acreage is 4,090 acreas in which parties other than the Hope Construction and Refining and the South Penn Oil Company own the oil rights, which is probably more oil territory than it is gas. Also included in it is 250 acres which is held by other parties than the Hope Construction and Refining Company and the South Penn Oil Company that is in which they own the oil rights, which is probably better gas territory than it is oil. On this territory we are paying the equivalent to a gas well royality. Also included in this acreage is 17,645 acres in which the Hope owns both the oil and the gas. We haven't drilled wells on it yet, but we are also paying for one or more wells on each lease. The total of this acreage comes to 545,206 acreas which explains why we are holding out of the gas territory, leaving 137,915 acreas of the 683,121 acreas which we are reasonably sure of getting some sort of gas from. As to the size of those gas wells, I cannot say, where we would be reasonably sure in our judgment we could get a well good for 750,000 feet with a

rock pressure of 250 pounds we would be glad to drill that
3181 well. I don't know myself of a single place were we can have reasonable assurance in our judgment that we would get that size of a well by drilling. The producing wells that we have drilled have averaged between five and six hundred thousand a piece.

Mr. Weil:

Q. Where you state you are paying rental in lieu of drilling, you mean the rental to the land owners?

A. Yes, sir.

Q. State whether or not gas on those leases is being taken out by wells adjacent thereto and by arrangement with the land owners you are paying them just the same as if you were taking the gas out from these lands?

A. We are; the gas is being drained or at least the land owner delivers it. Also we have had a great many acres within the last ten years, probably had a million acreas, that we don't have today. There has been a turn over of acreages. We have continuously — taking up acres and surrendering other acreas. Last year we left about 20,000 acres go by expiration; the land owner would not renew it at a reasonable sum. We just let it go. This year probably will be that many more.

Q. State whether or not in the same section in which you carry

this acreage in which you have described as unoperated or wild cat territory, there is available for whosoever may desire to
3182 lease the same, other acreage of like character and to what extent such acreage exists?

A. I believe there are large blocks of territory in many of these counties that can be secured at very reasonable terms, that will look just as good for gas as this territory here.

Mr. Steptoe: The State of West Virginia objects to the foregoing question and moves to strike out the answer because of the form of the question as leading, and because of the answer being improper rebuttal testimony.

The Commissioner: Note the objection and the answer.

Mr. Weil:

Q. What is the usual payment required on these leases that are unoperated per annum, how much per acre?

A. $1.00 a year, $1.00 per acre per year.

Q. That doesn't include what you call gas rental?

A. No, sir. That is usually $300.00 per year regardless of the size of the tracts.

Mr. Blue:

Q. When you get a well?

A. No, this is in lieu of a well. On some of the larger
3183 farms we paid as high as five rentals, large farm, large acreage.

Mr. Weil:

Q. Are you familiar with the general situation as to the holdings of undeveloped territory of these large companies?

A. In a general way, yes, sir.

Q. What do you say as to whether or not the same general conditions obtained with reference to those companies as you have described with reference to yours.

Mr. Steptoe: Objected to by the State of West Virginia as manifestly improper in view of the witness having merely general information. It is objected further as improper rebuttal testimony, and objected to further as leading, incompetent and immaterial.

The Commissioner: Note the objection and let the witness proceed.

A. I would say it was practically the same as we keep track to a great extent of the holdings of other companies on the map.

Cross-examination.

Mr. Steptoe:

Q. How much developed and undeveloped territory has
3184 the Pittsburgh and West Virginia Gas Company?

A. I would say about 327,000 acres in West Virginia.

Q. How much developed territory and how much undeveloped has the Manufacturers Light and Heat Company?

A. I would say about probably one hundred to one hundred twenty thousand acres.

Q. How much developed and undeveloped territory has the Carnegie ?

A. I would say about 75,000.

Q. How much developed and undeveloped territory has the United Fuel?

A. I would say -bout 900,000 to a million acres.

Q. Those figures were practically given in the testimony of Mr. Nease, the statistician?

A. I didn't hear Mr. Nease's testimony, and haven't read it either.

Q. But any statistics showing the holdings of the various companies and the Public Service Corporations in West Virginia, predicated on the reports of those companies, should be correct?

A. It should be.

Q. Whatever those reports to the Board of Public Works show as the statement of the company as to acreage, both developed and undeveloped, that is final, is it not?

A. Yes, sir.

3185 Q. You don't mean to attack the correctness of Mr. Nease's statement that the holdings of the Hope Natural Gas Company for the year ending December 31, 1919 consisted of undeveloped acreage to the amount of 690,094, undeveloped acres; 338,776 developed acres, making a total of 1,028,870 acres at that time?

A. Not in the slightest. These figures I gave here, there is just a little difference between the land department and the accounting department.

Q. That is such a discrepancy, so small, as might likely occur in the different departments?

A. Yes, sir.

Q. Isn't it true, Mr. Corrin, that every gas company operating on any scale holds doubtful territory?

A. Well, from my experience and knowledge of West Virginia Companies, yes, sir.

Q. That is not confined to the Hope, but to all of them?

A. Yes, sir.

Q. At the same time, in order to hold that, it is necessary to pay the delay rental of $1.00 an acre or in many instances to pay for a well before it is drilled?

A. Yes, sir.

Q. It is on those terms that your company and the other companies are now holding their undeveloped acreage?

A. It is.

3186 Q. Isn't it further true that undeveloped acreage as listed in the returns of the Hope Natural Gas Company and the Reserve Gas Company to the Board of Public Works of West Virginia embraces those tracts on which there are no wells drilled?

A. Yes, sir, no gas wells, there have been oil wells.

Q. And that the developed tracts or developed acreage is where there has been a well drilled on that particular leasehold?

A. Where there has been a gas well drilled, yes, sir.

Q. I am referring to gas wells?

A. Yes, sir.

Q. The acreage of those developed tracts varies, doesn't it, from a few acres up to a considerable size?

A. Yes, sir.

Q. You don't mean to say that as a practical matter the drilling of one well has fully developed that acreage, do you?

A. No, but some of those tracts have a great many wells on.

Q. It is possible that they have only one on?

A. Yes, sir.

Q. It is entirely possible that in many instances those tracts are not fully developed, and other wells can be and you expect to drill——

A. If there are any such in our company, I don't know where they are.

Q. Every tract that you have drilled at all for the Hope
3187 Natural Gas Company is in your opinion fully developed today?

A. I really believe that all of the tracts on which we have wells, I think are developed as much as we can afford to drill those tracts to get our money back and a fair return.

Q. You spoke considerably of wild cat territory, are the other gas companies in that same territory holding acreage?

A. In some of those sections, yes.

Q. It is pursuant to the general practice of gas companies taking up territory which today might appear doubtful and tomorrow might be of value?

A. That is possible although we have drilled wells in most of this wild cat territory in a sufficient number to lead us to believe that there are no large gas wells to be secured. There might be some small gas wells secured but we cannot afford to drill those wells at the present time for the small amount of gas we might get.

Q. Why do you hold them?

A. With the hope of getting more money for our gas when we can afford to drill those small wells.

Q. Your idea is that some day the amount of gas that can be produced from there will be developed?

A. We hope so.

Q. The Hope Construction and Refining Company is a recently organized company?

A. Yes, sir.

3188 Q. When?

A. It was sometime last year, in 1920.

Q. Wasn't that done simply to segregate the oil production of the Hope Construction and Refining Company from the gas production of the Hope Natural Gas Company?

A. I don't know what the purpose was; it did segregate it; it did do that; I don't know what the purpose was.

Q. The oil development is handled by the Hope Construction and Refining Company?
A. Yes, sir, it was found that the oil production could be handled by a separate organization better than by the gas organization.
Q. Does the Hope Construction and Refining Company hold the oil rights in the tracts of land leased to the Hope Company?
A. They do, 185,040 acres undrilled, unoperated.
Q. I mean what would happen where the Hope Company in the course of drilling for gas struck an oil well?
A. If it was drilling this 185,000 acres they would transfer that well to the Construction Company at cost.
Q. Does the Hope Construction and Refining Company drill itself?
A. Yes, sir.
Q. If it strikes a gas well it is turned over to the Hope Natural Gas Company?
A. Yes, sir, because the Hope Natural Gas Company owns the gas rights in the leases.
Q. It is substantially the same sort of an agreement that
3189 years ago was entered into between the South Penn Oil Company and the Hope Company, as testified to by Mr. Cummins this morning?
A. Practically the same arrangement.
Q. The Hope Construction and Refining Company being a subsidiary of the Hope Natural Gas Company, the stock is held by the same stockholders?
A. Yes, sir.
Q. That is that the stock of the Hope Construction and Refining Company is held by the same company that own the stock of the Hope Natural Gas Company?
A. Yes, sir.

ROBERT W. CUMMINS, recalled, testified as follows:

Cross-examination.

Mr. Steptoe:

Q. Have you been able to procure the statement showing the various data required by me at the morning session?
A. I have prepared a statement which I think covers the ground of your request.
Q. Have you that prepared statement with you?
A. Yes, sir.
Q. Will you please read that statement into the record.

3190 *Statement Showing Total Amount of Gas Sold by the South Penn Oil Co. in West Virginia During the Years* 1919 *and* 1920.

	1919.		1920.	
Peoples Natural Gas Company	206,089,000	cu. ft.	127,899,000	cu. ft.
Pittsburgh & West V. Gas Co.	29,416,000	" "	22,594,000	" "
Montgomery Gas Co.	75,089,000	" "	90,679,000	" "
Hope Natural Gas Co.	908,850,000	" "	492,813,000	" "
United Fuel Gas Co.	457,916,000	" "	657,080,000	" "
Centerville Gas & Pipe Co	6,014,000	" "	8,747,000	" "
Godfrey L. Cabot	127,739,000	" "	73,068,000	" "
Diamond Carbon Co.	28,066,000	" "	21,202,000	" "
Oscar Nelson Carbon Co.	63,655,000	" "	60,059,000	" "
South Penn Oil Co. for drilling Wells	464,230,000	" "	437,690,000	" "
South Penn Oil Co. for Pumping Wells Cleaning Out and Steaming Tanks	807,769,000	" "	1,801,240,000	" "
Contractors & Others for Pumping Wells Cleaning Out, etc.	116,699,000	" "	114,870,000	" "
Sundry Individuals, Principal-y Company Employes	193,393,000	" "	203,509,000	" "
3191 Grand Total	3,484,925,000	" "	4,111,450,000	" "

2 Mr. Weil:

. Mr. Cummins, calling your attention to the first item given by , Peoples Natural Gas Company, since you have investigated that, you tell us where that was delivered?
. At Brave Station.
. That is in Pennsylvania?
. Yes, sir, just over the line out of West Virginia.
. Was that actually sold in West Virginia?
. No, sir.
. You have not included in this statement what is commonly ed free gas, that is the gas given under the leases to the owners the lands on which you have obtained leases, on which you rate?
. No, sir.
. I suppose you have no data that would show the amount of , have you?
. Not accurately, nothing that will show it accurately.
. Mr. Cummins, under the heading "Sundry Individuals, princi- y company employes", will you please explain that a little more y?
. We sell gas to farmers and some other persons living in the nity of the wells which produce it, or of the gas wells which con- t those wells together. Most of those people are the company's employes.
Q. Who live on the leases or near?
3 A. Or near, yes, sir.

Mr. Steptoe:

. Through what line or lines does the South Penn Oil Company ver the gas sold to the Peoples Natural Gas Company, at Brave tion?
. I suppose through its own line, as the wells are nearby as I derstand it, just a short line.
. Do you know that to be the fact?
. I don't know it; I only take it for granted that that is the ation there.
. I believe I am correct in saying that the Peoples Natural Gas mpany is a standard oil concern, like the Hope Natural Gas Com- y is in West Virginia?
. I only know that by reputation.

Mr. Weil: The rebuttal testimony on behalf of the complainants closed, with the understanding and agreement with counsel for defendant that if between now and the first of April the com- nants should desire to introduce some further testimony in rebut- because of something having been inadvertently omitted, notice will be given of the time and place of meeting, so that the
4 same may be taken before the first of April; the same arrange- ment being made here as was arranged between both parties

when they respectively closed their testimony in chief. Unless such notice is given, then the testimony on behalf of the complainants is closed.

The Commissioner: Let the record show that the hearing is closed subject to the statement of counsel and the understanding between counsel pending further notice.

ORIGINAL, #20 & #21.

5 Supreme Court of the United States, October Term, 1920.

Nos. 20 and 21, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony in Sur-Rebuttal.

Proceedings of April 26, 1921.

96 *Index.*

Witnesses.	Direct.	Cross.	Redirect.	Recross.
ease	3198	3221	3227	3229
rebs	3229	3237	3250	3252

Exhibits: Page.

est Virginia No. 61 3210–3214
" " " 62 3217

3197 Supreme Court of the United States, October Term, 1920.

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THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony in Surrebuttal, April 26, 1921.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq., Pittsburgh, Pa.
On behalf of the State of Ohio, Freeman T. Eagleson, Esq., Columbus, O.
On behalf of the State of West Virginia, E. T. England, Attorney-General, Charleston, W. Va., Fred O. Blue, Charleston, W. Va., Phillip P. Steptoe, Clarksburg, W. Va.

Pursuant to notice, the Commissioner and counsel above noted, met at the office of the Attorney General for the State of West Virginia, at the City of Charleston, West Virginia, for the purpose of taking testimony in surrebuttal on behalf of the defendant, State of West Virginia; and thereupon, pursuant to order of the
3198 Court governing the taking of testimony, the State of West Virginia opened its testimony in surrebuttal.

H. E. NEASE, called as a witness and having been duly sworn, testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. Mr. Nease, I believe you testified in this case heretofore as a witness for the State of West Virginia on direct testimony?
A. I did.
Q. In the rebuttal testimony of the complainant states Mr. Edwin Robinson filed certain exhibits, namely, Pennsylvania Exhibits Nos. 50, 51, 52, 53 and 54. I call your attention now to Pennsylvania Exhibit No. 50, which appears copied in the testimony at pages 17 to 20, both inclusive, of the manuscript paging of rebuttal testi-

ny. I wish you would state in what respect, if any, the statistics
earing in Pennsylvania Exhibit No. 50, differ from the statistics
en by you on behalf of the State of West Virginia, on direct
imony, and in this connection I will first ask you if the statement
Pennsylvania Exhibit No. 50 is made on the same basis as the
tistics given by you on direct testimony by the State of West
rginia?

A. Well, where they purport to be the same thing, or to show the
ne thing, they are substantially in accord with testimony of mine
referred to.

99 Q. In your statistics given on direct examination, did you
deal with gas imported into the State?

A. If you mean in connection with the figures on natural gas pro-
ction in the State of West Virginia, and other statements made in
nnection with such production, I didn't.

Q. Pennsylvania Exhibit No. 50 does take into consideration the
ports, does it not?

A. It does.

Q. Taking the production of natural gas in the State of West
rginia, as shown on Pennsylvania Exhibit No. 50, how do those
ures agree with the total production as given by you on direct ex-
ination?

A. They are the same.

Q. With respect to the quantity of gas exported from the State,
shown on Pennsylvania Exhibit No. 50, did you give the export
ures, totals for all producers, in the direct testimony?

A. I didn't.

Q. The export figures given by you in your testimony in chief
lated to the seven companies only?

A. Yes.

Q. On Pennsylvania Exhibit No. 50, I call your attention to the
al consumption within the State, is that total consumption made
of the two following items of domestic consumption and indus-
al consumption?

A. As shown by me in this statement, yes.

Q. Does that total consumption within the State include
200 on Pennsylvania Exhibit No. 50 the amount of gas imported?

A. It does.

Q. Taking the component parts of total consumption within the
ate, I direct your attention to the heading "Domestic Consumers
d Consumption", as shown on Pennsylvania Exhibit No. 50.
hat consumers are included in the number of consumers there
own?

A. The figures shown include domestic consumers, including con-
mers of free gas.

Q. In your statistics given in chief, did you include among the
mber of domestic consumers in the State of West Virginia, the
ers of free gas; that is, concerns who received gas as a considera-
on for the lease?

A. I didn't, neither did I include in my figures of gas consumed
domestic consumers, gas consumed by such lessor consumers.

Q. In other words, domestic consumers and domestic consumption, as shown on Pennsylvania Exhibit No. 50, differs from your direct testimony in that Pennsylvania Exhibit No. 50, includes the amount consumed by lessors and those who received free gas for rights of way.

A. Yes.

Q. And those users are included among the number of domestic consumers?

A. As shown on Pennsylvania Exhibit No. 50.

Q. And they were not included in the figures given by you in your testimony as a witness for the State of West Virginia
3201 heretofore?

A. They were not, and it was so explained at the time.

Q. Now, with regard to the heading of "Industrial Consumers", that heading gives on Pennsylvania Exhibit No. 50, only the amount consumed without the number of consumers?

A. Yes.

Q. What is the character of the consumption there listed under the head of "Industrial Consumption"?

A. That would include all consumption other than domestic consumption.

Q. Do those figures on Pennsylvania Exhibit No. 50 include the quantity of gas used in the drilling of wells, by the several companies, or sold in the field for field use?

A. They would.

Q. Well, do they?

A. They do.

Q. What about gas used in the manufacture of carbon by various quasi-public service corporations, such as the Carbon Black Manufacturing Companies? Are those figures included on this Pennsylvania Exhibit No. 50 under industrial consumption?

A. They are.

Q. In other words, to summarize, the quantity shown as used or consumed within the State of West Virginia on Pennsylvania Exhibit No. 50, is the total production of the State of West Virginia less the exports?

A. No.

Q. Does your answer take into consideration the imports?
3202 A. I am not sure as to the answer referred to. The sales shown on the Exhibit, total sales, domestic and industrial, include both the production in the State of West Virginia and the imports to the State of West Virginia, less the quantity exported.

Q. And the consumption within the State given, for example, for the year 1919, as 83,769,937 M cubic feet, gives the total amount of gas used in the State of West Virginia for all purposes, including drilling of wells, used in the manufacture of carbon, used in manufacturies and other industrial concerns, and for domestic service?

A. Yes.

Q. And also includes free gas given to lessors and to grantors of rights of way?

A. Yes.

Q. Those then are the differences and reconcilable differences, between the testimony in chief and statistics there given and this statement which you have given to Mr. Robinson at his request, filed by him as Pennsylvania Exhibit No. 50?

A. Yes.

Q. Mr. Robinson also filed with his testimony Pennsylvania Exhibit No. 51, and Pennsylvania Exhibit No. 52, neither of which is copied into the transcript of the record. What relation have these two Exhibits to Pennsylvania Exhibit No. 50, if any?

A. I believe No. 51 is detail of the total production figures shown on No. 50, gives the detail of the total production figures
3203 shown on No. 50.

Q. And No. 52?

A. No. 52 gives further detail of Exhibit No. 51 and No. 50, as to the consumers and the consumption of gas.

Q. Do any one of these 3 Pennsylvania Exhibits, 50, 51 and 52, give the quantities purchased by the various public corporations of West Virginia?

A. They don't.

Q. I refer to purchases within the State of West Virginia and not those purchases made by exporting companies at the State line.

A. These statements don't show any gas purchased.

Q. Of any kind?

A. Of any kind.

Q. Gas purchased by the several companies, who sell gas for transport out of the state, or who actually transport, is shown in the last column of Pennsylvania Exhibit No. 51, giving exports to other States, are they not?

A. Well, in a way such showing is made, the gas exported from the State is shown in the last column of Exhibit No. 51.

Q. And the total exported, irrespective of whether produced or purchased, including both?

A. Yes.

Q. For example, I call your attention to Columbia Gas & Electric Company, which shows a production of 5,757,091 M. cubic feet, which nevertheless, exports 15,624,225. There the amount exported would include some gas purchased, would it not?

3204 A. It would.

Q. And the same also obtains with respect to one or two other companies on Pennsylvania Exhibit No. 51?

A. Yes, sir.

Q. Such as the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company?

A. Yes, that same condition obtains as to several of the other companies.

Q. With respect to Pennsylvania Exhibit No. 52, and as illustrative of what you testified to a moment ago, I call your attention to the number of domestic consumers and the number of industrial consumbers assigned to Hope Natural Gas Company. These figures appear to differ from the number of domestic consumers and number of industrial consumers which were assigned to the Hope Nat-

ural Gas Company on your testimony in chief. Have you any explanation to offer of that variance?

A. The difference is due to the inclusion in the figures on Exhibit No. 52 of the free gas consumers and of the drilling or field consumers. Such consumers were not included in the figures given in connection with the Hope Natural Gas Company in my previous testimony.

Q. And that same variance would occur with respect to certain other companies listed on Pennsylvania Exhibit No. 52, as compared with your former testimony?

A. Yes, as to the seven companies.

Q. From what source, or sources, did you compile these statistics supplied by you to Mr. Robinson, and reflected in Pennsyl-
3205 vania Exhibits Nos. 50, 51 and 52?

A. From the figures given in the tax reports to the Board of Public Works.

Q. You mean what we have heretofore filed and referred to as reports of the various public service corporations to the Board of Public Works of the State of West Virginia?

A. Such reports have previously been filed in this case in regard to what are known as the seven companies.

Q. But not for the other public service corporations of the State of West Virginia?

A. No.

Q. But in making up the statistics referred to in Pennsylvania Exhibit No. 50, you gathered the information there from that kind of returns made to the Board of Public Works by each and every of the public service corporations?

A. Yes.

Q. And also for certain other companies, not strictly public service corporations, that had reported to the Board of Public Works; for example, The Carbon Company, Ohio Fuel Oil Company, South Penn Oil Company?

A. Well, it is true that that statement would show additional information to what would have been gathered from the tax reports. The statistician of the Public Service Commission had collected information from the carbon black plants as to their production, and in that way got the information as to such companies.

Q. The point I wish to bring out is whether or not in making the statistics shown on Pennsylvania Exhibit No. 50, you re-
3206 sorted to the monthly reports made to the Public Service Commission by the various public service corporations?

A. I didn't.

Q. Did you, in the statistics and Exhibits, filed by you in your testimony in chief for the State of West Virginia, take into consideration those monthly reports?

A. I did. It became necessary because the reports filed with the Board of Public Works did not contain sufficient information.

Q. Let me ask you if you found any discrepancies between the two, the monthly reports and the report to the Board of Public Works?

A. Some slight discrepancies, a slight discrepancy in connection with the Carnegie Natural Gas sales to field consumers, but they were very slight discrepancies.

Q. Did you check those discrepancies or correct according to the monthly reports?

A. I did.

Q. I now direct your attention to Pennsylvania Exhibit No. 54, filed by Mr. Edwin Robinson, purporting to be the conglomerate statement of producers of both oil and gas, with the acreage, as far as he could ascertain held by each. Have you, at my request, checked that list to ascertain whether or not it includes all the producers of natural gas who sold to the seven companies?

A. I have.

Q. And have you checked it to see whether it includes all
3207 the producers who sold to the public service corporations of West Virginia?

A. Yes.

Q. From what source did you ascertain the names of the producers of natural gas who sold to the seven companies?

A. From the reports to the Board of Public Works, reports of such companies to the Board of Public Works.

Q. Those are the same reports which are in evidence in this case?

A. Yes.

Q. How many producers of natural gas, other than the public service corporations of West Virginia, did you find listed by the seven companies as selling to the seven companies?

A. 202.

Q. How many of those 202 producers, which we will, for the sake of distinction, call independent producers, did you find listed on Pennsylvania Exhibit No. 54?

A. 60.

Q. Mr. Robinson, as I understand it, has omitted from his Pennsylvania Exhibit No. 54, 142 out of 202 producers of natural gas who sold to the seven companies?

A. Yes.

Q. Are you able to give me from any of the publice records of the State of West Virginia the acreage, gas territory, held by these 142 omitted independent producers?

A. I am not.

Q. Are there any records, public records, or records to
3208 which you have access from which that information is obtainable?

A. There are no such records to my knowledge.

Q. Did you, at our request, prepare a list of those 202 independent producers selling to the seven companies?

A. I did.

Q. Will you produce that list?

A. I will.

Q. Will you please mark this list West Virginia Exhibit No. 61, and read the same into the record.

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, as not surrebuttal testimony, does not *not* contradict or explain any testimony offered in rebuttal by the complainants, and only corroborates to some extent the exhibit filed as No. 54, on the part of the complainants, and shows not only corroboration of such statement, but that for want of data or information complainant's Exhibit No. 54 omitted 142 producers and the amount of acreage controlled by them, which would have made the acreage showing by such independence just that much larger than appears on Exhibit No. 54. The Exhibit is further objected to for the reason that it does not purport to show the acreage controlled or owned by a large number of those listed upon the paper, possibly a half thereof. It is further objected to for the reason that the title is altogether misleading, is contrary to the facts as already appears in the evidence, if the heading is taken as its face value, it appearing, for example, by the heading, "List of Independent Gas Producers who sell gas to one or more of the seven companies," then appear the names of certain companies with certain large acreage owned by those companies, and it has already appeared in the evidence that these companies, while they do perhaps, sell some gas to some of the seven companies, also sell gas to others, and therefore, the implica-
3209 tion that this entire acreage is devoted to the production of gas sold to the seven companies is wholly misleading, from the title of the paper to the facts set forth therein; and the witness has no means of knowledge or information upon these subjects, he having stated that he compiled his data from information furnished by the public utilities to the Public Service Commission or the Board of Public Works, and many of these companies make no such reports, are individual producers or companies producing oil, and therefore, making no reports as public utilities to any of the State departments of West Virginia.

The Commissioner: Note the objection and let the witness answer.

A. I will. The same reads as follows:

3210 WEST VIRGINIA EXHIBIT NO. 61.

"List of Independent Gas Producers Who Sell Gas to One or More of the Seven Companies.

Producers.	Acreage
Adlia Oil Company	
xAmerican Oil & Development Company, The	7,86
American Petroleum and Natural Gas	
xAnderson and Company	7
Associated Gas Company, The	
Alkire Oil and Gas Company, The	
xAnderson Oil and Gas Company	5
xAtlas Gas Corporation	60
Broadus College	
Barron, C. A. et al.	

Producers.	Acreage.
xBeacon Oil and Gas Corporation	2,000
Bennett, Louis Estate	
Betts and Braden Company	
Blackshere Oil and Gas Company	
Boone, H. P. Oil and Gas Company	10
xBunnell, Charles I. et al	45
Butler, Charles P.	
Brown's Creek Oil and Gas Company	
Burnsville Gas Company,	
Broderick, A. J.	
Belvard Oil and Gas Company,	
Blue Creek Cons. Oil Company,	
Cabin Run and Lynn Camp Oil and Gas Company,	
Criss Oil and Gas Company,	
xCarr and Bowser	3,580
xCarter Oil Company	197,490
xChampion Oil and Gas Company	1,505
Cabot, Godfrey L.	
Clarksburg and Morgantown Oil and Gas Company,	
Charleston-Dunbar Natural Gas Company,	
Collins, R. J. & A. B.	
xCommonwealth Petroleum Company	18,600
Conservative Oil and Gas Company	
xContinental Oil and Gas Company	2,565
Crislip, C. E.	
xCrude Oil Company, The	4,028
Cummings, J. J. et al.	
xCayton Oil and Gas Company, The (Williams & Cayton)	1,030
Coletrane Oil and Gas Company,	
Commercial Coal and Coke Company,	
Curtin, H. B.	
xCabin Creek Oil and Gas Company	8,005
Central Wayne Oil and Gas Company,	
Charleston-Clendenin Oil and Gas Company,	
Clendenin Oil and Gas Company,	
xColumbian Carbon Black Company	5,246
Crawford, J. E.	

3211

Davis, Thomas J.	
Deison, E. B. et al.	
Demo Oil and Gas Company,	
Determan and Gum,	
Dufour, Geo. L. et al.	
Depue Gas Company,	
Eastern Oil Company	
xEagle Distric- Gas Company	160
xEastern Petroleum Company	11,499
Edwards and Emiston	
Empire Gas Company,	

Producers.	Acrea
Edinger, H. H.	
Ewing Oil Company,	
Eidy, W. H. Oil and Gas Company,	
East Lynn Oil and Gas Company,	
xEmpire Petroleum Company	5,0
Farron, K. C.	
Fisher, Jake	
Fisher, W. H. et al.	
Fittro, Ira, Et al.	
Fleming, Curtis B.	
xFisher Oil Company	52,7
G. & G. Oil Company,	
Goff, Nathan	
Greenwood Oil Company,	
xGribble, W. Dexter	8
Griffin, Sheridan	
Gas Coal Oil Company,	
xGreenleaf and Starcher	
xGuffey-Gillespie Oil Company, (R. G. Gillespie)	5,7
Haught, Ira	
xHays and Satterfield, (S. A. Hays, et al	4
Henaghan and Hanlan	
High Grade Oil Company,	
Home Gas Company,	
Hornor and Schaffner	
xHornor, Boyd E	1
xHenderson, C. J.	
xHornor, L. S., Trustee	4,3
xJackson Oil Company, The	1
Johnson Oil Company,	
Jarvis, Hugh	
xJackson, J. O. Company	1,2
xJennings Oil Company	4,0
3212	
King, M. H. et al.	
xKeystone Oil Company, The	
xKanawha City Gas Company	3,0
xKoontz, L. (Koontz and Osborne)	4
Lamp, A. E. et al.	
Liberty Oil and Gas	
xLocke, J. T. et al	6
Louchery, D. C.	
Lowndes, R. T.	
Longabaugh, (Labaugh) E. S. et al.	
xLatty Oil & Gas Company	2
xLittle Sycamore Oil and Gas Company	1,4
Lincoln Natural Gas Company,	
xLaurel Development Company	1,0
Maxwell and Jarvis,	

Producers.	Acreage.
xMcDermott, J. H. Oil Company	1,681
xMcGinnis, H. E. et al	463
McKinley and Fisher	
Meservie, W. R. et al.	
Middle Island Oil and Gas Company	
xMill Fork Oil and Gas Company	2,000
Mineral Springs Oil Company,	
Monroe, R. S.	
Moore, A. B.	
Myers Stone Oil Company,	
Martin Brother	
xMaxwell, W. Brent	1,300
Mittong, H. H.	
McFarlin, Fred A.	
McSweeney, Edward,	
McWhorter, J. C.	
McGray, D. D.	
McCormick, David, et al	
Meteor Carbon Company,	
xMoore, Herman	36
Meadon and McClure	
Millbranch Gas Company	
Nay and Ewizer	
Neal Oil and Gas Company	
Nina Oil and Gas Company,	
Navajo Gas Company,	
Nye Development Company	
3213	
xO'Brien, Wm. S. Trustee	
Ohio Valley Oil and Gas Company	
Oakland Oil Company,	
Overhold, J. W. & Company,	
Overholt, I. F. et al.	
xOhio Fuel Oil Company	86,443
xOhio Cities Gas Company (Now Pure Oil Company)	155,987
Ohio Oil, Gas and Distributing Company,	
O'Connell Oil Company,	
xOwens Bottle Machine Company, (Libby-Owens Glass Co.)	60,000
xParrish, T. J. (Grove and Parrish)	397
Peoples Natural Gas Company,	
Piel and Strohmyer	
Producers Gas Company,	
Purinton Oil Company,	
Pelham Oil and Gas Company,	
Priddle Oil and Gas Company,	
Putnam Oil and Gas Company,	
xRandolph and Lowther	539
Ritchie Oil Company,	
Rinehart, R. T.	

Producers.	Acreage.
xRuth, Stout and Strong	400
Robinson Oil and Gas Company,	
Randolph Milton	
xSouthern Oil Company	33,264
xSalem Fork Oil and Gas Company	100
xSchaffner Brother	598
xShinns Run Oil and Gas Company	10
Simpson Creek Oil and Gas Company	
xSouth Penn Oil Company	603,126
3214	
Sanburn Oil and Gas Company,	
Stephens, L.	
Steel and Allman Oil & Gas Company,	
Strothers, R. L. et al.	
xStrothers, W. L. et al.	42
Sheets, Arthur and Company,	
Swiger, Ernest S. et al.	
xSahley and Skaff	7
xSayer Gas Company, (Ira G. Sayer)	9,240
Silman, Peter	
Stanton, E. G.	
Stonewall Oil and Gas Company,	
Sun Oil Company	
Strother Brothers, and Ward	
Temmils Oil and Gas Company,	
The Oil and Gas Company,	
Thomas, Wellington	
Townsell, I. P. et al.	
Underwood Oil Company,	
xVester Oil and Gas Company	2,451
xVictoria Oil Company	1,205
Vance, J. Carl & L. S. Hornor,	
Walker, H. B. Trustee,	
Westfall, J. B. & F. E. Pritchard,	
Whan, S. M.	
White, Clark	
xWilson, G. W. et al (Smith and Wilson)	1,641
xWiser Oil Company, The	9,672
Walton, J. L.	
Whelan, T. A. and Frank Alfred,	
Wise, T. M.	
Woolard, Herebert,	
Wayland, Oil and Gas Company,	
xWeston Carbon Company	420
W. Va. Land and Oil Company,	
Whelan, T. A.	
Total number Producers 202. Total acreage	1,316,807

TE.—"x" indicates those producers shown on P. A. Ex. No. 54 60
mainder on this list, not shown on Pa. Ex. No. 54..... 142

Total 202

5 Q. As I understand you, Mr. Nease, this list which you have just read into the record is simply a list of those pro-ers who are named by the seven companies in their returns to Board of Public Works for the calendar year 1919, as selling gas ne or more of said companies?

. Yes.

. I observe that you have an X or cross mark in front of a num- of companies listed. Please explain that cross mark.

. As explained on the last page of this Exhibit, such companies included in Pennsylvania Exhibit No. 54.

. And opposite those so marked with an X, you have assigned acreage. Where was that acreage taken from?

. From Pennsylvania Exhibit No. 54.

. Have you any personal knowledge of the correctness of that eage?

. I have not.

. You have simply accepted the statement of Pennsylvania Ex-it No. 54 as to the acreage held by those producers marked with X?

. I did.

. Have you examined the returns by all of the other public serv-corporations of West Virginia made to the Board of Public Works additional independent producers of gas and by additional, I an those in addition to the ones shown on the above list?

A. I did make such examination.

6 Q. Please produce it.

A. I now have the list here.

. How many producers are shown on this list?

. 43?

. And have you checked this list with Pennsylvania Exhibit No. to see how many on this list are also listed on Mr. Robinson's nsylvania Exhibit No. 54?

. I did.

. How many appear on both?

. 10.

. How many shown on this list do not appear on Mr. Robin-s list at all?

. 33.

. Opposite those companies or producers marked with an X, you e assigned an acreage, and where did that acreage come from?

. It comes from Pennsylvania Exhibit No. 54.

. Will you now, please mark this last list as West Virginia Ex-it No. 62 and read the same into the record?

Ir. Weil: This is objected to for the same reason that West Vir-ia Exhibit No. 61 was objected to.

The Commissioner: Note the objection and let the witness answer.

A. I will, and the same reads as follows:

3217 WEST VIRGINIA EXHIBIT NO. 62.

"Other Independent Producers Selling Gas to West Virginia Public Service Corporations.

Cork and Bowman,	
C. O. G. Company,	
Cave Oil and Gas Company,	
xColetrane, J. N.	64
Camden Natural Gas Company,	
xChalmers Oil Company	750
Crooked Run Gas Company	
Dolan, S. E.	
Furno Oil Company,	
Ft. Martin Gas Company,	
Griffin Producing Company,	
Garard, J. L.	
Hazel Atlas Glass Company,	
xHornor Gas Supply Company	72
Hackers Creek Oil and Gas Company,	
High View Oil & Gas Company,	
Jackson, W. A. Gas Company,	
xJohns Gas Company	1,000
Lambert Oil and Gas Company,	
Monarch Carbon Company,	
Mississippi Glass Company,	
xNorwood Gas Company	757
Pickens Farm Gas Company,	
Prunty Oil and Gas Company,	
Roy and Meabon Brothers,	
Rinehart, Geo.	
Randolph, Ernest	
xReno Oil Company	3,675
Schaffner, J. F.	
Summit Oil and Gas Company,	
Schaffner, J. S.	
xSovereign Gass Company	4,400
xSchaffner and Company	16
Stockton Oil and Gas Company,	
Sullivan and Dresser,	
Taylor, E. J. & D.	
Triple Alliance Oil and Gas Company,	
xUnited Oil Company	290
Union Gas and Carbon Company,	
xUniversal Oil Company	300

Van Voorhis,
Victory Oil Wells, Inc.
Wilson and Harris.

Total number Producers 43; Total acreage..... 11,394

NOTE—"x" indicates those producers shown on Pa. Ex. No. 54.. 10
Remainder on this list, not shown on Pa. Ex. No. 54..... 33

Total 43

3218 Q. Taking both West Virginia Exhibit No. 61 and No. 62, please state the total number of independent producers elling to all of the public service corporations of West Virginia, as ar as disclosed by the returns of those public service corporations o the Board of Public Works of West Virginia?

A. There are 245 such producers.

Q. How many of those 245 are shown on Mr. Robinson's Pennsylania Exhibit No. 54?

A. 70.

Q. How many omitted?

A. 175.

Q. I believe you stated that the only producers whose acreages, espectively, were ascertainable by you were the 70 which also appear on Pennsylvania Exhibit No. 54?

A. I so stated.

Q. And on those you accepted the acreage statements of Mr. Robnson as correct?

A. Yes, as shown on said Exhibit, Pennsylvania No. 54.

Q. Please state the total acreage of those producers appearing on Vest Virginia Exhibit No. 61, which also appear on Pennsylvania Exhibit No. 54?

A. 1,316,807.

Q. And what is the total acreage of those producers shown on Vest Virginia Exhibit No. 62, and also on Pennsylvania Exhibit o. 54?

A. 11,394.

3219 Q. Do you know, or can you ascertain, from any public records of the State of West Virginia, any persons, firms or corporations producing natural gas in West Virginia, other han the public service corporations of the State and those producers sted on West Virginia Exhibits Nos. 61 and 62?

A. To my knowledge such information would not be available om any State Department. I might state further, however, that ere would not be any such producers to any considerable extent, ere might be the few that might sell to carbon factories, carbon ack factories.

Q. And some private enterprises?

A. And some private enterprises.

Q. Well, as to the sales of gas, to the carbon black companies, is t that production shown and taken into consideration?

A. Not in Exhibit No. 62.

Q. On West Virginia Exhibit No. 61, have you not listed carbon black manufacturers there?

A. I don't know, Exhibit No. 61 showns the purchases of gas by the seven companies. In other words, to make myself clear on that point, West Virginia Exhibit- No. 61, *No. 61* and No. 62, includes the names of all producers in the State except a very few, that would sell to carbon black plants and private enterprises, aside from the utilities themselves.

Q. Where those carbon black companies sell gas to public service corporations of West Virginia, they are listed on West Virginia Exhibits Nos. 61 and 62?

A. Oh, yes, they would be listed.

3220 Q. And the amounts which they sell to West Virginia Public Service Corporations are reflected in your statistics?

A. Yes.

Q. Do you personally know of any producers of natural gas, other than those shown on West Virginia Exhibit- Nos. 61 and 62, and the list of public service corporations of West Virginia?

A. I don't.

Q. Is it true that a good many of the oil companies produce a little gas which they use in their own drilling operations?

A. Certainly. Of course, all through the hearings that has not been taken into consideration.

Q. That gas is not marketed to the public and not taken into consideration when not marketed off the lease?

A. No.

Q. And have you, or your department, any statistics of such production as that?

A. No.

A recess was here taken until 1:30 o'clock P. M., of that day.

3221 Tuesday Afternoon, April 26, 1921.

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed, pursuant to adjournment.

H. E. Nease resumed the stand.

Cross-examination.

(By Mr. Weil:)

Q. You used the expression several times in connection with your examination, "Free Gas Consumers." You mean by that, do you not, gas supplied by the producer to the lessor under the terms of the lease as a part of the consideration of the lease, and also the gas supplied to those from whom rights-of-way have been obtained, and as a part of the consideration for the rights-of-way? Is that what you mean by the "Free Gas Consumers?

A. Yes; and any consumers to whom gas would be supplied without a money charge; that is the common term.

Q. Yes; I understand. In other words, it means gas that is supplied to consumers as a consideration of the lease, or as consideration for the rights-of-way, or the consideration for any other purpose except where gas is supplied at and under meter, or being paid for in money under the terms of some contract?

A. Yes.

Q. Calling your attention to Exhibit No. 61: I understood you to say that in that exhibit, which is headed "List of Independent Gas Producers who sell Gas to one or more of the Seven Com-
3222 panies," that you obtained that list by an examination of the returns made to the Public Service Commission or the Board of Public Works by those seven companies showing the parties from whom they purchased gas?

A. I so stated.

Q. Now, this acreage, which is here put down on Exhibit No. 61, you also testified you obtained from Pennsylvania Exhibit No. 54, being the amount of acreage assigned to these respective parties by Mr. Robinson in his testimony?

A. Yes.

Q. And you had no method of verifying those figures in any way?

A. I did not.

Q. And do you know of any way by which those figures could be verified except by personal inquiry or investigations of the parties themselves as to the amount of acreage——

A. I do not.

Q. The reports which are made to the Public Service Commission from which you have obtained this data show that they purchased gas from certain parties; that is, from certain producers, and that is all that that statement shows, is it not?

A. Well, it shows the quantity of gas produced.

Q. But it does not show the amount of acreage held by these producers from which the gas is produced.

A. It does not.

Q. And such a company, for example, might sell gas not
3223 only to these seven companies, but also to others, so far as those reports show?

A. Yes; in some cases, to a limited extent that is true; they do so.

Q. And this statement, therefore, is not intended to show—and I believe your testimony does not so imply—that these companies, or these parties named on Exhibit No. 61, sell to these seven companies all of the gas produced from the acreage named?

A. No; the statement was not prepared to show that.

Q. You have testified that Exhibit No. 61 showed 202 producers and of those 202 producers there were only 60 that appeared upon Robinson's Exhibit (Pennsylvania) No. 54.

A. Yes.

Q. The 142 other producers do not appear on Robinson's Exhibit No. 54?

A. They do not.

Q. And you have not assigned on this Exhibit No. 61 for those other 142 producers the amount of acreage held, operated or unoperated by them?

A. I have not.

Q. And you had no means, I think you stated, of ascertaining what that acreage was?

A. No.

Q. On Exhibit No. 62 you have the legend at the top—"Other Independent Producers Selling Gas to West Virginia Pub-
3224 lic Service Corporations." You obtained that information, if I remember your testimony correctly, from the same general source, by examining the reports filed by the public service corporations with the Public Service Commission on which they put down the parties from whom they purchased gas?

A. I did.

Q. And that was your only source of information?

A. It was.

Q. And these companies are public service corporations in addition to those mentioned on Exhibit No. 61?

A. What do you mean by that question?

Q. I mean by that Exhibit No. 62 purports to show the independent producers who are not mentioned on Exhibit No. 61 and who sell gas to public service corporations in the State?

A. Yes.

Q. Some of that gas is sold, is it not, to the seven companies?

A. Well, if it happens that any of these producers—that is likely true; I am not sure that any of these producers sell to the seven companies.

Q. You do not know?

A. No; none of these producers would sell to the seven companies.

Q. They do not?

A. No, because all of such producers would be on Exhibit No. 61.

3225 Q. Then these producers on Exhibit No. 62 sell to others than the seven companies?

A. Yes.

Q. That is, to other public service corporations than the seven companies?

A. Yes.

Q. Ten of these producers, with the amount of acreage that they hold, are included in Robinson's Exhibit (Pennsylvania) No. 54?

A. Yes.

Q. And the other 33 are not on that Exhibit?

A. Yes, the 33 are not.

Q. And you have not assigned to the other 33 the amount of acreage which they hold for the same reason; you did not know, and had no means of ascertaining?

A. Yes.

Q. You can't tell how many of those upon Exhibit No. 61 supply gas to others—sell to other public service corporations—as well as to the seven companies?

A. I don't have that information before me.

Q. You know, as a matter of fact, that some of them do?
A. Yes, some few of them do to quite a limited extent, however.
Q. You don't know how many, or to what extent?
A. Well, in a general way, I know very few of them, and the extent would be very small.
3226 Q. Why did you not collate that information also?
A. I will be unable to explain just why I didn't—I wasn't asked to do so.
Q. You mean by counsel representing the State of West Virginia?
A. Yes, sir.
Q. Neither of these statements—Exhibit No. 61 or Exhibit No. 62—purport to show the gas produced by the Public service companies themselves?
A. They do not.
Q. You used the expressions here in the legends at the top of Exhibit No. 61 and Exhibit No. 62—on No. 61 "List of Independent Gas Producers who sell Gas to one or more of the Seven Companies," and No. 62 "Other Independent Producers Selling Gas To West Virginia Public Service Corporations," I believe you have explained you mean by the term "Independent Producers" those not included in the seven companies to which you have referred.
A. Exhibit No. 62 shows independent producers selling to public service corporations, other than the seven companies.
Q. My question was: What do you mean by independent producers?
A. Well, producers of natural gas not engaged in the business of publicly marketing.
Q. That is what you meant by the term "Independent producer"?
A. Yes, sir.
3227 Q. In other words, they are producers who produce gas, but who have not engaged as a public utility in marketing gas to the public?
A. Yes; I think so; that would cover the situation.

Redirect examination.

(By Mr. Steptoe:)

Q. You were interrogated with reference to certain of the independent producers who sell gas both to the seven companies and also to other public service corporations in West Virginia. I believe you said you were not asked to produce that and did not collate it?
A. I so stated.
Q. Could you produce that if counsel for complainant states desires to have it produced?
A. I could.
Q. Would it take so very long?
A. Not long.
Q. You had no reason for making up that data other than that you were not requested to do so?
A. That was the only reason.

Q. Do you recall what the United States Geological Survey estimated as the amount of natural gas territory held in the State of West Virginia?

A. I have the amount for the year 1917.

Q. Is the amount available since that time?

A. No; it has not been issued to the public.

3228 Q. Suppose you tell us if you recall, the amount of acreage for the year 1917, and compare it with Mr. Robinson's statement of total acreage as shown on Pennsylvania Exhibit No. 54.

A. The Geological Survey for 1917 showed 3,787,185 acres held by natural gas producers in the State of West Virginia.

Q. Do I understand that was the figure given by the United States Geological report to cover all of the natural gas territory held by producers, public service corporations, as well as independent producers?

A. I so understand.

Q. Do you know how the holdings, as you have given them for the year 1917, would compare with the holdings at this time? Has the acreage increased or decreased?

A. I should say the acreage is less now than in 1917.

Q. On what do you base your opinion?

A. There has been a decline in the holdings of the larger companies. I base it on my knowledge of the fact——

Q. Has there been any considerable increase in the holdings of the smaller companies coming under your jurisdiction?

A. No, I would say the holdings are practically all utilized, by far greater numbers than in 1917.

Q. Tthat was a peak year was it?

A. Yes. Along about that time a number of leases were surrendered.

3229 Q. Then, if we consider what I believe Mr. Robinson did not intend to imply, that the total acreage held is 4,896,691 that is about a million acres more than the Geological Survey gave for 1917?

A. Well, more than a million.

Recross-examination.

(By Mr. Weil:)

Q. You have stated you had no means of ascertaining from your records, or other sources, what the acreage holdings of the so-called independent producers are?

A. I so stated.

Q. And whether or not they increased their holdings after 1917, you have no m*eans* of ascertaining, and have made no investigation to ascertain, have you?

A. No.

Q. Whether or not such companies as the Commonwealth Company and the Pure Oil Company and other companies of like char-

acter—independent producing companies—increased their holdings, you do not know?

A. No.

The witness was then excused.

C. E. KREBS, called as a witness, and having been duly sworn, testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. Mr. Krebs, I believe you testified in this case heretofore as a witness for the State of West Virginia on direct testimony?

3230 A. Yes, sir.

Q. In the rebuttal testimony for the compalinant states there was put in evidence over our vigorous protest and appears on page 25-I of the typewritten record of rebuttal testimony, Pennsylvania Exhibit No. 53, which I now call your attention to. From what department of the Public Service Commission is the Charles B. Ebert whose name is signed to that exhibit?

A. Inspection Department, Gas Utilities.

Q. Do you know the purpose for which the statistics of that department are kept and how they are collated?

A. I am not sure that I know for what purpose they are kept, but they are collated from reports that are sent in monthly by the different public utilities.

Q. By public utilities you mean what we have been referring to as the public service corporations of West Virginia?

A. Yes, sir.

Q. I observe that Pennsylvania Exhibit No. 53 gives certain totals under or opposite capital letters running from B to O, both inclusive. I wish you would explain the total of 189,420,502 M cubic feet noted opposite the letter B.

A. B represents the total amount of gas produced by utilities from the number of wells that they are utilizing, and from this exhibit the number of wells appears to be 7709 5/12.

3231 Q. That is the total production of all the public service corporations?

A. That is.

Q. Now, taking the next letter—C—what is included within the 34,932,777 M cubic feet there listed as derived from 1074 2/12 wells?

A. This represents the production of gas purchased from small producers who do not report as utilities.

Q. Do I understand you to mean that is the amount marketed by what we have been calling the "independent producers" to the public service corporations?

A. It is.

Q. Now, explain E, being the amount purchased from West Virginia utilities and given at 49,012,245 M cubic feet.

A. That really represents an interchange between the utilities of gas one utility sold to another.

Q. Well, would that amount which is sold by one utility to another be included under either B or C?

A. Yes, it can be included in portions of both.

Q. In other words, B and C together cover the entire production of the public service corporations and the entire amount which they acquired by purchase from independent producers?

A. Yes, sir.

Q. And E, representing sale from one utility to another, would be a duplication?

A. Yes, sir.

3232 Q. F is self-explanatory—the amount imported into West Virginia—is it not?

A. Yes, from other states.

Q. Now then, if I correctly understand you as to E being a duplication, what would be the total gas production of the State, insofar as you could ascertain it from Pennsylvania Exhibit No. 53?

A. The amount of gas included in B and C; the amount included in B is 189,420,502 M cubic feet, and the amount included in C is 34,932,777 M cubic feet; the sum total of the two is 224,353,279 M cubic feet.

Q. Might you not obtain the same by taking the total shown under H as 278,801,513 and deducting therefrom the amount under E—purchased from West Virginia utilities —; the amount under F—imported to West Virginia —, and the amount under G—error in reporting?

A. Yes, sir.

Q. And does H, noted as " Debit Total," amounting to 278,801,513 M cubic feet, correctly represent the total production of West Virginia for the period mentioned?

A. It does not.

Q. What does it represent?

A. The total amount of gas handled in West Virginia by the different utilities.

Q. In order to illustrate, let me call your attention to the situation developed in the prior testimony where, for example, the United Fuel Gas Company sells and delivers within West

3233 Virginia something over seven million cubic feet to the Hope Company; something over seven million cubic feet to the Columbia Gas & Electric Company and something over six million cubic feet to the Pittsburgh & West Virginia Gas Company, being a total of practically twenty million M cubic feet. Where is that amount of gas credited on this Pennsylvania Exhibit No. 53?

A. Under the letter E.

Q. That is sold by one utility to another?

A. To another.

Q. Is it also credited elsewhere?

A. Yes, it can be credited in sales from the utilities to——

Q. Let me ask you if it is also credited from the producing companies?

A. Yes, it can also be credited from the independent producers from whom, for example, the United Fuel Gas Company may have purchased a portion of its gas.

Q. And the whole of it would also be credited to the United Fuel Company under its own or purchases from independent producers?

A. Yes, sir.

Q. And then again credited under E as sold to the Hope, Columbia and Pittsburgh & West Virginia?

A. Yes, sir.

Q. Now, I observe that the distribution, as shown on Pennsylvania Exhibit No. 53, and reflected under the headings I to O, inclusive, is made to balance with the total gas handled as shown under

3234 M. Are there any duplications in the distributions?

A. Yes, sir.

Q. Please point out the duplications.

A. L would be a duplication; that is, sold to West Virginia utilities, because it may represent some of the gas that was produced.

Q. To illustrate, the heading I—sold in cities and towns in West Virginia—shows what character of service?

A. The public utility service.

Q. The public service corporations of West Virginia distribute to domestic and industrial consumers?

A. Yes.

Q. What does column headed J show?

A. Shows the amount of gas sold in field and main lines; that is, sold for drilling, for cleaning out wells, operating and for domestic gas; that is on gas which includes payments for rentals, rights of way, etc.

Q. Then I and J together, include all of the gas distributed in West Virginia to industrial and domestic consumers used in the field, and for free gas and also imported gas?

A. Yes, sir.

Q. Column L, where one utility sells to another, what becomes of that gas?

A. Well, that is an exchange between the utilities, one utility selling its gas to another which can be sold or redistributed by

3235 the utility purchasing the same.

Q. Is not that term "exchange" a little misleading. As a matter of fact, is it not often sold by one utility to another where there is no gas given back in return?

A. Yes.

Q. There would be an ex*change*, would there not?

A. Might be; in general, it is really a sale of gas.

Q. If the amount sold by one utility to another is utilized and marketed by the latter in West Virginia, does that amount appear anywhere else on Pennsylvania Exhibit No. 53?

A. It may appear under I or J.

Q. And if the amount sold by one utility to another utility is by the latter utility transported out of West Virginia, or sold at the State line for such transportation where would that amount appear?

A. It would appear under M.

Q. Then, what is the effect of L.? Is it already included under J, or M?

A. It is, and is therefore a duplication.

Q. The amount marketed in any one month is not the same in any other month, so far as the public service corporation is concerned?

A. It is not.

Q. What is the year covered by Pennsylvania Exhibit No. 53?

A. The fiscal year of West Virginia; that is, from July 1, 191 to June 30, 1920.

3236 Q. In the statistics given both by you and Mr. Nease- if you recall as to Mr. Nease—on direct examination, were yo dealing with the fiscal year or calendar year?

A. Calendar year.

Q. Both you and Mr. Nease?

A. Yes, sir.

Q. It frequently happens, does it not, that gas produced in We Virginia passes through the hands of several companies before reac ing the distributing company, which markets to the West Virgin consumer or exports, does it not?

A. It does.

Q. And in all those cases where one utility sells to another with West Virginia the amount so marketed is, as I understand yo twice shown in the meter or inspection department of the Publ Service Commission, which undertakes to show the amount handl by each company?

A. It is.

Q. Now I understand you to be testifying from your own i vestigation and knowledge. Did you take the precaution to go ov the matter of Pennsylvania Exhibit No. 53 with Mr. Ebert?

A. I did.

Q. You may state whether or not Mr. Ebert verified your sta ments which you have made here?

Mr. Weil: That is objected to as incompetent, irregular and me hearsay, taking the statement of another party by this witness.

The Commissioner: Note the objection and let the witness answ

3237 A. He did.

Mr. Steptoe: In reply to the objection it is suggested that t information elicited by the witness from Mr. Ebert is much mo appropriate and properly in evidence than Pennsylvania Exhib No. 53, introduced by the complainants under the circumstan illustrated by the record.

Mr. Weil: Since counsel for the Commonwealth of West V ginia proposes to argue the admissibility of this exhibit the form of this reply, however inappropriate in the record, nev theless attention is directed to the fact that the witness, not bei an official of the State of West Virginia in charge of a certain d partment, any statement he may make or give out in connecti with that department is inadmissible in evidence as an admissi

on the part of the defendant, by West Virginia, which can only make admissions by its authorized agents and employes.

The Commissioner: Let the statement of counsel be noted.

Q. Are you able to state from your investigation touching Pennsylvania Exhibit No. 53 whether the heading J includes gas used in the manufacture of carbon?

A. It does.

Q. Do you know whether or not free gas is included under either J or I?

A. It is included under J.

Cross-examination.

(By Mr. Weil:)

Q. With what department of the State, Mr. Krebs, are you connected?

3238 A. No department. I was Assistant State Geologist for 6 years.

Q. You are not now, then, in the employ of the State of West Virginia except as a witness in this case?

A. That is all.

Q. Who is Mr. Ebert?

A. He is, as I understand it, a clerk in the Inspection Department of the Public Service Commission.

Q. This Inspection Department of gas utilities is one of the departments, then of the Public Service Commission?

A. Yes, sir.

Q. And these public utilities are required to make reports to the Public Service Commission giving the data that is set forth in this report?

A. I understand it is forwarded from the meter department.

Q. What do you mean by "the meter department"?

A. The department of the utilities in which the gas is measured.

Q. There is a meter department then, in the general department of the Public Service Commission?

A. Yes, sir.

Q. And that meter department, so-called, obtains reports from the public utilities as to the quantities of gas handled by those respective utilities?

A. It does.

Q. And those are collated and summarized from time to

3239 time in that department by the various employees who are there employed?

A. It is.

Q. You were, in no way, connected with that department?

A. I am not.

Q. And never have been?

A. I have not.

Q. Where is Mr. Ebert now?

A. His office is in Charleston.

Q. Is he still employed in the Inspection Department of the Public Service Commission?

A. I think he is.

Q. Does he occupy the same position substantially?

A. I think he does.

Q. That department has a chief inspector, has it not?

A. It has.

Q. And the testimony you have given in relation to this Exhibit No. 53, you obtained in part, from your examination of the Exhibit itself, and in part from talking with Mr. Ebert?

A. And in part from my own personal knowledge of the different public utilities, where I am more or less connected.

Q. And the conclusions and inferences that you have drawn are derived, in part, from the examination of the Exhib-t itself; in part from talking to Mr. Ebert and in part from certain information you possess with reference to some of these utilities?

3240 A. Yes, sir.

Q. Are you connected in any official capacity with any of these utilities?

A. I am working for——

Q. In what capacity?

A. As a geologist and general engineer.

Q. As a geologist and general engineer in connection with these utilities, do you have anything to do with the keeping of their records, as to their sales?

A. These are often discussed and taken under consideration as an engineering——

Q. I am asking you the question: if you in your employment with those utilities have anything to do with the keeping of their records as to their sales?

A. I have not.

Q. The information you got there is what some officer of those companies told you as to those sales, and as to the amount of gas they handled?

A. And in checking up the records from the office, which I have occasion, from time to time, to do, in making valuation of plants, etc.

Q. With what public utilities have you been associated or employed by in that connection?

A. I have been employed by the Pure Oil Company, and I have done work for the Libbey-Owens Bottle Company, Owens Bottle Company; I have done some work for the Falling Rock Cannel Coal Company, and a number of other small companies.

3241 Q. What others?

A. I have done work for the Logan Natural Gas Company.

Q. How long ago.

A. The last work I did was just about a year ago.

Q. What others?

A. I have done a lot of work for a number of small companies—the Carter Oil Company and the Manufacturers Light and Heat Company.

Q. What did you do for the Carter Oil Company?
A. Located some gas wells.
Q. What did you do for the Manufacturers Light and Heat Company?
A. I located some wells in Logan County; I don't think they have ever drilled them, but I located them.
Q. Did you, in connection with either of those companies, have any occasion to make any examination of their gas sales or gas production?
A. I did for the Logan Gas Company.
Q. Did you, in connection with the Manufacturers Heat & Light Company?
A. I did not. Then, I have also worked for Benedum & Trees.
Q. What are they?
A. Oil and gas operators.
Q. Are all the industrial plants in the State of West Virginia located in cities or towns?
A. I can not definitely answer that question.
3242 Q. Don't you know that there are a number of industrial plants that are not located in either cities or towns in the State of West Virginia?
A. I could not definitely say.
Q. Does not the legend "Sold in Cities and Towns in West Virginia," as it plainly states, mean the gas that was sold in such cities and towns, both for domestic and for industrial purposes, in those respective cities and towns?
A. Yes, sir.
Q. And does not the legend "Sold in Field and Main Lines" mean what it says—what is sold from those fields and main lines to consumers that are not in the cities and towns?
A. It does.
Q. And would include such industrial plants, if any, as take their gas from such fields and main lines?
A. It would.
Q. Then, when you stated in your direct examination that that legend J—"Sold in Field and Main Lines West Virginia"—did not include industrial gas, to that extent you were mistaken, were you not?
A. If I didn't state, I should have stated that J represented the meter measurement of field and main line gas sold for drilling and cleaning out wells, and for domestic use, free gas, etc., and also should include industrial gas, which I did not include in the first instance, on the line.
A. And does include, as a matter of fact, a very large amount that was sold for carbon black manufacture?
3243 A. It includes, possibly, forty per cent of the total amount.
Q. Which is quite a substantial amount besides free gas, such as you have described?
A. (No response.)
Q. Now, taking up the item L,—sold to West Virginia utilities. How do you know that that amount is a duplication of some of the other items?

A. Simply, that that gas is from utilities selling to different utilities, and has already been metered and credited elsewhere.

Q. How do you know that?

A. The heading says, "Sold to West Virginia Utilities" and should be, which is not included, "by utilities." I think it comes from reports from the utilities and in those reports they have "sold to West Virginia Utilities"—the "Utilities Sold to Utilities"—what it really means from the report they make themselves.

Q. How do you know that these sales are from one utility to another? Why doesn't that include gas that is sold to the West Virginia utilities by others than another utility?

A. None but the utilities report.

Q. The utilities report the amount of gas purchased?

A. Also the amount of gas sold.

Q. Well, they report the amount of gas purchased?

A. Yes, sir.

Q. Then the report of the utilities would show the amount of gas they purchased?

3244 A. Yes, sir.

Q. And it would show they purchased that amount of gas, for example, whether they purchased it from some other utility or independent producer?

A. It does.

Q. Why do you say that is gas that was sold to one utility by another, instead of gas that was sold, perhaps, by some other producer?

A. The utility makes report from what utility it purchased this gas.

Q. This does not say, "Sold to West Virginia Utilities by some utility," it simply says, "Sold to West Virginia Utilities."

A. It does not, but the report does. These utilities report——

Q. You didn't examine those reports, did you?

A. I did.

Q. Do you mean you examined every one of the reports from which this statement was made up?

A. No, sir.

Q. You did not examine them all?

A. No, sir.

Q. You don't know then, from an examination of those reports, whether this statement includes gas purchased from other utilities?

A. I went in——

Q. You don't know it from your own knowledge?

3245 A. Nothing except what I obtained from Mr. Ebert.

Q. Only from what you obtained from Mr. Ebert?

A. Yes, sir.

Q. Mr. Ebert is in the City of Charleston?

A. Yes, sir.

Q. And could testify if he wanted to?

A. Yes, sir.

Q. If he had been asked to testify by counsel representing the State of West Virginia?

A. Yes, sir.

Q. And he is the man who prepared this statement?
A. Yes, sir.
Q. And he is available for examination if desired?
A. Yes, sir.
Q. And still you are prepared to tell what Mr. Ebert told you as to this report?
A. Yes, sir.
Q. I call your attention to the legend—"E, Purchase from West Virginia utilities 49,012,245 M cubic feet while under legend L—"Sold to West Virginia utilities" the amount is 48,806,800 M cubic feet. How do you account for the discrepancy in those two amounts?
A. That is adjusted in N—line loss etc., and could also be adjusted in G—error in reporting.
Q. Why do you say that is adjusted in line loss?
A. Simply that either or both N and G are used to balance——
3246 Q. Can't you figure and see that if you add the total line loss, etc., to the "Sold to West Virginia Utilities" and to that add the total of "Error in reporting," the sum would not *the be* same as that shown under item E—"Purchased from West Virginia Utilities," 49,012,245 M cubic feet?
A. There is a little difference.
Q. Isn't there a big difference, runs up into the billion feet?
A. I don't know.
Q. Figure it again to see. Take 48,806,800 M cubic feet, add to that 66,357 M cubic feet—line loss—add to that "Error in reporting" 326 M cubic feet. What is the sum of those amounts?
A. 48,873,483 M cubic feet.
Q. Now, the amount given as purchased from West Virginia utilities, on this same statement is 49,012,245 M cubic feet. Is that correct?
A. It is.
Q. Then, when you charge the whole line loss on the lines to the gas purchased from West Virginia utilities alone, and ignore the line loss on the other 87,408,794 M cubic feet, and the other 142,519,562 M cubic feet, you still have a difference between those two figures—and also add in the "Error in Reporting,"—you still have a difference of 138,762 M cubic feet, do you not?
A. You would have 138,760 M cubic feet.
Q. All right—138,762 M cubic feet——
3247 A. Which is less than 3%.
Q. I don't care what the per cent is. How do you account for that discrepancy in those figures?
A. I would account for it personally—the irregularity, and the discrepancy in reporting.
Q. And you would not account for it as you did before by charging the whole line loss to this and the error in reporting to this. For what reason would you charge the whole line loss to this gas alone that was purchased from West Virginia utilities? Is not that a manifest absurdity?
A. I do not think so.

Q. Do you want the Court to understand then, that you, as an expert, being examined upon this want them, in making this caluclation and examination of this statement to charge the line loss on what is here given as practically 278, billion cubic feet to the 48 billion cubic feet sold to the West Virginia utilities, and if so, why?

A. As I stated formerly, the measurement of this gas and the reporting are done very inaccurately, while the loss may not be 48 billion, yet it possibly is.

Q. That is the whole of it?

A. Yes, sir.

Q. Why?

A. Simply because of the way in which they are handling the gas and the measurements.

Q. What would lead you to that conclusion?

A. There are a number of questions entering into that.

3248 Q. Give us them.

A. The first thing is the leakage——

Q. Was there any more leakage on the lines on which gas was obtained from the utilities than there was on the other lines?

A. Not necessarily, except where the gas is exported they used—have better lines—and there is less chance of error——

Q. That is only about half. What about the other half?

A. And the meters are read more carefully——

Q. What has the meter reading got to do with the line loss?

A. The whole thing is based on meter reading.

Q. How is the line loss estimated, and who estimates it?

A. I don't know.

Q. Do ou know anything about this item of line loss that is entered here?

A. Why, not specifically.

Q. Do you know how that amount was obtained?

A. I do not.

Q. Do you know whether it was obtained from the reports, or estimated, or how the figures were put down?

A. It was estimated.

Q. By whom?

A. By the Clerk——

3249 Q. By which clerk?

A. Mr. Ebert.

Q. Then this line loss does not appear anywhere upon the reports of these public utilities, does it?

A. Except in order to balance the figures as recorded by them.

Q. Do you not know that a good deal of this gas that is sold to the West Virginia utilities, is sold by producing companies to the various companies supplying cities and towns, like Charleston, Clarksburg, Fairmont, Wheeling, Parkersburg, Huntington, and other cities in the State of West Virginia?

A. I do not know.

Q. As a matter of fact, then, you do not know what these West Virginia utilities, that purchase this gas, do with that gas?

A. They use it and resell it.

Q. You do not know where they sell it?

A. I do not.

Q. Whether they sell it in West Virginia, or whether they sell it elsewhere?

A. I do not.

Q. If it was sold outside of the State, would it not be included in the legend "M, exported from West Virginia 142,519,562 M cubic feet?"

A. A portion of it probably is included in that amount.

Q. If it was included in that amount, would it be given here as a separate item?

3250 A. Yes.

Q. Looking at that statement now, as a reasonable business man—which purports to give the amount of gas exported from West Virginia as 142,519,562 M cubic feet, and the amount sold to West Virginia utilities as 48,806,800 M cubic feet—would you say that any part of that 48,806,800 M cubic feet was included in that 142,519,562 M cubic feet?

A. On the face of the statement, I would not, but after dissecting it and finding out, you would be compelled to do so.

Q. If the exports from West Virginia were, as stated upon this report, 142,519,562 M cubic feet; if that were the fact, then the balance of that gas would be, in some way, used or consumed in the State of West Virginia, would it not?

A. It would if this gas was not duplicated; that is, the measurement of the gas duplicated, sold and resold and so recarded.

Q. These public service corporations that report to the Public Service Commission of West Virginia, do they show in their reports the amount of gas which they export from the State?

A. They do.

Q. Do you mean to say that they show more than that 142,519,562 M cubic feet as stated in this duplication?

A. No.

Redirect examination.

(By Mr. Steptoe:)

3251 Q. Are you undertaking to support, or to say that the figures given on Pennsylvania Exhibit No. 53, are correct, or are you undertaking to explain the heading?

A. I am undertaking to explain the heading.

Q. And that explanation is based on your own information and from information obtained from Mr. Ebert?

A. Yes, sir.

Q. You have stated that column E, relating to the supply of gas was a duplication; that column L, relating to the distribution was a duplication. Did Mr. Ebert give you that information?

A. Yes.

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, and as being hearsay, Mr. Ebert being and officer of the State, present in the City of Charleston, and as a witness could be

called by the State and examined, and his statements made to another witness need not be proven in that way.

The Commissioner: Note the objection.

Q. And the amounts purport to show the total gas handled instead of the total production and purchases?

A. Yes, sir.

Q. Now, does that statement reflect under any heading the amount of gas purchased from independent producers by the public service corporations of West Virginia? If so, which one?

A. C shows what is purchased from independent producers.

Q. And E shows what is purchased——

3252 A. From utilities.

Q. West Virginia utilities?

A. West Virginia utilities.

Recross-examination.

(By Mr. Weil:)

Q. How do you know C, which says "Purchased from West Virginia Producers * * * from 1,074 2/12 wells" is from independent producers?

A. Because it is from producers who do not report to the department, and are not utilities.

Q. How do you know that?—Or are you just guessing at it?

A. I am not guessing at it.

Q. How do you know it?

A. I know it from information obtained from Mr. Ebert.

Q. You know that from what Mr. Ebert told you and from no other source?

A. And from the headings, having had them fully explained by Mr. Ebert.

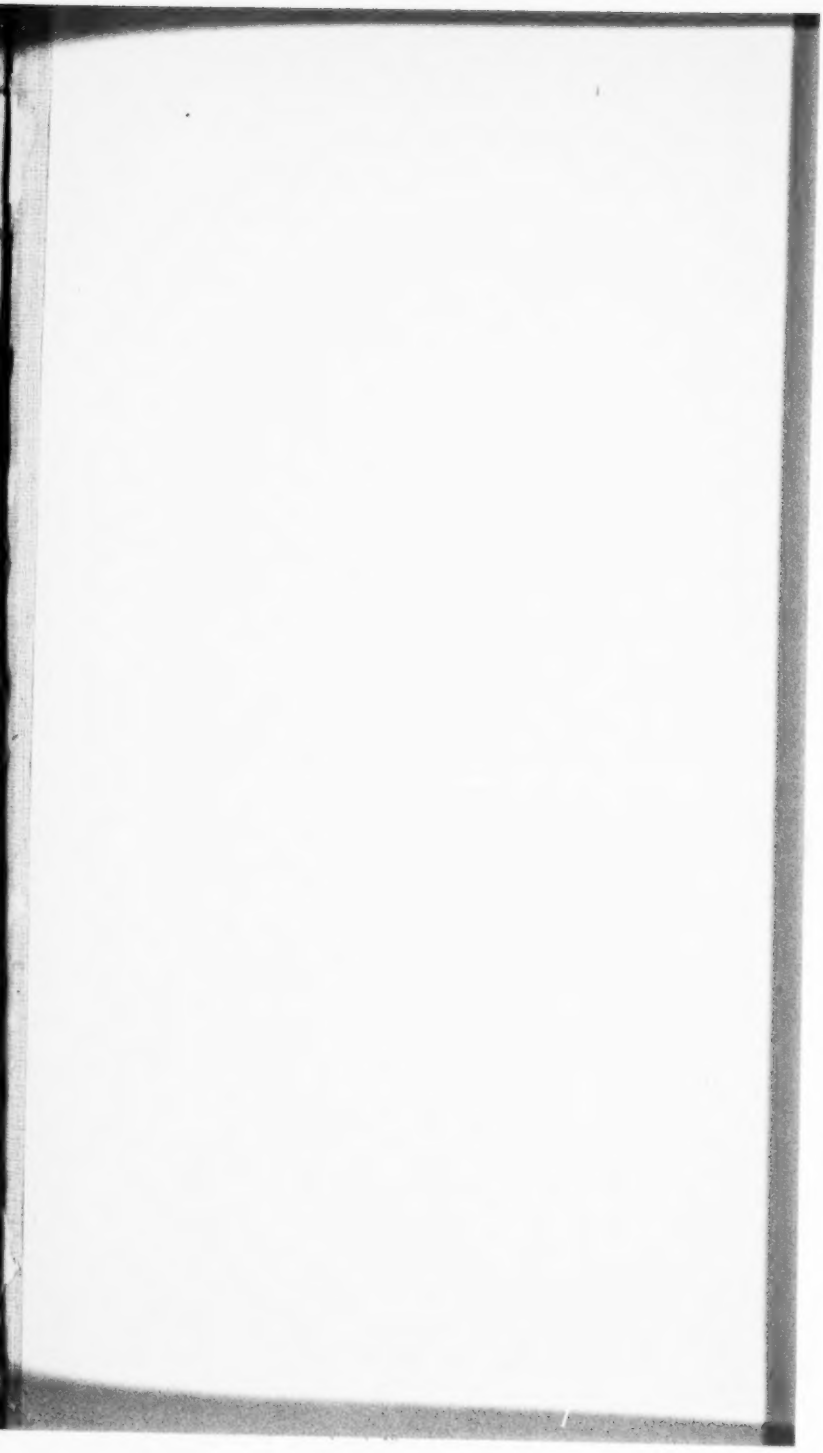
Q. And that is the only way you know it?

A. Yes, sir.

Mr. Blue: The State of West Virginia, by her counsel, announces on the record that she closes her case.

The Commissioner: Let the record show that the State of West Virginia has closed its case; that the Commonwealth of Pennsylvania and the State of Ohio have already closed their case, and that

3253 the testimony taken in the causes is now complete, and the hearing is ended.



Vol. III.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1906.

No. [redacted] Original.

THE COMMONWEALTH OF PENNSYLVANIA, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

3

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

EXHIBITS, VOL. I.

Pennsylvania, 1-85; Ohio, 1-10.

FILED

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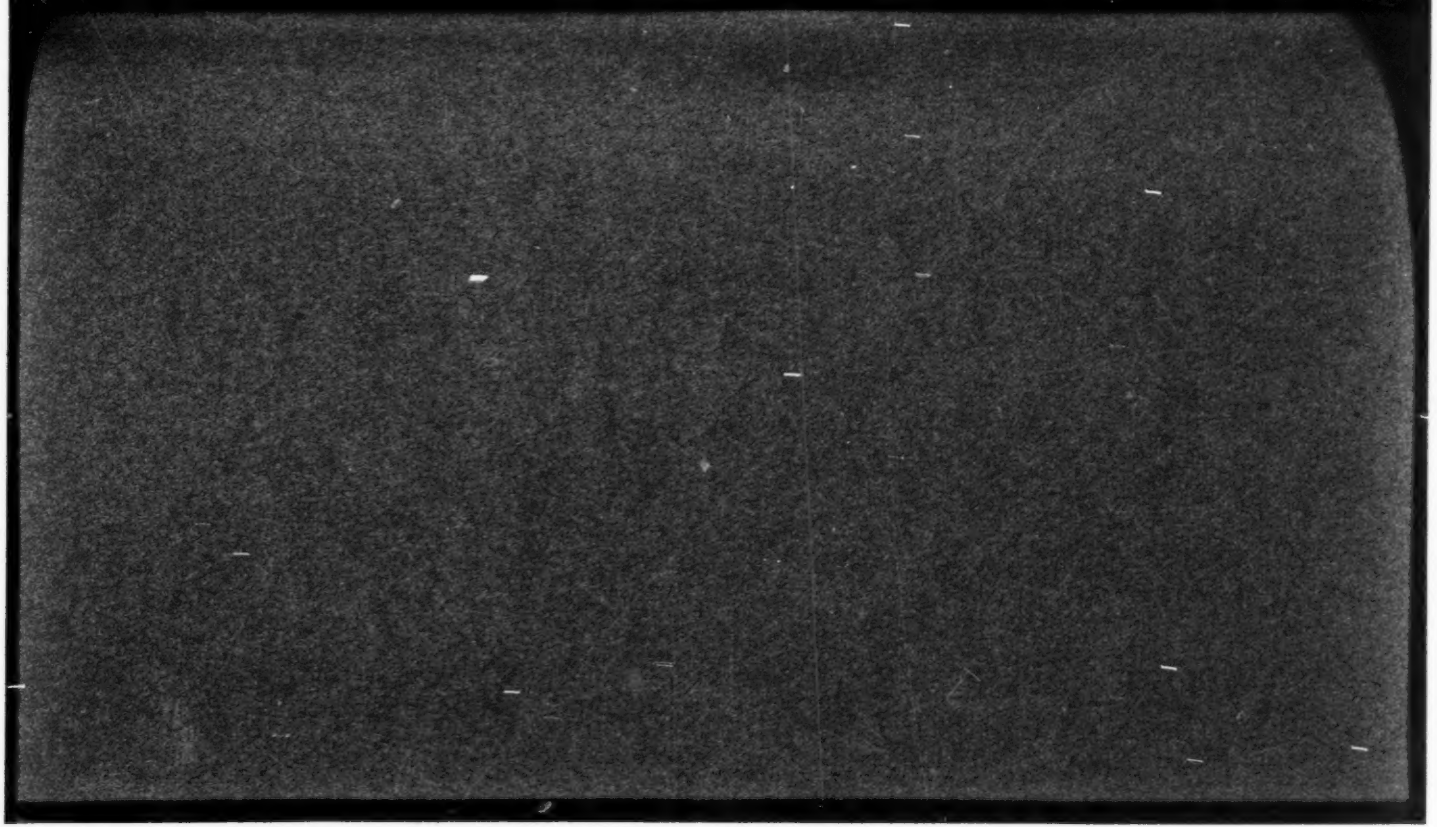

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

Nos. 20-21, Original.

THE COMMONWEALTH OF PENNSYLVANIA, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

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THE STATE OF WEST VIRGINIA.

TABLE OF CONTENTS.

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
1	Map showing location of main transportation lines of the Manufacturers Light & Heat Company in Pennsylvania, Ohio, and West Virginia. (This was replaced by Pennsylvania Exhibit 39 E.)	30	Quay.....	1493
2	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, June 30, 1917.	149	Quay.....	1493
3	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, October 9, 1917.	149	Quay.....	1494

Judd & Detweiler (Inc.), Printers, Washington, D. C., May 19, 1920.

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
4	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, November 30, 1917.	149	Quay.....	1495
5	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, December 22, 1917.	149	Quay.....	1496
6	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, July 8, 1918.	149	Quay.....	1496
7	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, October 29, 1918.	149	Quay.....	1498
8	Warning letter sent by the Manufacturers Light & Heat Company to its industrial natural gas consumers, January 28, 1920.	149	Quay.....	1499
9	Application form for surplus gas from the Manufacturers Light & Heat Company, January 28, 1920.	157	Quay.....	1500
10	Application form for surplus gas from the Manufacturers Light & Heat Company, November 30, 1917.	157	Quay.....	1501
11	Application form for surplus gas from the Manufacturers Light & Heat Company, July 8, 1918.	157	Quay.....	1503
12	Requisitions by the Manufacturers Light & Heat Company on the Hope Natural Gas Company for gas service during 1919 and 1920.	158	Quay.....	1504
13	Number of domestic, industrial, and miscellaneous consumers and gas deliveries by the Manufacturers Light & Heat Company, at Bellaire, Ohio, from 1911 to 1919.	158	Quay.....	1506
14	Sixty-three largest individual holdings of stock of the Manufacturers Light & Heat Company as of March 31, 1920.	179	Quay.....	1506
15	Map of the main lines of the Hope Natural Gas Company, the Reserve Natural Gas Company of West Virginia, and the Peoples Natural Gas Company of Pennsylvania as of December 31, 1917.	186	Sullivan..	1509
16	Contract between the Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated October 16, 1915.	224	Sullivan..	1509

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
17	Contract between the Hope Natural Gas Company and the Peoples Natural Gas Company, dated May 1, 1911.	225	Sullivan..	1524
18	Contract between the Reserve Natural Gas Company, Union Natural Gas Company, Hope Natural Gas Company, Connecting Gas Company, and T. N. Barnsdall, dated April 11, 1913.	225	Sullivan..	1535
19	Contract between the Hope Natural Gas Company and the East Ohio Gas Company, dated March 1, 1910.	225	Sullivan..	1544
20	Contract between the Mountain State Gas Company and the River Gas Company, dated April 1, 1910.	225	Sullivan..	1554
21	Contract between the Hope Natural Gas Company and Fayette County Gas Company, dated May 1, 1910.	225	Sullivan..	1560
22	Map showing natural gas property of the United Fuel Gas Company in West Virginia, Kentucky, and Ohio. (This was replaced by Pennsylvania Exhibit 39 D.)	360	Wallace..	1566
23	Map showing the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia, January 1, 1920. (This was replaced by Pennsylvania Exhibit 39 F.)	486	Reed.....	1566
24	Map showing Fayette County Gas Company's natural gas system. (This was replaced by Pennsylvania Exhibit 39 A.)	534	Angle.....	1566
25	Outline map of main lines of the Natural Gas Company of West Virginia.	741	Batchelor.	1566
26	Map showing natural gas property of the Natural Gas Company of West Virginia, southern division.	746	Batchelor.	1566
27	Well production and gas leases controlled for year ending December 31, 1919, of natural gas companies in West Virginia.	814	Anderson.	1566
28	Natural gas production statistics for year 1919 in West Virginia.	815	Anderson.	1566
29	Chart showing production and consumption of natural gas in West Virginia.	817	Anderson.	1567
30	Advance U. S. Geological Survey statistics on natural gas.	819	Anderson.	1567
31	Relation of operated and unoperated leaseholds to large and small companies in West Virginia.	822	Anderson.	1568

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
32	Domestic natural gas statistics for year 1918 from Geological Survey Report, domestic gas statistics from 1909 to 1919 from the Public Service Commission of West Virginia and domestic gas statistics of various companies in West Virginia.	823	Anderson.	1569
33	Estimate of monthly and yearly sales of natural gas in West Virginia.	824	Anderson.	1573
34	Comparison of maximum yearly consumption of natural gas for industrial consumers in the State of West Virginia for years 1915 to 1919, inclusive, with year 1918.	825	Anderson.	1576
35	Diagram showing how a given amount of gas can be contracted by application of pressure.	867	Wyer.....	1577
36	How natural gas is severed from the soil, brought under control and delivered into a fixed closed container.	870	Wyer.....	1578
37	How natural gas from West Virginia is transmitted to the consumer in another State.	871	Wyer.....	1579
38	Diagram showing action of natural gas compressor as used for compressing gas through transmission lines.	874	Wyer.....	1580
39A	Fayette County Gas Company map.....	876	Wyer.....	1581
39B	Hope Natural Gas Company map.....	876	Wyer.....	1582
39C	Reserve Natural Gas Company map.....	876	Wyer.....	1583
39D	United Fuel Gas Company map.....	876	Wyer.....	1584
39E	Manufacturers Light & Heat Company map	876	Wyer.....	1585
39F	Philadelphia Company map.....	876	Wyer.....	1586
39G	Carnegie Natural Gas Company map.....	876	Wyer.....	1587
39H	Eastern Oil Company map.....	876	Wyer.....	1588
40A	Daily actual and normal temperature at Parkersburg, West Virginia, in 1916.	893	Wyer.....	1589
40B	Daily actual and normal temperature at Parkersburg, West Virginia, in 1917.	893	Wyer.....	1590
40C	Daily actual and normal temperature at Parkersburg, West Virginia, in 1918.	893	Wyer.....	1591
40D	Daily actual and normal temperature at Parkersburg, West Virginia, in 1919.	893	Wyer.....	1592
41	Volume of natural gas and per cent of State's total production exported from West Virginia.	895	Wyer.....	1593
42	One billion cubic feet of natural gas consumption per 1,000,000 population for West Virginia, Ohio, and Pennsylvania.	897	Wyer.....	1594

Pennsylvania exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
43	Total natural gas consumed annually per domestic consumer in West Virginia Ohio and Pennsylvania.	897	Wyer.....	1595
44	Industrial natural gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania.	897	Wyer.....	1596
45	Domestic gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania.	898	Wyer.....	1597
46	Map showing prinicpal towns outside of West Virginia depending on West Virginia for natural gas service.	904	Wyer.....	1598
47	Map of the main lines of the East Ohio Gas Company.	973	Wyer.....	1599
48	Map of the main lines of the Hope Natural Gas Company, Reserve Natural Gas Company and the Peoples Natural Gas Company.	974	Wyer.....	1600
49	Map of the Ohio Fuel Supply Company's system.	974	Wyer.....	1601
50	Natural gas statistics, West Virginia	1378	Robinson..	1603
51	Statement showing production and consumption, importation and exportation, of natural gas in West Virginia for year 1919.	1382	Robinson..	1605
52	Classification of consumption of natural gas in West Virginia for year 1919.	1382	Robinson..	1605
53	Ebert's statement on West Virginia natural gas production, importation, sales, and exportation for year 1920.	1383	Robinson..	1606
54	Statement showing approximate acreage held by certain companies and individuals in West Virginia.	1391	Robinson..	1608
55	Smithsonian Institution Bulletin on "Natural Gas Production, Service and Conservation."	1442	Wyer.....	1619

Ohio exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
1	Map of main lines of the East Ohio Gas Company. (This was replaced by Pennsylvania Exhibit 47.)	564	Daly.....	1695
2	Map of main trunk lines and transmission lines of the Ohio Fuel Supply Company. (This was replaced by Pennsylvania Exhibit 49.)	651	Denning...	1695
3	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 15, 1916, Union Gas & Electric Co.	681	Denning...	1695

Ohio exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at page
4	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 20, 1916, East Ohio Gas Co.	681	Denning..	1698
5	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 11, 1917, Union Gas and Electric Co.	681	Denning..	1700
6	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, December 19, 1916, Administrative order No. 28.	681	Denning..	1702
7	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, May 21, 1918, Administrative order No. 34.	681	Denning..	1703
8	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, June 10, 1919, Administrative order No. 41.	681	Denning..	1705
9	Administrative order, Public Utility Commission of Ohio, relative to discontinuing gas to industrial consumers, August 12, 1920, Administrative order No. 46.	681	Denning..	1706
10	Map of main lines of Logan Natural Gas & Fuel Company in Indiana and Ohio.	750	Whitcomb.	1709

PENNSYLVANIA

AND

OHIO

EXHIBITS

PENNSYLVANIA EXHIBIT 1.

Offered at p. 30 of Printed Record by Witness Quay.

Map Showing Location of Main Transportation Lines of the Manufacturers Light & Heat Company in Pennsylvania, Ohio, and West Virginia.

NOTE.—This was replaced by Pennsylvania Exhibit 39 E.

PENNSYLVANIA EXHIBIT 2.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Company to Its Industrial Natural Gas Consumers, June 30, 1917.

The Manufacturers Light and Heat Company and Affiliated Companies.

General Offices, Columbia Bank Building.

John E. Gill, President.

Pittsburgh, Pa., June 30th, 1917.

GENTLEMEN:

You are hereby notified that there will be a change in the rates to industrial consumers of The Manufacturers Light & Heat Company, to go into effect on the first day of August, 1917, as follows:

Next 750,000 cu. ft. — ¢ per M cu. ft.
Next 2,000,000 cu. ft. — ¢ per M cu. ft.
Next 7,000,000 cu. ft. — ¢ per M cu. ft.
Next 40,000,000 cu. ft. — ¢ per M cu. ft.
All over 50,000,000 cu. ft. — ¢ per M cu. ft.

Discount of 1¢ per M. cu. ft. is allowed where payment is made on or before the twentieth of the month following that for which bill is rendered, application therefor having been filed with the Public Service Commission of your State.

While this rate has been established to be operative during the next few months when the domestic demands are comparatively light, if there is no change for the better in the cost and difficulty of obtaining a gas supply, due not only to the increased cost of production, but also to the depletion and exhaustion of developed territory and the inability so far to find new territory, then, in all probability, on or before December 1st, 1917, this Company will be

forced to withdraw its industrial rates and not undertake to supply industrial consumers.

With this probable action in prospect, you are accordingly advised to make such preparation as you may deem proper for the change of your appliances and the introduction of other fuel than natural gas.

Yours very truly,

THE MANUFACTURERS LIGHT & HEAT COMPANY,
JOHN E. GILL,
President.

1*a* PENNSYLVANIA EXHIBIT 3.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Company to Its Industrial Natural Gas Consumers October 9, 1917.

2 The Manufacturers' Light and Heat Company and Affiliated Companies.

General Offices, Columbia Bank Building.

John E. Gill, President.

Pittsburgh, Pa., October 9th, 1917.

In our letter to you of June 30th, 1917, we warned you that in all probability we would be unable to supply our industrial consumers during the present winter because of our inability to produce or to buy sufficient gas for that purpose, and that you should accordingly be prepared to arrange for other fuel.

Notwithstanding every effort that we have made, both to enlarge our production and to purchase gas, we have been unable to secure an adequate supply to enable us to continue with our industrial consumers. One contract, which was made several years ago, and from which we obtain 15,000,000 feet of gas per day, will terminate on December 15, 1917. We have secured an extension thereof to January 1st, 1918, but cannot have it further extended. Even with this supply of gas there have been shortages upon our lines already, and of course, there will be still greater shortages as the weather gets colder.

Under the circumstances it is utterly impossible to undertake to supply industrial consumers, and, accordingly, the industrial rate will be withdrawn on January 1, 1918.

You are accordingly advised to make preparations to supply your plant with other fuel on or before said date. Meanwhile, and until then, we will do the best we can, although we advise you now that there will be shortages from time to time. From the surplus remaining after supplying our domestic consumers, after January 1st, 1918, we will supply such of our customers as desire, who have gas

ngines and appliances, where they are unable to substitute other uel, but this will be with the understanding, of course, that it is out f the surplus only.

Regretting the necessity of this action, and giving you this notice o far in advance so that you may make the changes in your plant ithout embarrassment, we are,

Yours very truly,

(Signed) JOHN E. GILL,
President.

PENNSYLVANIA EXHIBIT 4.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Company to Its Industrial Natural Gas Consumers November 30, 1917.

(Copy.)

November 30th, 1917.

GENTLEMEN:

In our letter to you of June 30th, 1917, we notified you that we ight not be able to supply gas to our industrial consumers the oming winter, and recommended that you make arrangements for ther fuel. On October 9th, 1917, we advised you that we could ot supply industrial consumers during the coming winter, and hat the industrial classification and rate would be withdrawn after January 1st, 1918.

We regret the necessity for this action. We tried to avoid it. owing to the termination by expiration of certain contracts for the purchase of gas from other companies, which we cannot renew, even if we attempted to supply all of our consumers the service would be so unsatisfactory as to be of little value.

While we must cancel all of our industrial contracts as of January 1st, 1918, we expect after that date, to have at times considerable quantities of gas, after the domestic business has been supplied, and we are willing to furnish this surplus gas to any of our customers who may desire to use it for special purposes or in especial appliances where other fuel cannot readily be substituted. We hope this surplus will be sufficient to meet the requirements of all our industrial customers who have such special purposes and appliances. New contracts will be forwarded upon application to those who may desire to avail themselves of this service, and application therefor should be made as soon as possible, and before January 1st next. We are preparing the forms for such applications and for such contracts which will be furnished to all who may desire the same. The company would like these applications filed as soon as possible. All applicants for service should state specifically the kind of appliances in which, or the purposes for which, the fuel is desired and the particulars of their claims for special consideration. As soon as practicable after January 1st, and before February 1st, these applications

will be considered and acted upon and when contracts are made, th same will be effective as of January 1st, 1918. Meanwhile, we wil do the best we can for all consumers.

Thanking you for your patronage and many courtesies durin the years of our business relations, and assuring you of our earnes desire to serve you in the future, as far as possible, I am,

Yours very truly,

(Signed) JOHN E. GILL,
President.

3*a* PENNSYLVANIA EXHIBIT 5.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Com pany to Its Industrial Natural Gas Consumers December 22, 1917.

4 The Manufacturers Light and Heat Company and Affiliate Companies.

General Offices, Columbia Bank Building.

John E. Gill, President.

Pittsburgh, Pa., December 22, 1917.

In accordance with our previous notice, we herewith enclose blan application for natural gas service after January 1st, 1918.

If you desire to avail yourself of this service, kindly fill in all the data pertaining to your plant, having the application signed b the proper officer of the company and return to this office befo January 1st next.

Yours very truly,

(Signed) JOHN E. GILL,
President.

Enclosure.

4*a* PENNSYLVANIA EXHIBIT 6.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Compa to Its Industrial Natural Gas Consumers July 8, 1918.

5 (Copy.)

July 8th, 1918.

During last winter The Manufacturers Light & Heat Company w unable to furnish its industrial consumers with a sufficient quanti of natural gas to meet their increased and increasing requiremen Anticipating this early last year, we accordingly notified our consu ers, and withdrew our industrial classification and rates, but continu

to furnish such service as we could at the old rate out of the surplus after taking care of domestic consumers. As a result, many users of natural gas substituted other fuel in portions of their plants, and were thus enabled to continue operations practically without interruption. Others did not heed the warning and were accordingly compelled to suspend from time to time during the colder weather.

Realizing the importance to our consumers of keeping their plants in operation and that the Government is relying upon the industrial plants in this section to furnish large quantities of necessary material for the prosecution of the war, we feel it to be our duty to again call your attention to the conditions that will, no doubt, prevail during the coming winter.

This company proposes to drill all the wells possible during this summer and will make every effort to obtain by purchase, as well as drilling, as large a quantity of natural gas as can be thus procured. The difficulties encountered in drilling for and obtaining gas are constantly increasing, and wells recently drilled have not been as prolific of a supply as in former years. There is not as much gas procurable by purchase as in former years. The result of our proposed efforts is, of course, problematical, but, judging from past experiences, we hope to approximately furnish as much gas as we were able to supply last winter. Under these circumstances, we again advise you to make preparations during the warm weather for the use of other fuel during the cold weather, so that in case of gas shortage you will not be taken unawares.

We also call your attention, not only to the shortage in the gas supply, but to the increased cost of that obtained, due to the greatly increased cost of labor and material. If such continues, affecting as it does the production, transportation and distribution of gas, we will increase our rates, and therefore, in estimating the cost of fuel, it would be well for all consumers to make their calculations accordingly.

Believing that our country's needs admit of no diminution of effort on the part of every patriotic citizen, we propose to continue to the utmost our efforts to secure the largest possible gas supply, regardless of cost to us, feeling confident that our consumers will appreciate our difficulties and our efforts to overcome them, and help us to bear the burden.

Thanking you for your previous kindly consideration and hoping always to merit the same, we are

Respectfully yours,

JOHN E. GILL,
President.

5a PENNSYLVANIA EXHIBIT 7.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Company to Its Industrial Natural Gas Consumers October 29, 1918.

6 The Manufacturers Light and Heat Company and Affiliated Companies.

General Offices, Columbia Bank Building.

H. A. Quay, Assistant Manager.

Pittsburgh, Pa., October 29th, 1918.

GENTLEMEN:

Attached you will find duplicate copy of contract entered into with this company for a supply of gas for such subjects in your plant in which other fuel cannot be readily substituted; this supply to be furnished from the surplus remaining after the requirements of the domestic consumer have been taken care of.

We take this opportunity of again advising you of the necessity of keeping and having on hand at all times, sufficient substitute fuel so that in the event a shortage in the supply of gas does occur, you will have some means whereby your plant can be kept in operation, regardless of the condition of the gas supply.

Attached also you will find information contained in Publication #28 of the United States Fuel Administrator, dated September 25th, 1918, and defining certain classes under which the distribution of natural gas will be made. This is for your information.

Attached also you will find a form in which we have undertaken, per the Rules and Regulations of the Fuel Administrator, to designate the classes under which the different subjects in your plant will receive deliveries. We would suggest that this form be retained and filed for ready reference by you.

Yours truly,

(Signed) H. A. QUAY,
Assistant Manager.

Inclosures.
M. H.

6a

PENNSYLVANIA EXHIBIT 8.

Offered at p. 149 of Printed Record by Witness Quay.

Warning Letter Sent by the Manufacturers Light & Heat Company to Its Industrial Natural Gas Consumers January 28, 1920.

The Manufacturers Light and Heat Company and Affiliated Companies.

General Offices, Columbia Bank Building.

John E. Gill, President.

Pittsburgh, Pa., January 28th, 1920.

We regret that circumstances over which we have no control compel us to advise you as follows:

The supply of gas is fast diminishing, the cost thereof is becoming greater, the demands of domestic consumers upon our lines is increasing, and our ability to provide them with a reasonably adequate supply has become more and more difficult if not quite impossible. These conditions compel us to curtail the amount of gas to be supplied for industrial purposes, especially such industries which naturally desire and as far as possible are entitled to keep their plants in operation and not be subjected to losses incident to intermittent operation especially during winter weather.

It is our purpose on March 5th, 1920, to cancel your agreement with us for industrial consumption, and if any exception is made it will be only for those units of your plant where other fuel cannot be readily substituted. As we have in the past, so will we in the future, continue our explorations for new gas fields and our operations in developed fields and our purchases of gas, and we expect, particularly during the summer months, when the domestic consumption decreases, to have a considerable quantity of gas available over and above the requirements of our domestic consumers.

If you so desire we would be pleased to negotiate with you a contract for the rendition of such service as we can, especially those having plants with requirements of a special and limited nature. With this in view, we enclose to you herewith a blank form of application which we would be pleased to have you fill out and return in case you desire to enter into such negotiations. It is important that these applications be received by us at the earliest date, so we can make our calculations accordingly and if necessary and possible, apportion our surplus gas to those industries to which we now feel under obligations because they have heretofore been upon our lines.

We cannot convey to you the full significance of our regret that we are compelled to take this step, which regret is only increased by the fact that we heretofore have had your co-operation and patronage.

Yours very truly,

(Signed) JOHN E. GILL,
President.

7a PENNSYLVANIA EXHIBIT 9.

Offered at p. 157 of Printed Record by Witness Quay.

Application Form for Surplus Gas From the Manufacturers Light & Heat Company, January 28, 1920.

8 —— —, ——.

Application from —— —— to the Manufacturers Light & Heat Company.

Subject to the rules and regulations of The Manufacturers Light & Heat Company, and in accordance with your letter of January 28th, 1920, applicant hereby makes application for a supply of Natural Gas for —— Works situated on —— Street, —— (Town) ——(State).

It is understood that this supply is to be furnished from the surplus gas remaining after the requirements of the domestic consumers on your lines have been supplied, and may be discontinued wholly or in part to meet said requirements.

The Natural Gas furnished under this application to be used for manufacturing purposes in the appliances and for the purposes and under the conditions described below:

(Describe specifically.)

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

So that you may be fully advised as to the peculiar importance of fuel for applicant's work, applicant states:

(Give here any special circumstances entitling you to special consideration. Be specific and particularize.)

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

That the minimum quantity of gas per hour with which applicant can operate is —— cu. ft.

The maximum amount required per hour in order to operate the plant at its maximum capacity is —— cu. ft.

The minimum amount of gas required for twenty-four (24) hours is —— cu. ft.

The maximum amount of gas required for twenty-four (24) hours — cu. ft.

Plant operates — hours daily during the day (night) Summer onths.

Plant operates — hours daily during the day (night) Winter onths.

Applicant states that in accordance with previous notices, arrangeents have been made to substitute other fuel as follows:

(State here what has been done, and if not, why not.)

.....

.....

.....

.....

Kindly submit contract to furnish applicant with gas under the nditions above set forth.

——, ——,
(Name of person or firm.)
By —— ——.

[Endorsed:] No. —. Application from —— —— to the Manuturers Light & Heat Company for Natural Gas Service. —— , ——, 192-.

PENNSYLVANIA EXHIBIT 10.

Offered at p. 157 of Printed Record by Witness Quay.

pplication Form for Surplus Gas From the Manufacturers Light & Heat Company November 30, 1917.

—— —, 191-.

pplication from —— —— to the Manufacturers Light & Heat Company.

Subject to the rules and regulations of The Manufacturers Light Heat Company and in accordance with your letter of November th, 1917, and previous notices, applicant hereby makes application r a supply of Natural Gas for —— Works situate on —— Street, — (Town), —— State.

It is understood that this supply is to be furnished from the surplus s remaining after the requirements of the domestic consumers on ur lines have been supplied, and may be discontinued wholly or part to meet said requirements.

The Natural Gas furnished under this application to be used for anufacturing purposes in the appliances and for the purposes and nder the conditions described below:

1501

(Describe specifically:)

.....
.....
.....
.....
.....

So that you may be fully advised as to the peculiar importance fuel for applicant's works, applicant states:

(Give here any special circumstances entitling you to special c sideration, such as supplying the Government with necessary material, etc. Be specific and particularize.)

.....
.....
.....
.....
.....

That the minimum quantity of gas per hour with which applic can operate is —— cu. ft.

The maximum amount required per hour in order to operate plant at its maximum capacity is —— cu. ft.

The minimum amount of gas required for twenty-four (24) ho is —— cu. ft.

The maximum amount of gas required for twenty-four (24) ho is —— cu. ft.

Plant operates — hours daily during the day, night.

Applicant states that in accordance with previous notices applic has made arrangements to substitute other fuel as follows:

(Here state what has been done, and if not, why not.)

.....
.....
.....
.....

Kindly submit contract to furnish applicant with gas under t conditions above set forth.

—— ——,
(Name of person or firm
By —— ——.

[Endorsed:] No. —. Application from —— —— to the Man facturers Light & Heat Co. for Natural Gas Service. —— —— 191-.

9a

Pennsylvania Exhibit 11.

Offered at p. 157 of Printed Record by Witness Quay.

Application Form for Surplus Gas From the Manufacturers Light & Heat Company July 8, 1918.

——— —, 19—.

Application from ——— ——— to the Manufacturers Light & Heat Company.

Subject to the rules and regulations of The Manufacturers Light & Heat Company and in accordance with your letter of July 8th, 1918, and previous notices, applicant hereby makes application for a supply of Natural Gas for ——— Works situate on ——— Street, ——— (Town), ——— State.

It is understood that this supply is to be furnished from the surplus gas remaining after the requirements of the domestic consumers on your lines have been supplied, and may be discontinued wholly or in part to meet said requirements.

The Natural Gas furnished under this application to be used for manufacturing purposes in the appliances and for the purposes and under the conditions described below:

(Describe specifically.)

.....
.....
.....
.....
.....

So that you may be fully advised as to the peculiar importance of fuel for applicant's works, applicant states:

(Give here any special circumstances entitling you to special consideration, such as supplying the Government with necessary war material, etc. Be specific and particularize.)

.....
.....
.....
.....
.....

That the minimum quantity of gas per hour with which applicant can operate is ——— cu. ft.

The maximum amount required per hour in order to operate the plant at its maximum capacity is ——— cu. ft.

The minimum amount of gas required for twenty-four (24) hours is ——— cu. ft.

The maximum amount of gas required for twenty-four (24) hours is —— cu. ft.

Plant operates — hours daily during the day, night.

Applicant states that in accordance with previous notices applicant has made arrangements to substitute other fuel as follows:

(Here state what has been done, and if not, why not.)

.....
.....
.....
.....

Kindly submit contract to furnish applicant with gas under the conditions above set forth.

—— ——,
(Name of person or firm.)
By —— ——.

[Endorsed:] No. —. Application from —— —— to the Manufacturers Light & Heat Co. for Natural Gas Service. —— —, 19–.

10*a* PENNSYLVANIA EXHIBIT 12.

Offered at p. 158 of Printed Record by Witness Quay.

Requisitions by the Manufacturers Light & Heat Company on the Hope Natural Gas Company for Gas Service During 1919 *and* 1920.

11 Copy.

May 2nd, 1919.

Mr. T. O. Sullivan, Vice President,
Hope Natural Gas Company,
424 Sixth Avenue, Pittsburgh, Penna.

DEAR SIR:

Following the usual yearly custom, wish to say the records of our company show that during the year 1918, we sold to domestic consumers in the

State of West Virginia.....	1,152,652,000 cu. ft.
State of Pennsylvania.....	8,082,208,000 cu. ft.
State of Ohio.....	2,707,305,000 cu. ft.
Total	11,942,165,000 cu. ft.

This was the actual amount of gas necessary in order to supply our domestic consumers during the year 1918. By adding six (6%) per cent to the amount sold, we arrive at the amount of gas deliverable for the year 1919 and 1920, as follows:

o be delivered for use of domestic consumers in the

e of West Virginia	1,221,811,000	cu. ft.
e of Pennsylvania	8,567,140,000	cu. ft.
e of Ohio	2,869,743,000	cu. ft.
Total	12,658,694,000	cu. ft.

n prorating this amount so as to determine the quantity deliver- each month and each day thereof, we have worked out the owing tables, based upon the same percentages as used during the - of 1918 and 1919 and previous years, with the following result:

Month.	Percentage.	Total cubic feet delivered per month.	Average daily delivery, cubic feet.
919.			
.....	6.3	797,498,000	25,726,000
e	5.	632,935,000	21,098,000
.....	4.	506,348,000	16,334,000
ust	4.	506,348,000	16,334,000
ember	4.5	569,641,000	18,988,000
ber	7.	886,108,000	28,584,000
ember	10.6	1,341,821,000	44,727,000
ember	11.8	1,493,726,000	48,185,000
920.			
uary	13.	1,645,630,000	53,085,000
ruary	13.	1,645,630,000	56,746,000
rch	11.5	1,455,750,000	46,960,000
il	9.3	1,177,259,000	39,242,000
Total	100%	12,658,694,000	

nasmuch, however, as February 1920 is a Leap year and the nth consists of 29 days instead of the usual 28 days, we would pleased to have you agree that the daily deliveries for that month 1920 be placed at 58,772,000 cubic feet.

Believing this to be only fair and thanking you in advance for ing this your usual prompt consideration, I am,

Yours very truly,

H. A. QUAY,
General Manager.

M. H.

12*a* PENNSYLVANIA EXHIBIT 13.

Offered at p. 158 of Printed Record by Witness Quay.

Number of Domesticated, Industrial, and Miscellaneous Consumers and Gas Deliveries by the Manufacturers Light & Heat Company at Bellaire, Ohio, from 1911 *to* 1919.

13 City of Bellaire, O., Only, Year Ended 12/31.

	Consumers.	Deliveries.
1919:		
Domestic	2,934	320,803
Industrial	32	456,295
Miscellaneous	22	6,255
Total	2,988	783,353
1918:		
Domestic	2,895	331,753
Industrial	34	517,377
Miscellaneous	28	6,625
Total	2,957	855,755
1917:		
Domestic	2,848	331,520
Industrial	34	725,584
Miscellaneous	25	7,627
Total	2,907	1,064,731
1916:		
Domestic	2,721	282,080
Industrial	34	901,862
Miscellaneous	29	6,685
	2,784	1,190,627
1915:		
Domestic	2,575	263,554
Industrial	35	785,142
Misce	24	6,933
Total	2,634	1,055,629

	Consumers.	Deliveries.
1914:		
Domestic	2,421	266,526
Industrial	33	789,319
Misce	23	6,654
Total	2,477	1,062,499
1913:		
Domestic	2,316	243,462
Industrial	32	830,317
Misce	24	6,658
Total	2,372	1,080,437
1912:		
Domestic	2,190	277,389
Industrial	36	856,983
Misce	23	7,399
Total	2,249	1,141,771
1911:		
Domestic	2,474	276,849
Industrial	34	833,356
Misce	23	17,938
	2,531	1,128,143

13a PENNSYLVANIA EXHIBIT 14.

Offered at p. 179 of Printed Record by Witness Quay.

63 *Largest Individual Holdings of Stock of the Manufacturers Light & Heat Company as of March 31, 1920.*

14 The Manufacturers Light & Heat Co.

Individual Holdings as of March 31, 1920.

	Shares.	Shares.	Shares.
	1,500	500	1,19[illegible]
	8,004	800	50[illegible]
	900	4,579	3,12[illegible]
	608	420	11,14[illegible]
	1,500	590	8,00[illegible]
	3,708	1,225	6,58[illegible]
	8,664	3,300	1,00[illegible]
	1,000	1,237	2,99[illegible]
	600	500	5,05[illegible]
	800	451	1,48[illegible]
	6,500	3,606	3,10[illegible]
	2,056	1,000	1,00[illegible]
	2,777	500	2,32[illegible]
	738	521	4,33[illegible]
	1,113	2,072	2,44[illegible]
	415	800	43[illegible]
	465	2,181	4,71[illegible]
	1,717	500	1,05[illegible]
	1,602	815	50[illegible]
	6,765	660	65[illegible]
	1,200	1,354	2,20[illegible]
Totals	52,632	79,734	142,44[illegible]

Summary.

Total of preceding 63 acs.	142,449 Shs.
Balance of stock outstanding in 4,107 additional acs.	317,551 "
	460,000 Shs.
Total number of Stockholders	4,170

Prepared by me at request of Mr. Quay, and certified as correct.

S. SIEBERT,
Secretary.

June 3, 1920.

PENNSYLVANIA EXHIBIT 15.

Offered at p. 186 of Printed Record by Witness Sullivan.

of the main lines of the Hope Natural Gas Company, the Re-
rve Natural Gas Company of West Virginia, and the Peoples Na-
ral Gas Company of Pennsylvania as of December 31, 1917.

OTE.—This was replaced by Pennsylvania Exhibit 39 B.

PENNSYLVANIA EXHIBIT 16.

Offered at p. 224 of Printed Record by Witness Sullivan.

*tract Between the Hope Natural Gas Company and the North-
estern Ohio Natural Gas Company Dated October* 16, 1915.

Agreement Between Hope Natural Gas Company and The Northwestern Ohio Natural Gas Company.

Dated —— —, ——.

This agreement, made and entered into this 16 day of October, 1915, by and between the Hope Natural Gas Company, st Virginia corporation, party of the first part, hereinafter styled Hope Company, and The Northwestern Ohio Natural Gas Com-, an Ohio corporation, party of the second part, hereinafter d the Northwestern Company:

itnesseth, whereas the Hope Company, by virtue of a certain con- between the Reserve Gas Company, the Union Natural Gas Cor-tion, Hope Natural Gas Company, The Connecting Gas Com-, and T. N. Barnsdall, dated the 11th day of April, 1913, is en- to have delivered to it at Sugar Grove, Ohio, by the Reserve Company, through the pipe lines of said company and of The necting Gas Company, the amounts of gas in said agreement ified upon the terms and conditions therein stated, and

Whereas, the Northwestern Company is the owner of gas dis-uting plants in the City of Toledo, Ohio, its suburbs, and other s, towns and villages, in the State of Ohio, and owns a com-sor station at or near Sugar Grove, Ohio, and a pipe line or lines ning from said compressor station to the City of Toledo, and

Whereas, the Northwestern Company desires to purchase from the e Company, and the Hope Company is willing to sell to the thwestern Company upon the terms hereinafter set forth gas de-ed at Sugar Grove through the lines of the Reserve and The necting Gas Companies, and

Whereas, the Northwestern Company has heretofore been receiving gas at Sugar Grove under an agreement between the Hope Company and the Northwestern Company made

and entered into the first day of January, 1906, which said agreement expires January 1st, 1916:

Now, the parties hereto have agreed and do hereby agree as follows:

First: The Hope Company will on and after the 1st day of November, 1915, sell to the Northwestern Company, and the Northwestern Company will purchase from the Hope Company out of the amount of natural gas which the Hope Company receives at Sugar Grove under the contract with the Reserve Company and others dated April 11th, 1913, hereinbefore referred to, all the natural gas necessary to fully supply domestic consumers connected or hereafter to be connected with the distributing systems of the Northwestern Company heretofore referred to and particularly in the City of Toledo and its suburbs, and the towns of Perrysburg, Maumee, Bowling Green, North Baltimore, and other towns which on the 1st day of January, 1915, were supplied through the system of the Northwestern Company.

The Hope Company will cause the amounts of gas which it is obligated hereunder to supply to be delivered through the lines of the Reserve Gas Company and The Connecting Gas Company into the lines of the Northwestern Company at the connection between the lines of the Northwestern Company and The Connecting Gas Company at Wheeler Station, Sugar Grove, Ohio, at a gauge pressure of not less than 50 lbs. per square inch, as indicated at the outlet side of the measuring apparatus, where the Northwestern Company will take and receive the same. The obligation herein assumed by the Hope Company is, however, subject to the following limitations:

18 (1) The Hope Company will use its best efforts to secure the performance by the Reserve Company and the other parties to the contract dated April 11, 1913, hereinbefore referred to, of their obligations under said contract, and will not consent to any modification of said contract which might affect the interest of the Northwestern Company hereunder without the consent of the Northwestern Company.

(2) The Hope Company shall not be liable to deliver hereunder in any one day of 24 hours an amount of gas, which, taken together with the amount necessary to supply domestic consumers in Chester Hill, and the Villages of Stockport and Amesville, and the requirements of domestic consumers at Gravel Bank will exceed Thirty Million (30,000,000) cubic feet, unless or until the Hope Company shall, pursuant to the provisions of the ninth paragraph of the contract, hereinbefore referred to, have procured the construction by the Reserve and The Connecting Gas Companies of additional pipe lines to Sugar Grove, but the Hope Company shall not be under an obligation to procure the construction of such additional pipe lines.

(3) It is the intention of this contract that the Northwestern Company shall take and the Hope Company shall furnish out of the amount of gas which the Hope Company receives as aforesaid

at Sugar Grove, all the natural gas necessary to fully supply the domestic consumers of the Northwestern Company on the systems above referred to up to the per diem maximum heretofore fixed; but if an increase in the business of the Northwestern Company should require gas for domestic consumers in addition to the amount which the Hope Company is obligated hereunder to supply to it, or if the gas supply of the Reserve Company should fail, or from other causes beyond the control of the Hope Company, and not merely accidental or temporary, the Hope Company should be unable to fulfill the requirements of the Northwestern Company for its domestic consumers under this contract up to the said per diem maximum, and it is necessary for the Northwestern Company to purchase gas from sources other than from the Hope Company to meet such deficiencies, then in any such event, the amount of gas deliverable by the Hope Company hereunder from April 1st to March 31st, inclusive, of each year thereafter shall be reduced to an amount determinable as follows:

The amount of gas purchased per day by the Northwestern Company from sources other than the Hope Company shall be ascertained for the five maximum demand days in January and the five maximum demand days in February, immediately preceding April 1st of each year, on which such purchases were actually made in order to supply the deficiency in the volume furnished by the Hope Company. The proportion which the amount of gas furnished by the Hope Company on said days, less 5% of the amount of gas so furnished, bears to the total amount of gas purchased on said days from all sources including the Hope Company, shall be the proportion deliverable by the Hope Company hereunder of the supply for the domestic consumers of the Northwestern Company during the ensuing year from April 1st to March 31st inclusive. The total amount deliverable by the Hope Company during such year shall be delivered and taken throughout the days and months of the year according to the following table of percentages as nearly as possible, to-wit:

January	12½%	July	4½%
February	12%	August	4½%
March	11%	September	4¾%
April	8½%	October	7½%
May	7½%	November	10½%
June	4¾%	December	12%

with allowable variation for each day's delivery so long as the amount taken in each day is between 80% and 120% of the amount deliverable during such day according to such table, but not exceeding so far as the Hope Company is concerned the per diem maximum hereinbefore established, and an allowable variation for each month so long as the amount taken in such months is between 90% and 110% of the amount deliverable during such month according to such table. Any surplus or deficit in the deliveries for any month above or under the proportion of the domestic supply which the Hope Company is to furnish, as established

according to the manner herein provided shall be adjusted, so far as possible, in the deliveries for the next succeeding month. The allowable wariation in said daily deliveries shall only be made use of in good faith according to the actual variation in the requirements of the domestic consumers of the Northwestern Company, it being understood that the average daily variation during the months of May to October, inclusive, of such year shall not be more than two per cent above or two per cent under the said proportion of the domestic supply deliverable by the Hope Company.

If, however, the Hope Company in any year in the pipe lines as now existing shall have available for delivery to the Northwestern Company at Sugar Grove out of the gas which it receives under its contract with Reserve Gas Company and others, dated April 11th, 1913, an amount of gas in excess of the proportion of the domestic supply deliverable to the Northwestern Company so determined under the preceding provisions of this sub-division (3), the Hope Company shall give written notice thereof to the Northwestern Company on or before the first day of January of such year, with an estimate of the amount of such excess. The Northwestern Company shall have the right to take such excess, provided, that prior to April 1st following such notice, it has given written notice to the Hope Company of its election so to do. In case the Northwestern Company elects to take such excess, the proportion of the domestic supply that the Northwestern Company will take from the Hope Company during the ensuing year commencing April 1st shall be increased accordingly; but in the event that the Northwestern Company does not so elect, the Hope Company during the succeeding fourteen months from April 1st of such year to June 1st of the next year may sell and deliver to others than the Northwestern Company any gas which may be in excess of one hundred and twenty (120%) per cent of the proportion of the domestic supply deliverable by the Hope Company to the Northwestern Company as at that time established under the preceding provisions of this subdivision (3), but this provision is not intended to restrict deliveries during emergencies caused by breakage of lines or other accidental causes.

21

Nothing in this sub-division (3) contained shall be construed as surrendering the right of the Northwestern Company to the additional supply of gas for its domestic consumers provided for in case the Reserve Gas Company and The Connecting Gas Company lay additional pipe lines to Sugar Grove under the provisions of the contract of April 11, 1913, above referred to.

Second. The Northwestern Company will pay the Hope Company for all gas purchased and taken hereunder as follows: For each one thousand (1,000) cubic feet of gas fifty (50%) per centum of the net price per thousand cubic feet charged domestic consumers by the Northwestern Company, but not less than seventeen and one-half (17½) cents per thousand cubic feet; the said net price is the net price per thousand cubic feet after deducting the discount for prompt payment of consumers' monthly bills.

Third. For the purposes of this contract one thousand cubic feet of gas shall be deemed to be one thousand cubic feet of gas, measured under a gauge pressure of ten (10) ounces to the square inch, according to Boyle's "Law for the Measurement of Gas under Varying Pressure", and the amount of gas delivered and the amounts payable therefor shall be computed accordingly.

Fourth. For the purpose of this contract domestic consumers shall be those consumers heretofore classed as "domestic" according to the system of bookkeeping used by the Northwestern Company.

Fifth. The amount of gas sold and delivered hereunder to the Northwestern Company shall be measured at the pitot tube or orifice meter measuring station known as Wheeler Station at Sugar Grove maintained by The Connecting Gas Company pursuant to a contract between the Hope Natural Gas Company, the Reserve Gas Company and others hereinbefore referred to, but the Northwestern Company, by its accredited representative shall at all times have access to the station for the purpose of inspecting and testing and checking the readings.

Sixth. The Northwestern Company shall on or before the 20th day of each month furnish to the Hope Company a statement showing the amount of gas ascertained during the previous month to have been delivered to the domestic consumers on or delivered through the lines of the Northwestern Company, and whenever called upon so to do by the Hope Company shall furnish to the Hope Company a statement showing the cities, towns and villages in which it is supplying gas to domestic consumers, and the number of domestic consumers in each of said cities, towns and villages.

All gas supplied by the Northwestern Company to domestic consumers shall be measured by meters in all cases where measurement by meters is practicable. In all cases where measurement by meter is not practicable the amount of gas delivered shall be ascertained by the most accurate practicable method. All meters shall be read at least once a month. All books and records of the Northwestern Company relating to the amount of gas received and the amount of gas delivered to domestic consumers, and the prices charged therefor, shall at all times be open to the inspection of the representatives of the Hope Company. If the Northwestern Company makes or maintains any connection or connections between its lines and the lines of any other distributor of gas, it shall give prompt written notice of the same to the Hope Company; and whenever the Northwestern Company delivers gas through such a connection or receives gas through such a connection from others than the Hope Company to make up a deficiency in the supply as hereinbefore provided, an accurate measurement and record of all such deliveries and receipts shall be kept by the Northwestern Company, and the daily amounts and places of the same and the names of such vendors and other distributors shall be added to the above statements to be rendered by the Northwestern Company to the Hope Company, and the Hope Company by its accred-

ited representatives shall at all times have access to such meters and records for the purpose of inspecting, testing and checking the readings and examining the records.

Seventh. The amounts payable by the Northwestern Company for natural gas sold and delivered to it during any month shall be paid to the Hope Company on or before the 20th day of the succeeding month.

24 Eighth. In case any amount due and payable by the Northwestern Company to the Hope Company for gas sold and delivered hereunder is not paid in thirty days after the same is due and payable, after demand has been made by the Hope Company therefor, the Hope Company shall have the right, without terminating or canceling this contract, to suspend the delivery of gas hereunder until all amounts due to it are paid, or on its option, on giving sixty days' notice to the Northwestern Company of its intention so to do, may terminate this contract.

Ninth. This contract shall on the 1st day of November, 1913, supersede the contract dated January 1st, 1906, hereinbefore referred to, and shall continue so long as by the terms of the agreement with the Reserve Gas Company and other parties hereinbefore referred to, the Hope Company is entitled to the delivery of natural gas at Sugar Grove through the lines of the Reserve and Connecting Gas Companies.

Tenth. A copy of the contract of April 11th, 1913, between the Hope Natural Gas Company et al. hereinabove referred to, duly certified as correct and authenticated by the Secretary of the Hope Natural Gas Company, is hereto attached for identification and reference.

Eleventh. This agreement shall bind the parties hereto, their respective successors and assigns.

25 In witness whereof, the parties hereto have hereunto caused their corporate names to be signed and their corporate seals to be affixed on the day and year first above written.

HOPE NATURAL GAS COMPANY. [SEAL.]
(Sgd.) By JOHN G. PEW,
Vice-President.

Attest:
CHRISTY PAYNE,
Secretary.

THE NORTHWESTERN OHIO NATURAL GAS COMPANY,
By GEO. W. CRAWFORD,
Vice-President.

Attest:
[SEAL.] H. C. REESER,
Secretary.

STATE OF PENNSYLVANIA,
County of Allegheny, ss:

Before me, a Notary Public in and for said County, personally peared Geo. W. Crawford, President of The Northwestern Ohio tural Gas Company, the corporaton which executed the foregoing trument, who acknowledged that the seal affixed to the said in- ument is the corporate seal of the said corporation; that he did n and seal said instrument as President, in behalf of said cor- ration and by authority of its Board of Directors; and that said trument is the free act and deed of the said The Northwestern io Natural Gas Company.

In testimony whereof, I have hereunto subscribed my name at ttsburgh, Pa., this 16th day of October, A. D. 1915.

WALTER W. RATHBUN, [SEAL.]
Notary Public.

My Commission expires February 21, 1919.

ATE OF PENNSYLVANIA,
County of Allegheny, ss:

I, Walter W. Rathbun, a Notary Public of said County of Alle- eny, do certify that John G. Pew personally appeared before me in said County, and being by me duly sworn, did depose and say at he is the Vice-President of the Hope Natural Gas Company, e of the corporations described in the writing above, bearing date e 16th day of October, 1915, authorized by said corporation to ecute and acknowledge deeds and other writings for said corpora- n, and that the seal affixed to the said writing is the corporate l of said corporation, and that the said writing was signed and led by him on behalf of said corporation, by its authority duly en; and the said John G. Pew acknowledged the said writing to the act and deed of said corporation.

Given under my hand and official seal this 16th day of October, D. 1919.

WALTER W. RATHBUN, [SEAL.]
Notary Public.

My Commission expires February 21, 1919.

Reserve Gas Company, party of the first part.
Union Natural Gas Corporation, party of the second part.
Hope Natural Gas Company, party of the third part.
The Connecting Gas Company, party of the fourth part.
T. N. Barnsdall, party of the fifth part.

This agreement, Made and entered into this 11th day of April, A. D. 1913, by and between Reserve Gas Company, West Virginia corporation, hereinafter called "Reserve, party of e first part; Union Natural Gas Corporation, a Delaware corpora- n, hereinafter called "Union", party of the second part; Hope tural Gas Company, a West Virginia corporation, hereinafter

called "Hope", party of the third part; The Connecting Gas Company, an Ohio corporation, hereinafter called "Connecting", party of the fourth part; and T. N. Barnsdall, of Pittsburgh, Pennsylvania, party of the fifth part:

Whereas, said T. N. Barnsdall, Hope and Reserve entered into two written agreements, each bearing date the 20th day of June, 1902, for the production, transportation and sale of natural gas, and the rights and interests of said T. N. Barnsdall in the said two agreements were subsequently sold and assigned by him to Union; and

Whereas, the above named agreements have been modified from time to time by supplementary contracts between the parties hereto; and

Whereas, it is deemed advisable that a new agreement be made and entered into between the parties hereto, and that the contracts above referred to, and certain existing contracts hereinafter enumerated be cancelled and annulled; and

Whereas, Reserve owns the gas rights or leasehold gas rights in about 55,600 acres of land in Harrison and Lewis Counties, West Virginia, together with 352 producing gas wells thereon, field lines and a compressing station; also two gas transportation trunk lines, each 12 inches in diameter, extending from the field in a northwesterly direction to Schultz, Pleasants County, West Virginia; also two trunk lines 16 inches in diameter, extending in a northwesterly direction from Schultz, West Virginia, to the south-east bank of the Ohio River; also three 10 inch pipe lines crossing the river to its northwest bank, which river crossings are about to be increased by the construction of three additional 10 inch pipe lines, all ending at a point known as Gravel Bank on the Ohio state line, and

Whereas, Connecting owns two gas transportation trunk lines each 16 inches in diameter, connected to the said river crossing lines of Reserve Gas Company at Gravel Bank on the northwest shore of the Ohio River, and extending in a northwesterly direction, passing near Chesterhill, Ohio, and Jacksonville, Ohio, to Sugar Grove, and

Whereas, Hope and Union have heretofore been buying from Reserve natural gas which has been transported by Reserve through its pipe lines in the State of West Virginia to the junction with the lines of Connecting at Gravel Bank on the Ohio State line, and by Connecting through its lines in Ohio for delivery to Union or parties designated by it at Jacksonville and Sugar Grove, and to Hope or parties designated by it at or near Gravel Bank, Chesterhill and Sugar Grove:

Now, therefore, this agreement witnesseth: That the parties hereto, for and in consideration of the sum of One Dollar to each of the others in hand paid by each of the parties hereto, at and before the sealing and delivery hereof, the receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter contained by each of the parties hereto to be well and truly kept and performed, have covenanted and agreed, and by these presents do covenant and agree:

1. Each of the following contracts is hereby terminated and can-lled to take effect on April 11th, 1913, on which day it is under-ood and agreed that the cancellation thereof shall be duly noted on the original contract in each case, namely:

Agreement dated the 20th day of June, 1902, wherein T. N. arnsdall is party of the first part, Hope Natural Gas Company party the second part, and Reserve Gas Company party of the third rt.

Agreement dated the 20th day of June, 1902, in which Reserve as Company is party of the first part, T. N. Barnsdall, party of the cond part, and Hope Natural Gas Company party of the third rt.

Agreement dated the 31st day of March, 1904, wherein Reserve as Company is party of the first part, Union Natural Gas Corpora-on party of the second part, and Hope Natural Gas Company party the third part.

Two agreements each bearing date the 2nd day of February, 1905, which Reserve Gas Company is party of the first part, Union atural Gas Corporation party of the second part, and Hope Natural as Company party of the third part.

Agreement dated January 30th, 1907, in which Reserve Gas Com-any is party of the first part, Union Natural Gas Corporation party the second part, Hope Natural Gas Company Party of the third rt, and The Connecting Gas Company party of the fourth part.

Agreement dated September 3, 1907, in which Reserve Gas Com-any is party of the first part, Union Natural Gas Corporation, party the second part, and Hope Natural Gas Company, partly of the ird part.

Agreement dated the 24th day of October, 1908, in which Union atural Gas Corporation is party of the first part, and Reserve Gas Company party of the second part.

Agreement dated November 29, 1912, in which Reserve Gas Company is party of the first part, Union Natural Gas orporation party of the second part, Hope Natural Gas Company arty of the third part, and The Connecting Gas Company party the fourth part.

It is mutually understood and agreed that the only contracts, greements or understandings between the parties hereto, or any of hem, to which Hope, Reserve and Connecting is a party, which are ot cancelled and superseded hereby are those enumerated in chedule "A" hereto annexed.

2. Whenever in accordance with the provisions of this contract stated amount of gas is to be taken in any one year, or gas is to e taken at a specified rate per annum, a proportion of such yearly mount shall be taken in each month of such year according to the llowing table of percentages, in which the said proportion to be aken in each month is specified, viz:

May	7½%
June	4¾
July	4½
August	4½
September	4¾
October	7½
November	10½
December	12
January	12½
February	12
March	11
April	8½

3. Between the date hereof and the first day of November, 1913, Union shall purchase and take from Reserve natural gas at the rate of 9,260,000,000 cubic feet for the year; during said period
33 Hope shall purchase and take from Reserve all the natural gas necessary to enable Hope to supply the requirements of The Northwestern Ohio Natural Gas Company under the existing contract between Hope and said company, or any other contract that may hereafter be made by Hope to supply said Company. Hope shall also have the option of purchasing and taking from Reserve between the date hereof and November 1st, 1913, an amount of natural gas not exceeding an amount which added to the amount taken by it to supply the requirements of The Northwestern Ohio Natural Gas Company and the requirements of its customers at Chesterhill and Gravel Bank shall equal the amount taken by Union from Reserve during the same period, but the total amount which Hope shall be entitled to take on any one day at Sugar Grove, Chesterhill and Gravel Bank shall not aggregate more than thirty million cubic feet.

4. During the year commencing November 1st, 1913, and expiring October 31st, 1914, and during each and every subsequent year of the continuance of this contract, Hope and Union respectively shall purchase and take from Reserve, and Reserve shall sell and deliver natural gas in the following amounts:

Union shall purchase and take and Reserve shall sell and deliver to it ten billion cubic feet and such additional amount as shall be specified in the notice hereinafter provided for.

34 During each year until the year commencing November 1st, 1917, Hope shall purchase and take and Reserve shall sell and deliver to it ten billion cubic feet and such additional amount as shall be specified in the notice hereinafter provided for, and during the year commencing November 1st, 1917, and each subsequent year fifteen billion cubic feet and such additional amount as shall be specified in the notice hereinafter provided for.

But the obligations of Reserve hereunder to sell and deliver gas are limited to the amount which it has available for delivery as defined in the 8th paragraph of this agreement, and shall not in the case of Union exceed twelve billion cubic feet in any one year, and

ll not in the case of Hope exceed eighteen billion cubic feet in
r one year.

5. On or before the 1st day of May, 1913, and on or before the
day of May in each subsequent year, Union and Hope shall each
e written notice to Reserve specifying the amount of gas which
vill require hereunder in the year commencing November 1st
owing such yearly notice.

6. The amount to be taken during any year shall be taken during
different months thereof according to the tables of percentages
einbefore set forth, and the amount to be taken each month shall
taken throughout the month in approximately equal daily
ounts, provided, however, that Union and Hope shall each have
the right to reduce or increase the amount to be taken by it
during any month so long as the amount taken is between
90% and 110% of the amount deliverable during such
nth, determined as above, and shall have the right to increase or
nce the amount of gas to be taken on any day of the month so
g as the amount taken in each day is between 80% and 120%
the amount deliverable during such day determined as above.
s understood, however, that each of said companies must purchase
take during the six summer months beginning May 1st in each
r at least one half as much gas as it took during the preceding
winter months, even though in the case of Union the amount
ch it is thereby required to take during the year is made to exceed
lve billion cubic feet, and in the case of Hope the amount which
s thereby required to take during the year is made to exceed
nteen billion cubic feet.

7. The gas to be taken by Union shall be delivered at Sugar Grove
Jacksonville through the lines of Connecting to Union or to any
pany or companies designated by Union; the gas to be taken by
e shall in part be delivered to it through the lines of Connecting
he following places: (*a*) at Sugar Grove for the purpose of ful-
ng the requirements of The Northwestern Ohio Natural Gas Com-
y under the contract now existing, or any contract that may here-
after be made by Hope to supply said company, or any other
company at that point; (*b*) At Chesterhill for the require-
ments of The River Gas Company in supplying Chesterhill
the village of Stockport; and (*c*) at Gravel Bank for the require-
nts of local consumers; but the amount of gas to be delivered to
e through the lines of Connecting at the three delivery points
ve named, shall not exceed the maximum of thirty million cubic
in any one day of 24 hours. The balance of the amount of gas
e taken by Hope shall be delivered to it (*d*) at a central point
oints in Reserve's gas field; (*e*) at the delivery end of the new
or lines to be constructed by Reserve and Connecting, or by Re-
e alone, upon the demand of Hope as hereinafter provided.

8. Reserve will use reasonable diligence in developing and drilling
n its gas leases and properties for the purpose of obtaining the
necessary to fulfill its obligations hereunder, and for the above

purpose will build, maintain and provide in good order, condition and manner the necessary compressor stations and gathering lines connecting its wells with the same, and also will use reasonable diligence in obtaining and developing new gas leases and new contracts for gas when the same become necessary and available in order to enable it to deliver gas under the terms of this contract, but nothing herein contained shall obligate Reserve to extend
37 develop or drill gas leases or to construct compressor stations or pipe lines, or to keep in force existing leases except so far as it is reasonably profitable for it so to do. Whenever Reserve, although it is duly performing its obligations in this paragraph contained, has not available for delivery the full amount of gas to which Union and Hope are entitled under the provisions hereof, Union and Hope shall be entitled to require Reserve to deliver only the amount which it has available for delivery, and Hope shall be entitled to require that 3/5 of the total amount which Reserve has remaining available for delivery from all sources shall be delivered to it, and Union shall have the right to require the delivery to it of 2/5 of said amount. This contract shall continue until Reserve no longer has available for delivery gas in marketable quantities sufficient to enable it to continue in business without loss.

9. Reserve will construct one additional sixteen inch pipe line from its field to Schultz, provided, that Union serves written demand upon it a sufficient time prior to November 1st, 1915, to enable it, by the exercise of reasonable diligence, to complete the construction of said line on or before that date.
38 Hope shall have the right at any time to require Reserve or Reserve and Connecting, to construct an additional line or additional lines extending from the field of Reserve to such point or points, and having such capacity, as Hope may designate, provided that the capacity of said line or lines shall not exceed the amount by which the daily capacity of the lines from the field of Reserve to Sugar Grove then existing, exceeds fifty million cubic feet, and provided, that the cost thereof shall not exceed the cost of then constructing a line from the field of Reserve to Sugar Grove having a capacity equal to the amount by which the daily capacity of the lines from the field of Reserve to Sugar Grove then existing exceeds fifty million cubic feet per day. If any such additional line is constructed to Gravel Bank, Chesterhill or Sugar Grove, the provisions of the 7th paragraph and the 3rd paragraph hereof, limiting the amount of the daily deliveries to Hope at those points to thirty million cubic feet, shall have no application to any amount delivered to it through such additional pipe line.

In case Hope shall serve written notice upon Reserve or upon Reserve and Connecting, requiring it or them to construct any such pipe line, Reserve in the one case, and Reserve and Connecting in the other, will with all due diligence comply with the said de-
39 mand, it being understood that any line built in West Virginia shall be built by the Reserve and any line built in Ohio shall be built by the Connecting.

10. In case either Reserve or Connecting in order to carry out its obligations hereunder, requires to obtain money by borrowing the same, or by increasing its capital stock or otherwise, Union will subscribe for and take one half of the stock, bonds or evidences of indebtedness issued for the purpose of obtaining such money, and Hope will subscribe for and take the other half of such stock, bonds or evidences of indebtedness.

11. The price per thousand cubic feet for gas sold by Reserve to Hope and Union shall be as follows:

Delivered in the year	In the field.	At Sugar Grove, Jacksonville, Chesterfield, Gravel Bank, or delivery end of line that may be constructed on demand of Hope, as hereinbefore provided.
1913	.....	.....
1914	.....	.....
1915	.....	.....
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....
1922	.....	.....
1923	.....	.....
1924	.....	.....

and for the period beyond the year 1924 to remain at the price last above named.

It is understood and agreed that all of the prices above enumerated are based upon a delivery of the gas by Reserve after the gas has been compressed by it in its compressor stations.

12. Connecting agrees to receive, transport and deliver all the gas which in accordance with the provisions hereof is to be delivered through the lines of Connecting; such gas shall be transported for the same charge, viz: — cents per thousand cubic feet, and, excepting as hereinafter provided, upon the same terms and conditions as are specified in the written contract dated March 31st, 1904, between Reserve and Connecting, under and by virtue of which gas is at present being transported through the lines of Connecting; the said charge of — cents per thousand cubic feet shall be paid by Reserve monthly on or before the 25th day of the month following that in which the gas was transported.

13. Connecting agrees to maintain at its own cost and expense and operate its Pitot tube measuring station at Sugar Grove, and to erect and maintain at its own cost and expense recording Pitot tube or orifice meter measuring devices for the accurate measurement of all gas to be delivered out of its lines at Jacksonville, Chesterhill

and Gravel Bank; and Connecting further agrees to keep its
41 lines, connections and the measuring stations at all times in a condition of good repair to prevent any loss of gas in its transmission and measurement and to accurately account for the gas carried and delivered by it.

14. Reserve will at its own expense erect and maintain in good order and repair and operate all such Pitot tube measuring stations or recording orifice meters as may be necessary to accurately measure all gas delivered to Hope in the field; and at the terminal of the line or lines to be constructed upon the demand of Hope, a similar station or meter, or stations or meters, will be erected, maintained and operated by Reserve, if Reserve constructs and owns the entire line, or by Connecting if the terminal of said line is constructed, owned and operated by Connecting.

15. The gas to be sold and delivered under this agreement and measured as aforesaid, shall be computed upon a basis of a pressure of 10 ounces to the square inch above 14.4 pounds atmospheric pressure according to Boyle's Law for the measurement of gas at varying pressures, without correction for temperature or barometric conditions.

16. If either party to this contract fails to perform any obligations herein assumed by it, and such failure is due to Acts of God, or to a public enemy, strikes, riots, injunctions or other inter-
42 ferences through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, sudden partial or entire failure of gas wells, or any cause beyond its control, or is caused by the necessity of making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder; but such party shall use due diligence to again put itself in position to carry out all of the obligations which by the terms hereof it has assumed.

17. Connecting shall furnish to Reserve on or before the 8th day of each month, and Reserve shall furnish to Hope and Union on or before the 10th day of each month, a statement showing the amount of gas delivered to it during the preceding month, and Hope shall pay for the gas delivered to it, and Union shall pay for the gas delivered to Union, on or before the 25th day of the month in which such statement is furnished. If either party shall be in default in any payment for the period of 15 days, Reserve shall have the right without cancelling this contract or waiving any of its rights hereunder, or prejudicing the rights of any other party, to suspend the delivery of gas hereunder to the party in default, and to re-
43 quire Connecting to shut off such supply of gas from such party in default until all amounts due to Reserve are paid with interest at 6 per cent from the time such amounts are due.

18. Union and Hope shall each have the right at any reasonable time or times by duly designated agents to examine the books of

accounts of Reserve and of Connecting, and all records relating to the delivery of gas by either of said companies, and the measurement of gas so delivered, and to inspect and test any and all pipes, stations, appliances and measuring devices used by Reserve and Connecting.

In witness whereof the corporations parties hereto have hereunto caused their corporate seals to be affixed and the same to be attested by their respective Presidents or Vice Presidents and Secretaries, and the said T. N. Barnsdall has hereunto set his hand and seal the day and year first above written.

RESERVE GAS COMPANY, [SEAL.]
By E. P. WHITCOMB,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

HOPE NATURAL GAS COMPANY, [SEAL.]
By JOHN C. PEW,
Vice President.

Attest:
CHRISTY PAYNE.

44 UNION NATURAL GAS CORPORATION,
By E. P. WHITCOMB,
Vice President.

Attest:
[SEAL.] W. R. HADLEY,
Secretary.

THE CONNECTING GAS COMPANY, [SEAL.]
By JOHN G. PEW,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

T. N. BARNSDALL. [SEAL.]

Witness:
—— ——.

E. P. W.
J. G. P.

45 It is hereby certified that the within copy of the contract of April 11, 1913, between the Hope Natural Gas Company, Reserve Gas Company, Union Natural Gas Corporation, The Connecting Gas Company, and T. N. Barnsdall, is a correct copy excepting only that the within copy omits the prices which are enumerated in the eleventh and twelfth paragraphs of the original contract, and omits the schedule recited in the first paragraph of the original

contract and annexed to such original contract under the
"Schedule A, Instruments not Cancelled."
Certified this 16 day of October, 1915.
(Sgd.) CHRISTY PAYNE,
Secretary Hope Natural Gas Compan

46 [Endorsed:] Copy. #2762. Miscellaneous Files. Ag
ment Hope Natural Gas Company and The Northwes
Ohio Natural Gas Company. Dated: —— —, ——.

46*a* PENNSYLVANIA EXHIBIT 17.

Offered at p. 225 of Printed Record by Witness Sullivan.

Contract Between the Hope Natural Gas Company and the Peo
Natural Gas Company Dated May 1, 1911.

47 & 48 Copy.

Gas Purchase Agreement, Hope Natural Gas Company to Sell
The Peoples Natural Gas Company.

Dated May 1st, 1911.

49 This agreement, made and entered into in duplicate
1st day of May A. D. 1911 by and between the Hope Natu
Gas Company, a West Virginia corporation, hereinafter called
"Hope Company," party of the first part, and The Peoples Natu
Gas Company, a Pennsylvania corporation, hereinafter called
"Peoples Company," party of the second part;
Witnesseth: That whereas, the Peoples Company is selling
distributing natural gas in the City of Pittsburgh, Pennsylvania,
in other cities, towns and villages in Western Pennsylvania, an
entitled to maintain and extend its pipe lines and deliveries of
tural gas throughout the Counties of Greene, Washington, Bea
Allegheny, Fayette, Westmoreland, Jefferson, Indiana, Armstro
Clarion, Cambria, Somerset, Blair and Huntington, in said St
and
Whereas, the Peoples Company owns and maintains pipe line
the State line between the States of Pennsylvania and West
ginia with a gas pumping station at Brave, Greene County, Pe
sylvania, and a gas pumping station at Imperial, Allegheny Cou
Pennsylvania, and
50 Whereas, the gas properties and wells owned by the
ples Company in the State of Pennsylvania have not b
capable for a number of years of supplying a sufficient volume
gas to satisfy the requirements of its markets, so that the Peo
Company has been purchasing from the Hope Company at the S
line between the States of Pennsylvania and West Virginia a c
siderable quantity of gas, at prices and upon terms agreed u
verbally, and

Whereas, the Hope Company owns or holds under lease extensive tracts of gas producing territory in the State of West Virginia and is engaged in the business of producing natural gas and purchasing natural gas from other producers and in selling and delivering the same to consumers in that State and to other distributing
51 companies, and

Whereas, the parties hereto desire to continue their traffic in natural gas at the same points of delivery heretofore established and herein described, but upon terms and prices as herein stipulated:

Now therefore, in consideration of the premises, and of the mutual covenants hereinafter contained, the parties hereto have agreed and do hereby agree as follows:

First. It is mutually understood and agreed that all the rights of the parties hereto in respect to natural gas sold and delivered by the Hope Company to the Peoples Company on and after the 1st day of May, 1911, shall be ascertained and determined by and in accordance with the provisions of this agreement.

Second. The Hope Company undertakes and agrees during the continuance of this contract to sell and deliver to the Peoples Company, and the Peoples Company undertakes and agrees to purchase and take from the Hope Company:

(*a*) All the natural gas requisite for the supply of the con-
52 sumers of the Peoples Company paying domestic rates and for the supply of the consumers paying domestic rates of distributing companies supplied with natural gas by the Peoples Company;

(*b*) Such amounts of natural gas as may be requisite to fulfill contracts made with the consent and approval of the Hope Company by the Peoples Company or companies which it supplies with natural gas, for the sale of gas at special rates for manufacturing and special purposes, after the Peoples Company has first sold and delivered from gas wells owned or controlled by it, the amounts of natural gas which it is entitled to market therefrom as set forth in the fourth paragraph hereof.

Provided, however, that the Hope Company shall not be obligated to sell and deliver, or the Peoples Company to purchase and take gas in excess of the amounts currently required for the purposes aforesaid, and that the Hope Company cannot be required to deliver gas in excess of the amount which it has available for delivery as defined in the twenty-first paragraph hereof.

53 Third. The requirements of consumers upon the lines of the Peoples Company and the companies which it supplies with natural gas, paying domestic rates, shall be fully supplied from the gas delivered hereunder in preference to manufacturers or other special consumers purchasing gas for manufacturing or other special purposes, and the Hope Company shall be required to supply gas to be used for manufacturing purposes only where the same is to be sold under special contracts which have first been submitted to and

approved in writing by the Hope Company and which expressl
provide that natural gas will be supplied thereunder only in so fa
as the same is not necessary to meet the requirements of said co
sumers paying domestic rates.

Fourth. The amount to be delivered and purchased hereunde
from January 1st, 1911, to December 31st, 1911, inclusive, is herel
fixed at 18½ billion cubic feet, of which total amount 5½ billio
cubic feet is deliverable as the amount of gas for consumers payin
domestic rates. Not less than thirty days prior to January 1st i
each year during the continuance of this contract, the Managers
the parties hereto shall, if possible, agree upon the amou
54 that will be required by the Peoples Company for consume
paying domestic rates during the year commencing on th
January 1st succeeding the time of such agreement, and shall if po
sible, also agree upon the amount which the Peoples Company sha
require from the Hope Company in the same year (over and abo
the gas from wells owned or controlled by the Peoples Company)
comply with the special contracts which the Hope Company has ap
proved for the sale of gas for manufacturing and other specia
purposes; said Managers shall, if possible, also agree upon the propo
tion of such total amounts deliverable during each month of suc
year (*a*) for said domestic purposes, and (*b*) for said manufacturin
and special purposes. If such agreement is reached, the amount
agreed upon and the proportions for each month agreed upon shal
be the amounts of natural gas deliverable hereunder during the ye
as to which such agreement is made, unless the parties hereto shal
mutually agree upon larger amounts, in which case such large
amounts shall be the amounts deliverable hereunder during suc
year; in case the Managers of the parties hereto are unable t
55 agree upon the amounts deliverable by the Hope Compan
to supply the Peoples Company during any year or the month
of any year, and no agreement is made between the parties hereto a
to the amounts to be delivered during such year, the amounts deliv
able hereunder during such year shall be determined as follows, vi

(*x*) The amount deliverable during each year for the term fro
January 1st, 1912, to December 31st, 1916, for its consumers payin
domestic rates, shall be the amount which was supplied by the Peopl
Company to consumers paying domestic rates upon its lines and th
lines of companies supplied by it with natural gas during the prev
ous year, plus six per cent. of such amount; and the amount d
liverable each year after December 31st, 1916, for said consume
paying domestic rates, shall be the amount supplied for like purpos
during the previous year, with the same percentage of increase
decrease as was shown in such previous year by the regular growt
or contraction of the volume of gas supplied to consumers payin
domestic rates (but this provision is at no time to be so construe
as to relieve the Hope Company from its obligation to supp
56 all of the natural gas required for all such consumers payin
domestic rates, consistent with its available supply as define
in this contract); and the proportion of the total amount deliverab

during each month of each year during the whole term of this contract shall be as follows:

Month.	Per cent.	Month.	Per cent.
January	12	May	8
February	12	June	5
March	11	July	5
April	9	August	5
November	10	September	5
December	11	October	7

(g) The amount deliverable to supply manufacturing and other special purposes during such year by the Hope Company, and the amount which the Peoples Company shall be entitled to take from wells owned or controlled by the Peoples Company (in the event of failure of Managers to agree as aforesaid) shall be calculated upon the following basis, viz:

In the months of January and February, the Peoples Company shall have the right to market for manufacturing and other special purposes all of the gas which it desires or is able to produce from wells owned or controlled by it, and the amount deliverable by the Hope Company in said two months shall be the gas required by the Peoples Company over and above such production; the amount actually delivered by the Hope Company to the Peoples Company in the said months of January and February shall be 20 per cent. of the whole amount deliverable by the Hope Company in the twelve months of such calendar year; and the proportion of the total amount deliverable by the Hope Company for said manufacturing and other special purposes during each month of such year shall be as follows, viz:

Month.	Per cent.	Month.	Per cent.
January	10	May	8
February	10	June	8
March	9	July	7
April	8	August	7
November	8	September	8
December	9	October	8

In the month of March and in all subsequent months of such calendar year, the Peoples Company shall have the right to market from wells owned or controlled by it such gas as it requires for its markets over and above the amounts deliverable by the Hope Company as hereinbefore determined.

Fifth. The amounts deliverable each month shall be delivered and taken throughout the month so that approximately equal amounts shall be delivered and taken each day, provided, however, that the Peoples Company shall have the right to reduce or increase the amount to be delivered during any month so long as the amount delivered and taken is between 95 per cent. and 105 per cent. of the amount deliverable during such month, de-

livered as hereinbefore provided, and shall have the right to increase or reduce the amount of gas to be delivered on any day of any month so long as the amount delivered and taken in said day is between 90 per cent. and 110 per cent. of the average per day deliverable during the month, determined as hereinbefore provided; it being understood that the Peoples Company shall take during each year the full amount deliverable during such year, determined as hereinbefore provided, and shall take each month at least 95 per cent. of the amount deliverable during such month.

In order to protect the Peoples Company from loss by reason of the right reserved in the usual contracts made with manufacturing and other special consumers permitting such consumers to shut down their works at any time, it is agreed that during any period when through strikes, panics or business depression, there occurs such a shut-down among consumers named in the contracts approved by the Hope Company, as to amount to a decrease of 10 per cent. or more in the amount of gas sold and delivered by the Peoples Company to such consumers, there shall be a like reduction in
60 the amount of gas which the Peoples Company is required to take for such year and each month of such year from the Hope Company for manufacturing and other special purposes.

Sixth. The Peoples Company undertakes and agrees that it will pay to the Hope Company monthly for the natural gas deliverable hereunder for consumers paying domestic rates, the following rates and prices for each one thousand cubic feet, viz:

From May 1st, 1911, to December 31st, 1916, inclusive, 15 cents.

From and after January 1st, 1917, a price each month equal to 55 per cent. of the average price realized each month by the Peoples Company for natural gas sold to domestic consumers, provided, however, that the price paid to the Hope Company from and after May 1st, 1916, for each successive period for five years, shall not be less than 110 per cent. of the highest price received by the Hope Company in the last preceding period of five years.

The Peoples Company undertakes and agrees that it will pay
61 to the Hope Company monthly upon the basis of the measurements recorded by the said measuring devices for all gas sold and delivered for manufacturing or special consumers (who are buying gas from the Peoples Company under special contracts made with the approval of the Hope Company as herein set forth) a price for each one thousand cubic feet of gas equal to 65 per cent. of the average price per thousand cubic feet charged from month to month by the Peoples Company for gas sold to consumers other than consumers paying domestic rates. The amount of gas so sold to consumers other than to consumers paying domestic rates shall be ascertained each month by deducting the amounts deliverable hereunder for consumers paying domestic rates from the total registration of the said measuring devices.

Beginning with and during the time hereafter that the Peoples Company is unable to secure from its own gas properties and from the Hope Company a supply of natural gas sufficient for the requirements of the Peoples Company for all of the consumers paying

stic rates on distributing systems owned or supplied with
al gas by it, and the Peoples Company is compelled to and
does supplement the supply with manufactured gas, the price
thereafter to be paid to the Hope Company during the con-
tinuance of this contract shall be 25 cents per thousand cubic
or all natural gas delivered by the Hope Company to the Peoples
pany as shown by the total registration of the measuring devices.
vided, always, that in case any tax or assessment is hereafter
sed upon the natural gas for use in or export from the State
est Virginia, or on the sale or exportation from the State of
Virginia, of natural gas, or in any other manner so as to con-
e in effect a charge upon the gas delivered hereunder, the
nt of such tax or assessment or charge shall be borne by the
les Company in so far as it relates to or is apportionable to
natural gas deliverable hereunder; and in the event that the
Company is required to pay the same the amount thereof shall
id by the Peoples Company to the Hope Company in addition
e prices above stated.

veath. The natural gas to be sold and delivered hereunder
be delivered by the Hope Company to the Peoples Company
at the boundary line between the states of West Virginia
and Pennsylvania, at the points where the lines of the Hope
Company now connect with the lines of the Peoples Com-
, or at such other points as may be mutually agreed upon. The
ts of delivery at the date hereof are as follows: at the State
about one half mile north of Bula, West Virginia, where a
nch line and a 16 inch line of the Hope Company deliver into
inch line and a 16 inch line of the Peoples Company and the
is measured by Pitot tubes at Bula; at the State Line about
miles north of Glover, West Virginia, where a 16 inch line of
Hope Company delivers into a 16 inch line of the Peoples Com-
y and gas is measured by Pitot tubes at Glover; Eldersville
ion, where a 6 inch line of the Hope Company delivers into a 6
line of the Peoples Company and the gas is measured by
er; Eddy Station, where a 3 inch line of the Hope Company
vers into a 16 inch line of the Peoples Company and the gas
measured by meter; and Fordyce Station, where a 6 inch line
he Hope Company delivers into a 16 inch line of the Peoples
mpany and the gas is measured by meter. The Managers of the
ties hereto shall from time to time agree upon the proportion
such gas to be delivered at each of said stations; in case of the
failure of the Managers so to agree, the Hope Company shall
deliver the gas at each station in the proportions designated
by the Peoples Company in so far as it can make such de-
eries from its current sources of supply without additional invest-
nt in pipe lines or transportation facilities.

Eighth. The gas deliverable hereunder shall be measured at the
ation of the present Pitot tube and meter measuring stations or
such other locations as may hereafter be agreed upon as near
e points of delivery of the gas as such locations may be secured.

The Pitot tube stations at Glover and at Bula, near the State line between the States of Pennsylvania and West Virginia, are hereby adopted as permanent delivery stations where the gas deliverable hereunder shall be measured by Pitot tubes of standard registering type, or by any other measuring devices which may be substituted by subsequent agreement of the parties. The expense of erecting, maintaining and operating all stations from time to time shall be borne equally by the parties hereto and the stations shall be under their joint control, with the right to each company to keep an employe or employes there for the purpose of checking the gas measurements. The measuring tubes in the Pitot tube stations shall
65 be read at 15 minute intervals throughout each day of 24 hours, and duplicate statements of the daily readings shall be mailed daily to each party; when meters are used the Hope Company shall read the meters daily or as often as the meters require but each party shall have constant access to the meters. The amount of gas delivered and so measured shall be computed upon said readings on a basis of 10 ounces to the square inch above 14.4 pounds atmospheric pressure, according to Boyle's law for the measurement of gas at varying pressures, without correction for temperature or barometric conditions, and such computations shall be and are hereby adopted as the basis of measurements and payments for the gas delivered hereunder.

Ninth. If either party challenges the accuracy of any meter in use under this contract and desires to have the meter tested or repaired, the Peoples Company shall test and repair the same in the presence and to the satisfaction of the Hope Company or a representative, if the Hope Company wishes to exercise the right
66 to be present or to be represented at such test; the cost of testing and repairing the meter shall be borne by the party challenging the accuracy of the same, if the meter on test proves to be correct, or within 3 per cent. correct; but if the meter on test proves more than 3 per cent. fast or slow, then the cost of testing and repairing the meter shall be borne equally; for repair work the meter shall be shipped to Pittsburgh, Pennsylvania, or to any properly equipped shop of the Peoples Company, and there tested, adjusted or repaired. During such time as the meter or meters are out of repair and while being tested, the gas taken shall be estimated until the repaired meter is installed, and adjustment and settlement shall be made at the regular monthly periods on the basis of the amount of gas registered at like pressures for like periods of time when the meter was registering accurately. The statements of meter measurements and estimated adjustments, which under this contract are to be rendered by the Hope Company to the Peoples Company at the end of each month, shall be conclusive on the parties hereto, unless exceptions thereto in writing shall be
67 made by the Peoples Company and mailed to the Hope Company within four days after the Peoples Company shall receive the statements.

Tenth. The Peoples Company undertakes and agrees that on or

he 15th day of each month, it will furnish to the Hope
y a statement of the amount of gas registered by the meters
umers paying domestic rates during the preceding month,
tatement shall show as nearly as practicable the amount of
ivered by the Peoples Company, and other companies to
t may supply gas, to consumers paying domestic rates; the
tement shall also include the amount of gas delivered by the
Company, and by companies supplied by it with gas, during
ceding month, to consumers for manufacturing and other
purposes, and the rates and prices at which all gas is sold.
oples Company shall also add such other data as the Hope
ny may reasonably require, or as may be necessary to enable
pe Company to determine the amount of money which it is
to receive for gas supplied by the Hope Company to the
Peoples Company. The Hope Company undertakes and
agrees that on or before the 25th day of the month it will
furnish to the Peoples Company a detailed statement of the
t of gas delivered by it during the preceding month as meas-
y the Pitot tube and meter stations at the State line where
leliverable hereunder.

enth. The Peoples Company undertakes and agrees that it
y in semi-monthly installments the amount due to the Hope
ny for all gas delivered by the Hope Company to the Peoples
ny during the preceding month; the first installment shall be
cent of the total amount due for the month and shall be ap-
nated by the Hope Company upon the basis of the measure-
at the points of delivery at the State line; the second install-
or balance shall be paid in full on the 30th day of the month.

lfth: It is understood and agreed that the Hope Company is
ted to deliver gas hereunder at the points and in the amounts
ated for herein, and that the Hope Company will use all rea-
sonable diligence in developing and extending its gas leases
and properties in the State of West Virginia and in obtain-
ing gas therefrom for the purpose of fulfilling its obligations
nder, and that it will use all reasonable diligence to drill wells
o construct the necessary pipe lines and to maintain its pipe
and wells in good order and condition to supply the gas which
herein undertaken to deliver, but that it is not obligated to
ress and pump the gas unless it so desires or unless it becomes
sary so to do to maintain the deliveries at a pressure at the de-
points hereunder of not less than 10 pounds to the square
the Peoples Company is required to provide such pipe line ca-
y and such gas compressing and pumping stations as may be
sary to take from the Hope Company at said pressure of 10
ds to the square inch and to transport to its markets the current
nts of gas purchased and to be taken hereunder.

irteenth. The Peoples Company undertakes and agrees that it
not deliver gas to consumers and the companies which it sup-
will not deliver gas to consumers at a pressure exceeding 8
es above atmospheric pressure.

Fourteenth. It is mutually understood and agreed that where either party to this contract fails to perform any obligation
70 herein assumed by it, and such failure is due to Acts of God, or a public enemy, strikes, riots, injunctions or other interferences through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earth-quakes, storms, freezing of lines or wells, sudden or unforseen failure of gas wells, or to any cause not due to the fault or neglect of such party, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligation hereunder, but such party shall use due diligence to again put itself in position to carry out all of the obligations, which by the terms hereof, it has assumed.

Fifteenth. The Peoples Company further undertakes and agrees that the Hope Company shall at all times through its properly authorized representatives have the right to examine the books of account of the Peoples Company and of each of the companies to which the Peoples Company supplies gas, so far as said books of account in any way relate to the purchase or distribution of gas.

71 Sixteenth. It is mutually understood and agreed that for the purposes of this contract the terms "Manufacturing Gas" and "Gas sold for manufacturing purposes" and "Gas sold for manufacturing and other special purposes" shall be deemed to include all gas sold to consumers other than to consumers paying domestic rates.

Seventeenth. Any gas that may be used by the Peoples Company for the operation of compressing stations or other plants owned by it, or for lighting or heating its own compressing or pump station buildings, shall be deemed to be gas sold for manufacturing purposes, at the prevailing manufacturing rates, excepting that the rate shall at no time exceed 15 cents per thousand cubic feet.

72 Eighteenth. No dominion or control over the natural gas delivered under this contract shall remain in the Hope Company after the gas passes the points of delivery above stated, nor shall the Hope Company be responsible for or on account of anything that may thereafter be done, happen or arise touching said gas; the Peoples Company undertakes and agrees that it will at all times and from time to time keep free, save harmless and indemnify the Hope Company from any and all manner of claims, suits and damages on account of any conduct, act or thing touching said gas after it has left the said points of delivery; and the Hope Company undertakes and agrees that it will to the same extent and in like manner indemnify the Peoples Company from any conduct, act or thing touching said gas up to said points of delivery.

Nineteenth. In case of the acquisition at any time hereafter by the Peoples Company of additional distributing systems requiring an additional supply for consumers paying domestic rates, the
73 amount of gas requisite for the supply of consumers paying domestic rates on such systems, shall at the option of the Hope Company, be added to the amount of gas to be purchased and taken

under, provided, however, that the Hope Company shall, in case ny such situation, exercise such option within 60 days after writ- notice from the Peoples Company requiring it so to do.

Twentieth. It is mutually understood and agreed that in case the ples Company makes fraudulent representations as to the amount as delivered by it or by the companies supplied with gas by it, or ll fail to render the statements herein required of it, or shall fail erform the covenants in which it is hereby bound, or shall fail to to the Hope Company any amounts that may be due and pay- hereunder to the Hope Company within 20 days after such ount becomes due and payable, the Hope Company shall have the ht, without cancelling this contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder, until all amounts due to it are paid, or at its option shall have the right to terminate this contract on 30 days' notice to the ples Company without prejudice to its right to collect the amounts to it at the time of such termination for natural gas previously nished hereunder.

Twenty-first. This contract shall continue, unless previously termi- ed by mutual consent of the parties hereto, so long as the Hope mpany produces gas in marketable quantities from the gas fields sed or owned by it in West Virginia, but the Hope Company re- ves the right to sell and deliver gas to other persons, firms and rporations engaged in the business of distributing natural gas, and the ordinary course of its business to sell and dispose of the gas operties now or hereafter owned or leased by it; but it is under- od and agreed that the Hope Company is obligated to deliver gas r consumers of the Peoples Company paying domestic rates and for nsumers paying domestic rates of companies supplied with gas by the Peoples Company including the ordinary growth and accretions of the Peoples Company and companies supplied with gas by it in the territory mentioned in the recitals of this ntract, in preference to all other consumers, or persons, firms and rporations distributing gas under contracts with the Hope Com- any, excepting only the domestic consumers on the lines of the lope Company in West Virginia, and the domestic consumers on istributing systems owned or controlled by The East Ohio Gas ompany, which are being supplied under a contract between The ast Ohio Gas Company and the Hope Company; in case at any time uring the continuance of this contract the natural gas produced rom the gas fields then owned and leased by the Hope Company is ot sufficient to fulfill the requirements of the consumers paying omestic rates upon the distributing systems supplied by the Peoples ompany, together with the requirements of the domestic consumers pon the distributing systems owned or supplied by The East Ohio as Company, then the Peoples Company shall not be entitled to re- uire the Hope Company to supply to it under this contract a greater proportion of the national gas produced by the Hope Company from the properties then owned or leased by it, or purchased by the 76 Hope Company from other producers, than the number of consumers paying domestic rates supplied by the Peoples

Company bears to the total number of domestic consumers on the distributing systems owned or supplied by The East Ohio Gas Company and the consumers paying domestic rates on distributing systems owned or supplied by the Peoples Company, and that the domestic consumers of the Hope Company in West Virginia may at all times be supplied in full by the Hope Company, so that for the purposes of this contract the gas produced by the Hope Company will be the total amount produced by it after deducting the amount requisite for the supply of its domestic consumers in West Virginia.

Twenty-second. There is excepted out of the operation and effect of this contract that certain contract made by the Peoples Company to sell and deliver a fixed quantity of gas to the United Natural Gas Company at the junction of the lines of the two companies in Clarion County, Pennsylvania, which contract bears date the 6th day of June, 1907; the United Natural Gas Company, to the
77 extent of the gas that it is purchasing from the Peoples Company under said excepted contract, shall not be considered as a company supplied with gas by the Peoples Company within the provisions of this contract.

Twenty-third. This contract shall be binding upon the parties hereto and their successors and assigns, respectively, provided, however, that in case the gas distributing system now or hereafter owned or controlled by the Peoples Company is broken up, so that parts thereof are vested in different owners, the Hope Company at its option shall have the right to terminate this contract.

78 In witness whereof the parties hereto have caused their corporate names to be signed by their respective presidents or Vice Presidents, and their respective seals to be hereunto affixed by their respective Secretaries the day and year first above written.

HOPE NATURAL GAS COMPANY,
By JOHN TONKIN,
Vice President.

Attest:

[Corporate Seal.]

CHRISTY PAYNE,
Secretary.

THE PEOPLES NATURAL GAS COMPANY,
By JOHN G. PEW,
Vice President.

Attest:

[Corporate Seal.]

CHRISTY PAYNE,
Secretary.

Exhibit C. Board of Directors, June 29th, 1911. Christy Payne, Secretary.

[Endorsed:] Copy. Misc. #2525. Gas purchase agreement, Hope Natural Gas Company to sell to The Peoples ıtural Gas Company. Dated —— —, 1911.

ia PENNSYLVANIA EXHIBIT 18.

Offered at p. 225 of Printed Record by Witness Sullivan.

ıntract Between the Reserve Natural Gas Company, Union Natural Gas Company, Hope Natural Gas Company, Connecting Gas Company, and T. N. Barnsdall, Dated April 11, 1913.

) Reserve Gas Company, party of the first part.
Union Natural Gas Corporation, party of the second part.
Hope Natural Gas Company, party of the third part.
The Connecting Gas Company, party of the fourth part.
T. N. Barnsdall, party of the fifth part.

1 This agreement, Made and entered into this 11th day of April A. D. 1913, by and between Reserve Gas Company, a Vest Virginia corporation, hereinafter called "Reserve," party of the rst part; Union Natural Gas Corporation, a Delaware corporation, ereinafter called "Union," party of the second part; Hope Natural ias Company, a West Virginia corporation, hereinafter called Hope," party of the third part; The Connecting Gas Company, an)hio corporation, hereinafter called "Connecting," party of the ourth part; and T. N. Barnsdall, of Pittsburgh, Pennsylvania, party f the fifth part:

Whereas, said T. N. Barnsdall, Hope and Reserve entered into wo written agreements, each bearing date the 20th day of June, 1902, for the production, transportation and sale of natural gas, and he rights and interests of said T. N. Barnsdall in the said two agreements were subsequently sold and assigned by him to Union; and

Whereas, the above named agreements have been modified from ime to time by supplementary contracts between the parties hereto; and

Whereas, it is deemed advisable that a new agreement be 81½ made and entered into between the parties hereto, and that the contracts above referred to, and certain existing contracts hereinafter enumerated be cancelled and annulled; and

Whereas, Reserve owns the gas rights or leasehold gas rights in about 55,600 acres of land in Harrison and Lewis Counties, West Virginia, together with 352 producing gas wells thereon, field lines and a compressing station; also two gas transportation trunk lines, each 12 inches in diameter, extending from the field in a northwesterly direction to Schultz, Pleasants County, West Virginia; also two trunk lines 16 inches in diameter, extending in a northwesterly direction from Schultz, West Virginia, to the south-east bank of the Ohio River; also three 10 inch pipe lines crossing the river to its northwest bank, which river crossings are about to be increased by the construction of three additional 10 inch pipe lines, all ending at a point known as Gravel Bank on the Ohio state line, and

Whereas, Connecting owns two gas transportation trunk lines each 16 inches in diameter, connected to the said river crossing lines of Reserve Gas Company at Gravel Bank on the northwest
82 shore of the Ohio River, and extending in a northwesterly direction, passing near Chesterhill, Ohio, and Jacksonville, Ohio to Sugar Grove, and

Whereas, Hope and Union have heretofore been buying from Reserve natural gas which has been transported by Reserve through its pipe lines in the State of West Virginia to the junction with the lines of Connecting at Gravel Bank on the Ohio State line, and by Connecting through its lines in Ohio for delivery to Union or parties designated by it at Jacksonville and Sugar Grove, and to Hope or parties designated by it at or near Gravel Bank, Chesterhill and Sugar Grove:

Now, therefore, this agreement witnesseth: That the parties hereto, for and in consideration of the sum of One Dollar to each of the others in hand paid by each of the parties hereto, at and before the sealing and delivery hereof, the receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter con-
83 tained by each of the parties hereto to be well and truly kept and performed, have covenanted and agreed, and by these presents do covenant and agree:

1. Each of the following contracts is hereby terminated and cancelled to take effect on April 11th, 1913 on which day it is understood and agreed that the cancellation thereof shall be duly noted upon the original contract in each case, namely:

Agreement dated the 20th day of June, 1902, wherein T. N. Barnsdall is party of the first part, Hope Natural Gas Company party of the second part, and Reserve Gas Company party of the third part.

Agreement dated the 20th day of June, 1902, in which Reserve Gas Company is party of the first part, T. N. Barnsdall, party of the second part, and Hope Natural Gas Company party of the third part.

Agreement dated the 31st day of March, 1904, wherein Reserve Gas Company is party of the first part, Union Natural Gas Corporation party of the second part, and Hope Natural Gas Company party of the third part.

Two agreements each bearing date the 2nd day of February, 1905, in which Reserve Gas Company is party of the first part, Union Natural Gas Corporation party of the second part, and Hope Natural Gas Company party of the third part.

Agreem dated January 30th, 1907, in which Reserve Gas Company is pa of the first part, Union Natural Gas Corporation party of the seco..a part, Hope Natural Gas Company party of the third part, and The Connecting Gas Company party of the fourth part.

Agreement dated September 3, 1907, in which Reserve Gas Company is party of the first part, Union Natural Gas Corporation, party of the second part, and Hope Natural Gas Company, party of the third part.

Agreement dated the 24th day of October, 1908, in which Union atural Gas Corporation is party of the first part, and Reserve Gas Company party of the second part.

Agreement dated November 29, 1912, in which Reserve Gas Company is party of the first part, Union Natural Gas rporation party of the second part, Hope Natural Gas Company rty of the third part, and The Connecting Gas Company party of e fourth part.

It is mutually understood and agreed that the only contracts, reements or understandings between the parties hereto, or any of em, to which Hope, Reserve and Connecting is a party, which are t cancelled and superseded hereby are those enumerated in Sched- e "A" hereto annexed.

2. Whenever in accordance with the provisions of this contract a ted amount of gas is to be taken in any one year, or gas is to be ken at a specified rate per annum, a proportion of such yearly nount shall be taken in each month of such year according to the llowing table of percentages, in which the said proportion to be ken in each month is specified, viz:

ay	7½%
ne	4¾
ly	4½
gust	4½
ptember	4¾
tober	7½
vember	10½
cember	12
nuary	12½
bruary	12
rch	11
ril	8½

3. Between the date hereof and the first day of November, 1913, ion shall purchase and take from Reserve natural gas at the rate of 9,260,000,000 cubic feet for the year; during said period Hope shall purchase and take from Reserve all the natural gas necessary to enable Hope to supply the requirements of e Northwestern Ohio Natural Gas Company under the existing ntract between Hope and said company, or any other contract that y hereafter be made by Hope to supply said Company. Hope ll also have the option of purchasing and taking from Reserve ween the date hereof and November 1st, 1913, an amount of tural gas not exceeding an amount which added to the amount en by it to supply the requirements of The Northwestern Ohio tural Gas Company and the requirements of its customers at esterhill and Gravel Bank shall equal the amount taken by Union m Reserve during the same period, but the total amount which pe shall be entitled to take on any one day at Sugar Grove, Chester- l and Gravel Bank shall not aggregate more than thirty million ic feet.

4. During the year commencing November 1st, 1913, and expi
ing October 31st, 1914, and during each and every subsequent ye
of the continuance of this contract, Hope and Union respectivel
shall purchase and take from Reserve, and Reserve shall sell and d
liver natural gas in the following amounts:

Union shall purchase and take and Reserve shall sell and deliv
to it ten billion cubic feet and such additional amount as shall
specified in the notice hereinafter provided for.

86 During each year until the year commencing Novemb
1st, 1917, Hope shall purchase and take and reserve shall s
and deliver to it ten billion cubic feet and such additional amou
as shall be specified in the notice hereinafter provided for, and du
ing the year commencing November 1st, 1917, and each subsequ
year fifteen billion cubic feet and such additional amount as sha
be specified in the notice hereinafter provided for.

But the obligations of Reserve hereunder to sell and deliver g
are limited to the amount which it has available for delivery as d
fined in the 8th paragraph of this agreement, and shall not in th
case of Union exceed twelve billion cubic feet in any one year, an
shall not in the case of Hope exceed eighteen billion cubic feet i
any one year.

5. On or before the 1st day of May, 1913, and on or before th
1st day of May in each subsequent year, Union and Hope shall eac
give written notice to Reserve specifying the amount of gas which
will require hereunder in the year commencing November 1st follo
ing such yearly notice.

6. The amount to be taken during any year shall be taken durin
the different months thereof according to the tables of percentag
hereinbefore set forth, and the amount to be taken each month sha
be taken throughout the month in approximately equal dail
amounts provided, however, that Union and Hope shall each ha
the right to reduce or increase the amount to be taken by
87 during any month so long as the amount taken is betwe
90% and 110% of the amount deliverable during such mont
determined as above, and shall have the right to increase or redu
the amount of gas to be taken on any day of the month so long
the amount taken in each day is between 80% and 120% of th
amount deliverable during such day determined as above. It is u
derstood, however, that each of said companies must purchase an
take during the six summer months beginning May 1st, in eac
year at least one half as much gas as it took during the precedin
six winter months, even though in the case of Union the amou
which it is thereby required to take during the year is made to e
ceed twelve billion cubic feet, and in the case of Hope the amou
which it is thereby required to take during the year is made to exce
eighteen billion cubic feet.

7. The gas to be taken by Union shall be delivered at Sugar Gro
and Jacksonville through the lines of Connecting to Union or to an
company or companies designated by Union; the gas to be taken

Hope shall in part be delivered to it through the lines of Connecting at the following places: (*a*) at Sugar Grove for the purpose of fulfilling the requirements of The Northwestern Ohio Natural Gas Company under the contract now existing, or any contract that may hereafter be made by Hope to supply said company, or any other company at that point; (*b*) at Chesterhill for the requirements of The River Gas Company in supplying Chesterhill and the village of Stockport; and (*c*) at Gravel Bank for the requirements of local consumers; but the amount of gas to be delivered to Hope through the lines of Connecting at the three delivery points above named, shall not exceed the maximum of thirty million cubic feet in any one day of 24 hours. The balance of the amount of gas to be taken by Hope shall be delivered to it (*d*) at a central point or points in Reserve's gas field; (*e*) at the delivery end of the new line or lines to be constructed by Reserve and Connecting, or by Reserve alone, upon the demand of Hope as hereinafter provided.

88

8. Reserve will use reasonable diligence in developing and drilling upon its gas leases and properties for the purpose of obtaining the gas necessary to fulfill its obligations hereunder, and for the above purpose will build, maintain and provide in good order, condition and manner the necessary compressor stations and gathering lines connecting its wells with the same, and also will use reasonable diligence in obtaining and developing new gas leases and new contracts for gas when the same become necessary and available in order to enable it to deliver gas under the terms of this contract, but nothing herein contained shall obligate Reserve to extend, develop or drill gas leases or to construct compressor stations or pipe lines, or to keep in force existing leases except so far as it is reasonably profitable for it so to do. Whenever Reserve, although it is duly performing its obligations in this paragraph contained, has not available for delivery the full amount of gas to which Union and Hope are entitled under the provisions hereof, Union and Hope shall be entitled to require Reserve to deliver only the amount which it has available for delivery, and Hope shall be entitled to require that 3/5 of the total amount which Reserve has remaining available for delivery from all sources shall be delivered to it, and Union shall have the right to require the delivery to it of 2/5 of said amount. This contract shall continue until Reserve no longer has available for delivery gas in marketable quantities sufficient to enable it to continue in business without loss.

89

9. Reserve will construct one additional sixteen inch pipe line from its field to Schultz, Provided, that Union serves written demand upon it a sufficient time prior to November 1st, 1915, to enable it, by the exercise of reasonable diligence, to complete the construction of said line on or before that date.

Hope shall have the right at any time to require Reserve, or Reserve and Connecting, to construct an additional line or additional lines extending from the field of Reserve to such point or points, and having such capacity, as Hope may designate, Provided, that

the capacity of said line or lines shall not exceed the amo
90 by which the daily capacity of the lines from the field
Reserve to Sugar Grove then existing, exceeds fifty mil
cubic feet, and Provided, that the cost thereof shall not exceed
cost of then constructing a line from the field of Reserve to Su
Grove having a capacity equal to the amount by which the d
capacity of the lines from the field of Reserve to Sugar Grove t
existing exceeds fifty million cubic feet per day. If any s
additional line is constructed to Gravel Bank, Chesterhill or Su
Grove, the provisions of the 7th paragraph and the 3rd paragr
hereof, limiting the amount of the daily deliveries to Hope at t
points to thirty million cubic feet, shall have no application to
amount delivered to it through such additional pipe line.

In case Hope shall serve written notice upon Reserve or upon
serve and Connecting, requiring it or them to construct any such
line, Reserve in the one case, and Reserve and Connecting in
other, will with all due diligence comply with the said demand
being understood that any line built in West Virginia shall be b
by the Reserve and any line built in Ohio shall be built by the C
necting.

10. In case either Reserve or Connecting in order to carry ou
obligations hereunder, requires to obtain money by borrowing
same, or by increasing its capital stock or otherwise, U
91 will subscribe for and take one half of the stock, bond
evidences of indebtedness issued for the purpose of obtain
such money, and Hope will subscribe for and take the other hal
such stocks, bonds or evidences of indebtedness.

11. The price per thousand cubic feet for gas sold by Reserv
Hope and Union shall be as follows:

Delivered in the year.	In the field	At Sugar Grove, Jacksonvil Chesterhill, Gravel Bank, delivery end of line that m be constructed on demand Hope as hereinbefore p vided.
1913	4½ cents.	8½ cents.
1914	5 "	9 "
1915	5½ "	9½ "
1916	6 "	10 "
1917	6½ "	10½ "
1918	7 "	11 "
1919	7½ "	11½ "
1920	8 "	12 "
1921	8½ "	12½ "
1922	9 "	13 "
1923	9½ "	13½ "
1924	10 "	14 "

and for the period beyond the year 1924 to remain at the price
above named.

It is understood and agreed that all of the prices above enumerated are based upon a delivery of the gas by Reserve after the gas has been compressed by it in its compressor stations.

12. Connecting agrees to receive, transport and deliver all the gas which in accordance with the provisions hereof is to be delivered through the lines of Connecting; such gas shall be transported
92 for the same charge, viz: 2¼ cents per thousand cubic feet, and, excepting as hereinafter provided, upon the same terms and conditions as are specified in the written contract dated March 31st, 1904, between Reserve and Connecting, under and by virtue of which gas is at present being transported through the lines of Connecting; the said charge of 2¼ cents per thousand cubic feet shall be paid by Reserve monthly on or before the 25th day of the month following that in which the gas was transported.

13. Connecting agrees to maintain at its own cost and expense and operate its Pitot tube measuring station at Sugar Grove, and to erect and maintain at its own cost and expense recording Pitot tube or orifice meter measuring devices for the accurate measurement of all gas to be delivered out of its lines at Jacksonville, Chesterhill and Gravel Bank; and Connecting further agrees to keep its lines, connections and the measuring stations at all times in a condition of good repair to prevent any loss of gas in its transmission and measurement and to accurately account for the gas carried and delivered by it.

14. Reserve will at its own expense erect and maintain in good order and repair and operate all such Pitot tube measuring stations or recording orifice meters as may be necessary to accurately measure all gas delivered to Hope in the field; and at the terminal
93 of the line or lines to be constructed upon the demand of Hope, a similar station or meter, or stations or meters, will be erected, maintained and operated by Reserve, if Reserve constructs and owns the enti-e line, or by Connecting if the terminal of said line is constructed, owned and operated by Connecting.

15. The gas to be sold and delivered under this agreement and measured as aforesaid, shall be computed upon a basis of a pressure of 10 ounces to the square inch above 14.4 pounds atmospheric pressure according to Boyle's Law for the measurement of gas at varying pressures, without correction for temperature or barometric conditions.

16. If either party to this contract fails to perform any obligations herein assumed by it, and such failure is due to Acts of God, or to a public enemy, strikes, riots, injunctions or other interferences through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, sudden partial or entire failure of gas wells, or any cause beyond its control, or is caused by the necessity of making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder;

but such party shall use due diligence to again put itself
94 in position to carry out all of the obligations which by the terms hereof it has assumed.

17. Connecting shall furnish to Reserve on or before the 8th day of each month, and Reserve shall furnish to Hope and Union on or before the 10th day of each month, a statement showing the amount of gas delivered to it during the preceding month, and Hope shall pay for the gas delivered to it, and Union shall pay for the gas delivered to Union, on or before the 25th day of the month in which such statement is furnished. If either party shall be in default in any payment for the period of 15 days, Reserve shall have the right without cancelling this contract or waiving any of its rights hereunder, or prejudicing the rights of any other party, to suspend the delivery of gas hereunder to the party in default, and to require Connecting to shut off such supply of gas from such party in default until all amounts due to Reserve are paid with interest at 6 per cent from the time such amounts are due.

18. Union and Hope shall each have the right at any reasonable time or times by duly designated agents to examine the books of accounts of Reserve and of Connecting, and all records relating
95 to the delivery of gas by either of said companies, and the measurement of gas so delivered, and to inspect and test any and all pipes, stations, appliances and measuring devices used by Reserve and Connecting.

In witness whereof the corporations parties hereto have hereunto caused their corporate seals to be affixed and the same to be attested by their respective Presidents or Vice Presidents and Secretaries, and the said T. N. Barnsdall has hereunto set his hand and seal the day and year first above written.

RESERVE GAS COMPANY, [Corporate Seal.]
By E. P. WHITCOMB,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

HOPE NATURAL GAS COMPANY,
By JOHN G. PEW, [Corporate Seal.]
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

UNION NATURAL GAS CORPORATION,
By E. P. WHITCOMB,
Vice President.

Attest:
[Corporate Seal.]
W. R. HADLEY,
Secretary.

SCHEDULE A.

Instruments Not Cancelled.

Date.	First parties.	Second parties.	Recorded. Book.	Page.	County.	Nature of paper.
June 20, 1902	T. N. Barnsdall, Southern Oil Company, and W. S. Mowris.	Hope Natural Gas Company	....	....	Doddridge	Assignment and agreement.
January 28, 1903	T. N. Barnsdall and Southern Oil Company	Hope Natural Gas Company	....	....	Doddridge	Assignment and agreement.
May 27, 1905	T. N. Barnsdall and Southern Oil Company	Hope Natural Gas Company	152	347	Harrison	Assignment and agreement.
January 28, 1903	T. N. Barnsdall and Southern Oil Company	Hope Natural Gas Company	....	....	Lewis	Assignment and agreement.
January 28, 1903	T. N. Barnsdall et ux., Southern Oil Company, and Fred S. Rich et ux.	Hope Natural Gas Company	....	....	Lewis	Deed.
January 27, 1903	T. N. Barnsdall and W. G. Young	Hope Natural Gas Company	....	....	Tyler	Assignment and agreement.
May 7, 1905	Hope Natural Gas Company	T. N. Barnsdall	62	81	Tyler	Assignment and agreement.
			96	437	Wetzel.	
December 8, 1904	T. N. Barnsdall	Hope Natural Gas Company	86	232	Monongalia	Assignment and agreement.
December 8, 1904	T. N. Barnsdall	Hope Natural Gas Company	140	312	Marion	Assignment and agreement.
April 23, 1906	Hope Natural Gas Company	T. N. Barnsdall	96	511	Wetzel	Assignment and agreement.
			62	207	Tyler.	
August 16, 1911	Hope Natural Gas Company	T. N. Barnsdall	....	....	Marion	Assignment.
August 16, 1911	Hope Natural Gas Company	T. N. Barnsdall	....	....	Monongalia	Assignment.
April 3, 1903	T. N. Barnsdall	Hope Natural Gas Company	103	521	Marshall	Assignment.
97						
March 10, 1904	Reserve Gas Company	Hope Natural Gas Company	22	254	Doddridge	Assignment.
April 12, 1904	Reserve Gas Company	Hope Natural Gas Company	152	342	Harrison	Assignment.
April 21, 1909	Reserve Gas Company	Hope Natural Gas Company	73	349	Lewis	Assignment.
December 29, 1910	Reserve Gas Company	Hope Natural Gas Company	207	461	Harrison	Assignment.
November 1, 1902	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
November 1, 1902	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
February 1, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
June 19, 1903	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
September 22, 1904	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
August 5, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
May 29, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
April 17, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
September 25, 1907	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
October 23, 1907	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
June 23, 1903	Hope Natural Gas Company	Reserve Gas Company	65	133	Lewis	Assignment.
February 20, 1907	Hope Natural Gas Company	Reserve Gas Company	65	132	Lewis	Assignment.
January 28, 1909	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
July 9, 1908	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
September 25, 1908	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
June 2, 1911	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
98						
January 2, 1913	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
July 9, 1908	Reserve Gas Company	Hope Natural Gas Company	....	....	Lewis	Assignment.
June 20, 1902	T. N. Barnsdall, Southern Oil Company, Fred S. Rich, and W. S. Mowris.	Reserve Gas Company	....	....	Harrison	Assignment and agreement.
June 20, 1902	T. N. Barnsdall, Southern Oil Company, Fred S. Rich, and W. S. Mowris.	Reserve Gas Company	....	....	Harrison	Assignment and agreement.
January 28, 1903	T. N. Barnsdall and Southern Oil Company	Reserve Gas Company	....	....	Lewis	Assignment and agreement.
June 20, 1902	T. N. Barnsdall et ux., Southern Oil Company, Fred S. Rich et ux., W. S. Mowris et ux.	Reserve Gas Company	167	403	Harrison	Deed.
June 20, 1902	T. N. Barnsdall et ux., Southern Oil Company, Fred S. Rich et ux., W. S. Mowris et ux.	Reserve Gas Company	167	401	Harrison	Deed.

January 28, 1903	T. N. Barnsdall and Southern Oil Company	Hope Natural Gas Company	....	....	Doddridge	Assignment and agreement.
May 27, 1905	T. N. Barnsdall and Southern Oil Company	Hope Natural Gas Company	152	347	Harrison	Assignment and agreement.
January 28, 1903	T. N. Barnsdall and Southern Oil Company	Hope Natural Gas Company	....	....	Lewis	Assignment and agreement.
January 28, 1903	T. N. Barnsdall et ux., Southern Oil Company, and Fred S. Rich et ux.	Hope Natural Gas Company	....	....	Lewis	Deed.
January 27, 1903	T. N. Barnsdall and W. G. Young	Hope Natural Gas Company	....	....	Tyler	Assignment and agreement.
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97

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April 21, 1909	Reserve Gas Company	Hope Natural Gas Company	73	349	Lewis	Assignment.
December 29, 1910	Reserve Gas Company	Hope Natural Gas Company	207	461	Harrison	Assignment.
November 1, 1902	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
November 1, 1902	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
February 1, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
June 19, 1903	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
September 22, 1904	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
August 5, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
May 29, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
April 17, 1905	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
September 25, 1907	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
October 23, 1907	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
June 23, 1903	Hope Natural Gas Company	Reserve Gas Company	65	133	Lewis	Assignment.
February 20, 1907	Hope Natural Gas Company	Reserve Gas Company	65	132	Lewis	Assignment.
January 28, 1909	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
July 9, 1908	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
September 25, 1908	Hope Natural Gas Company	Reserve Gas Company	....	....	Lewis	Assignment.
June 2, 1911	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.

98

January 2, 1913	Hope Natural Gas Company	Reserve Gas Company	....	....	Harrison	Assignment.
July 9, 1908	Reserve Gas Company	Hope Natural Gas Company	....	....	Lewis	Assignment.
June 20, 1902	T. N. Barnsdall, Southern Oil Company, Fred S. Rich, and W. S. Mowris.	Reserve Gas Company	....	....	Harrison	Assignment and agreement.
June 20, 1902	T. N. Barnsdall, Southern Oil Company, Fred S. Rich, and W. S. Mowris.	Reserve Gas Company	....	....	Harrison	Assignment and agreement.
January 28, 1903	T. N. Barnsdall and Southern Oil Company	Reserve Gas Company	....	....	Lewis	Assignment and agreement.
June 20, 1902	T. N. Barnsdall et ux., Southern Oil Company, Fred S. Rich et ux., W. S. Mowris et ux.	Reserve Gas Company	167	403	Harrison	Deed.
June 20, 1902	T. N. Barnsdall et ux., Southern Oil Company, Fred S. Rich et ux., W. S. Mowris et ux.	Reserve Gas Company	167	401	Harrison	Deed.
January 27, 1905	T. N. Barnsdall	Reserve Gas Company	....	....	Harrison	Assignment.
November 7, 1903	T. N. Barnsdall et ux	Reserve Gas Company	57	199	Lewis	Deed.
June 20, 1902	T. N. Barnsdall et ux., Southern Oil Company, Fred S. Rich et ux., W. S. Mowris et ux.	Reserve Gas Company	....	....	Lewis	Deed.
October 18, 1907	Reserve Gas Company	Hope Natural Gas Company	....	....	.....	Agreement transferring stock of Hutton Gas Company and Monongahela Development Company.

THE CONNECTING GAS COMPANY,
By JOHN G. PEW, [Corporate Seal.]
President.

est:
CHRISTY PAYNE,
Secretary.

T. N. BARNSDALL. [SEAL.]

tness:
——, ——.

ere follows Schedule A, marked pages 96-99, inclusive.)

100 [Endorsed:] Copy. Miscellaneous Files. 2344. Agreement, Reserve Gas Company, Union Natural Gas Corporation, Hope Natural Gas Company, The Connecting Gas Company, and T. N. Barnsdall, in re gas supply, deliveries, etc. Dated April 11", 1913.

100*a* PENNSYLVANIA EXHIBIT 19.

Offered at p. 225 of Printed Record by Witness Sullivan.

Contract Between the Hope Natural Gas Company and the East Ohio Gas Company Dated March 1, 1910.

101 Gas Purchase Agreement, Hope Natural Gas Company & The East Ohio Gas Company.

March 1, 1910.

102 This agreement, made and entered into this 1st day of March, A. D. 1910, by and between the Hope Natural Gas Company, a West Virginia corporation, hereinafter called the "Hope Company," party of the first part, and the East Ohio Gas Company, an Ohio corporation, hereinafter called the "Ohio Company," party of the second part.

Witnesseth: Whereas, the Hope Company is the owner of natural gas wells, gas rights and leases for gas purposes in the State of West Virginia, and is the owner of pipe lines extending from its natural gas territory in the State of West Virginia to the boundary of the State of Ohio on the Ohio River; and

Whereas, the Ohio Company holds franchises and distributing systems for the distribution of natural gas in the City of Cleveland and other cities, villages and towns in the State of Ohio, and is the owner of three trunk lines extending from the boundary of the State of Ohio on the Ohio River, through the State of Ohio to the City of Cleveland, and connecting with distributing systems owned by the said Ohio Company in the City of Cleveland, and in various cities, villages and towns in the State of Ohio;

Now, Therefore, in consideration of the premises and of the mutual covenants and agreements herein contained, the parties hereto have agreed and do hereby agree as follows:

First. It is mutually understood and agreed that all the rights of the parties hereto in respect to natural gas sold and delivered by the Hope Company to the Ohio Company on and after March 1st, 1910, shall be ascertained and determined by and in accordance with the provisions of this agreement.

Second. The Hope Company undertakes and agrees during the continuance of this contract to sell and deliver to the Ohio Company and the Ohio Company undertakes and agrees to purchase and take from the Hope Company,—

(*a*) All the natural gas requisite for the supply of the domestic nsumers of the Ohio Company;

3 (*b*) Such amounts of natural gas as may be requisite to fulfill contracts made with the consent and approval of the pe Company by the Ohio Company, or companies which it sup- es with natural gas, for the sale of gas upon special terms and con- ions for manufacturing purposes;

vided, however, that the Hope Company shall not be obligated to l and deliver or the Ohio Company to purchase and take gas in ess of the amounts currently required for the purposes aforesaid, in excess of the amount which can be transported through the nk lines of the Ohio Company as at present constructed under a ssure of 225 pounds at the Ohio River and that the Hope Com- ny cannot be required to deliver gas in excess of the amount which has available for delivery as defined in the Seventh Paragraph reof.

The Ohio Company further undertakes and agrees that if at any ne its requirements of natural gas for the purposes aforesaid exceed e amount which can be transported through its trunk lines from e Ohio River as at present constructed, it will purchase such excess m the Hope Company on the terms herein stated to the extent t the Hope Company is willing and able to furnish the same, and e trunk lines of the Ohio Company from the Ohio River are then ficient to transport the same, provided, however, that if at any ne the Ohio Company shall give written notice to the Hope Com- ny of its intention to increase by new construction the then exist- g capacity of its pipe lines from the Ohio River within one year m the date of such notice by an amount designated in such notice d does so increase its pipe line capacity within such year, the Hope mpany shall not be entitled to require the Ohio Company to rchase and take natural gas hereunder in excess of the capacity of e trunk lines from the Ohio River as they existed prior to such crease under a maximum pressure of 225 pounds at the Ohio River, less within sixty days after the receipt of such written notes, it ves on the Ohio Company written notice that for the purposes of is agreement the capacity of the trunk lines from the Ohio River increased by such additional construction under a maximum pres- re of 225 pounds at the Ohio River shall be substituted for the isting capacity of said trunk lines.

4 Third. It is mutually understood and agreed that the natural gas to be sold and delivered hereunder shall be de- ered by the Hope Company to the Ohio Company at the boundary ne between the State of Ohio and the State of West Virginia at the ints where the lines of the Hope Company now connect with the nk lines of the Ohio Company, or at such other points as may be utually agreed upon between the parties hereto.

Fourth. It is further mutually understood and agreed that no minion or control over the natural gas delivered under this contract all remain in the Hope Company after the gas passes the points of

delivery above stated, nor shall the Hope Company be responsible for or on account of anything that may thereafter be done, happen or arise touching said gas, and the Ohio Company undertakes and agrees that it will at all times and from time to time keep free, save harmless and indemnify the Hope Company from any and all manner of claims, suits and damages on account of any contract, act or thing touching the said gas after it has left the said point of delivery.

Fifth. The Hope Company undertakes and agrees subject to the provisions of Paragraph Seventh hereof that at all times during the continuance of this contract it will maintain in good order and condition all its compressing stations, pipe lines, connections and other facilities in the State of West Virginia in order to enable it to carry out its obligations under this contract, and to deliver gas hereunder in such volume as to maintain a pressure equivalent to 225 pounds at the junction point of its lines with the lines of the Ohio Company as at present constructed and operated at the Ohio River; and will use due and reasonable diligence in developing its gas leases and properties in the State of West Virginia and in obtaining gas therefrom for the purpose of fulfilling its obligations hereunder, and will, if and when required so to do by the Ohio Company, deliver the gas to be supplied by it hereunder at a pressure equivalent to 225 pounds at the Ohio River end of the trunk lines of the Ohio Company as at present constructed.

105 Sixth. It is mutually understood and agreed that where either party to this contract fails to perform any obligation herein assumed by it, and such failure is due to Acts of God, or a public enemy, strikes, riots, injunctions, or other interferences through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines, or wells, sudden or unforseen failure of gas wells, or to any cause not due to the fault or neglect of such party, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder, but such party shall use due diligence to again put itself in position to carry out all of the obligations which by the terms hereof, it has assumed.

Seventh. It is further understood and agreed between the parties hereto that this contract shall continue, unless previously terminated by mutual consent of the parties hereto, so long as the Hope Company produces gas in marketable quantities from the gas fields owned or leased by it in West Virginia, but that the Hope Company reserves the right to make and enter into contracts with other companies for the sale to such companies of natural gas and in the ordinary course of its business to sell and dispose of the gas properties now or hereafter owned or leased by it; but it is understood and agreed that the Hope Company is obligated to deliver gas for domestic consumers of the Ohio Company in preference to all other consumers, or persons, firms and corporations distributing gas under contracts with the Hope Company, excepting only the domestic consumers on the lines of the Hope Company in West Virginia, and the consumers

paying domestic rates upon the distributing systems owned or supplied with gas by the Peoples Natural Gas Company which is now obtaining gas from the Hope Company, and that in case at any time during the continuance of this contract the natural gas produced in the gas fields then owned and leased by the Hope Company is not sufficient to fill the requirements of domestic consumers on distributing systems which at such time are purchasing natural gas from the Hope Company, the Ohio Company shall not be entitled to
106 require the Hope Company to supply to it under this contract a greater amount of natural gas than the proportion of the natural gas produced by the Hope Company from the properties then owned or leased by it, which the number of domestic consumers supplied by the Ohio Company bears to the total number of domestic consumers on the distributing systems owned or supplied by the Ohio Company and the consumers paying domestic rates on distributing systems owned or supplied with gas by the Peoples Natural Gas Company, and that the domestic consumers of the Hope Company in West Virginia may at all times be supplied in full by the Hope Company, so that, for the purposes of this contract, the gas produced by the Hope Company will be the total amount produced by it after deducting the amount requisite for the supply of its domestic consumers in West Virginia.

Eighth. It is mutually understood and agreed that the Ohio Company shall keep the Hope Company at all times fully informed of all facts tending to show the amount of natural gas which will be necessary from time to time to supply its requirements hereunder, and that so long as the Hope Company exercises due diligence in making provision to supply or does supply the amount of natural gas estimated to be necessary to meet such requirements, it shall not be liable by reason of its failure to supply gas in excess of said estimated amount.

Ninth. The Ohio Company undertakes and agrees at all times during the continuance of this contract that the trunk lines from the Ohio River to the City of Cleveland and all branches therefrom and the various distributing systems connected therewith will be kept in good order and condition, so as to reduce, as far as possible, the waste and escape of gas, and that all gas supplied by it to domestic consumers or for manufacturing purposes shall be measured by standard meters which it will install and keep in good order and condition, and that all gas supplied to consumers by companies to which it sells gas shall be measured by similar meters, which, together with all other pipe and appliances of such companies, the Ohio Company agrees shall be kept in good order and repair; that all of said meters used for measuring gas sold for domestice purposes shall be
107 read at least once in each calendar month and that meters used for measuring gas sold for manufacturing purposes pursuant to the provisions hereof, shall be read daily and that reports of the readings of all meters shall be furnished monthly to the Hope Company. The amount of gas sold for lighting streets where measurement by meter is impracticable, shall be estimated monthly

as accurately as practicable, and the amount of such monthly estimates and the basis upon which each of said estimates is made shall be reported monthly to the Hope Company.

Tenth. The Ohio Company further undertakes and agrees that the Hope Company shall at all times through its agents and representatives have access to all meters used by the Ohio Company or by companies to which it sells gas to measure the amount of gas sold to consumers, whether for domestic purposes or for manufacturing purposes, and to all pipes, appliances and apparatus used by such companies in transporting, distributing and delivering gas, with the right to require the Ohio Company to examine, test and repair such meters, pipes and apparatus, on the refusal, delay or failure of the Ohio Company so to do, the Hope Company, by its duly authorized agents and employes, shall have access to such meters, pipes, appliances and apparatus, with the right to examine, test, repair and replace the same (in workmanlike manner as it would its own meters and appliances) but at the cost of the Ohio Company; the Hope Company by its properly accredited representatives shall also at all times have the right to examine the books of account of the Ohio Company and of each of the companies to which the Ohio Company supplies natural gas, so far as said books of account in any way relate to the purchase or distribution of natural gas.

Eleventh. It is mutually understood and agreed that for the purposes of this contract "gas sold for domestic purposes" and "gas sold to domestic consumers" shall be deemed to include all gas sold for household use or at the same rates and upon the same terms and conditions upon which gas is sold for household use; also gas sold to churches, schools and similar institutions at reduced rates
108 but for the same purposes and upon the same terms and conditions for which and upon which gas is sold for household use; also gas sold for street lighting, and that the terms "manufacturing gas" and "gas sold for manufacturing purposes" shall be deemed to include all gas, other than as aforesaid, sold upon special terms and conditions; it is also agreed that where this contract uses the words "consumers of the Ohio Company," or "consumers supplied by the Ohio Company," such words or terms include also consumers of local distributing companies supplied with gas by the Ohio Company.

Twelfth. Any gas that may be used by the Ohio Company or any company which it supplies with natural gas, for the operation of compressing stations or other plants owned by it, or for lighting or heating its own buildings, shall be deemed to be gas sold for domestic purposes, at the prevailing domestic rates, unless a special agreement is made in reference thereto with the Hope Company.

Thirteenth. Notwithstanding anything in this contract contained, the Ohio Company may continue to market the gas from certain wells in Mahoning County in the State of Ohio now being operated by it, but such gas is to be measured before commingling in a manner satisfactory to the Hope Company and is to be deemed, for the pur-

es of this contract, as gas delivered for manufacturing purposes the average rate currently charged per month for manufacturing poses and deducted at that rate from the monthly settlements with Hope Company.

All contracts made by the Ohio Company or companies supplied it with gas for the sale of gas for manufacturing purposes shall submitted to the Hope Company and, if approved by the Hope mpany, the provisions of this contract shall apply thereto; if, how- r, any of said contracts are not approved by the Hope Company, Ohio Company shall be under no obligation to purchase and take m the Hope Company, nor shall the Hope Company be under any igation to sell and deliver to the Ohio Company, the amount of requisite to fulfill the same, and this contract shall in no wise restrict the right of the Ohio Company to enter into such contracts and to purchase and supply from other sources the natural gas requisite for the fulfillment of the contracts which Hope Company has not approved.

When the production of the Hope Company shall have declined so t the amount of gas available for delivery hereunder during nuary and February will not maintain a pressure of 225 pounds at Ohio River on the lines of the Ohio Company as now constructed, l will not supply the amount of gas requisite for the domestic con- ners of the Ohio Company during such months, the amount of which the Ohio Company shall be obligated to purchase and take m the Hope Company and the Hope Company to sell and deliver reunder on account of domestic consumption after any January l February in which there is such a deficiency in the available ply, may at the option of the Ohio Company, be limited to the portion that the amount delivered by the Hope Company during l months of January and February bears to the amount which was uired by said Ohio Company in said months for the supply of its nestic consumers (not exceeding, however, the amount which ld have been transported under the pressure as aforesaid). Said ion shall be exercised on or before June 1st by written notice from Ohio Copmany to the Hope Company.

Notwithstanding the exercise of such option, the provisions of agraph Sixteenth hereof shall nevertheless continue applicable for purpose of determining the price to be paid for gas actually de- red by the Hope Company.

Fourteenth. It is mutually understood and agreed that the require- nts of domestic consumers of the Ohio Company shall be fully plied from the gas delivered hereunder in preference to manufac- ers purchasing gas for manufacturing purposes, and that the Hope mpany can be required to supply gas to be used for manufacturing poses only where the same is sold under special contracts which e first been submitted to and approved in writing by the Hope mpany and which expressly provide that natural gas will be sup- plied thereunder only in so far as the same is not necessary to meet the requirements of domestic consumers supplied through pipe lines of the Ohio Company.

Fifteenth. The Ohio Company undertakes and agrees that it will pay to the Hope Company for natural gas sold and delivered to it by the Hope Company hereunder as follows:

(*a*) For all natural gas sold and delivered to the Ohio Company to enable it to meet the requirements of its domestic consumers and the domestic consumers of companies which it supplies with gas, fifty per cent. of the amounts payable by such consumers therefor, provided, however, that the minimum amount to be received by the Hope Company for each One Thousand cubic feet of natural gas supplied by it for domestic consumers shall not be less than as follows, to-wit:

From March 1st, 1910, to May 31st, 1918, inclusive, 15 cents.

From June 1st, 1918, to May 31st, 1920, inclusive, 17½ cents.

From and after June 1st, 1920, for each successive period of five years, a price not less than 110 per cent. of the highest price received by the Hope Company in the last preceding period of 5 years.

(*b*) For all natural gas sold and delivered to the Ohio Company to enable the Ohio Company, or companies which it supplies with gas, to fulfill contracts made with the consent of the Hope Company for the sale of gas for manufacturing purposes, sixty per cent. of the amounts payable therefor by the manufacturers or other consumers by whom the same is purchased.

Sixteenth. It is mutually understood and agreed that whenever the Ohio Company, in addition to the gas purchased by it from the Hope Company, is obtaining gas from other sources (under the right as provided in the Thirteenth Paragraph hereof), nevertheless, for the purpose of computing the amounts to be paid to the Hope Company hereunder, all gas sold by the Ohio Company for domestic consumers, shall, up to the full amount of gas supplied by the Hope Company, be deemed to be gas obtained from the Hope Com-
111 pany.

In all cases where gas is obtained from other sources and is commingled with gas obtained from the Hope Company prior to delivery to consumers, it is necessary that the gas obtained from the Hope Company, as well as the gas from other sources, shall be measured before such commingling takes place; it is agreed, therefore, that such measurement of the gas obtained from the Hope Company at such time shall be by Pitot tubes or other accurate devices of standard registering type as may be agreed upon, to be installed and maintained at the expense of the Hope Company as nearly as possible at the junction of the lines of the Hope Company with the lines of the Ohio Company, but on the West Virginia side of the Ohio River. The gas obtained from other sources shall be measured at the expense of the Ohio Company before the commingling takes place, in a manner satisfactory to the Hope Company, and the Ohio Company shall give the Hope Company 24 hours notice specifying the exact time when such gas will be turned into the lines of the Ohio Company.

proportion of gas delivered to consumers that has been ob-
from each source shall be determined as follows, viz:

The Ohio Company shall ascertain the amount of gas obtained
h month from all sources and measured before commingling,
rcentage by which such total exceeds the amount of gas pay-
r by all consumers as measured by the regular reading of meters
same month shall be used for the purposes of this contract as
ercentage of loss" for such month.

If the amount of gas furnished by the Hope Company during
onth as measured at the State Line, less the percentage of loss,
equals or exceeds the amount of gas payable for by domestic
ners to the Ohio Company for such month, then all gas pay-
r by such domestic consumers in such month shall be deemed
e been gas delivered by the Hope Company for domestic con-
s at the rate stipulated in clause "*a*" of the fifteenth paragraph
; but if the amount of gas furnished by the Hope Company
any month as measured at the State Line, less the percentage
, is less than the amount of gas payable for by domestic con-
s in such month, then the Hope Company shall be paid for
s delivered in such month as measured at the State Line, less
the percentage of loss, at the average rate payable by domestic
consumers to the Ohio Company for such month.

If the amount of gas furnished by the Hope Company during
onth as measured at the State Line, less the percentage of loss,
s the amount of gas payable for to the Ohio Company in such
by domestic consumers, then such excess amount shall be the
t of gas furnished by the Hope Company for manufacturing
es and shall be paid for at the rate stipulated for in clause
the fifteenth paragraph hereof.

If the amount of gas furnished from all sources in any
, as measured before commingling, is less than the amount of
yable for in such month by all consumers to the Ohio Com-
(which is a probable condition in spring months), then the
nt of gas to be paid for to the Hope Company by the Ohio Com-
for such month shall be determined as follows:
e percentage which the amount of gas furnished by the Hope
any measured at the State Line bears to the total amount of
rnished by all sources, measured before commingling, shall be
ained, and such percentage of the total amount of gas payable
all consumers to the Ohio Company in such month shall then
nputed; if the resulting computation is equal to or larger than
nount of gas payable for to the Ohio Company by domestic
mers for such month, then all gas payable for by domestic con-
rs to the Ohio Company for such month shall be deemed to be
as delivered by the Hope Company at the rate set forth in
e "*a*" of the fifteenth paragraph hereof; and the excess of such
ing computation over the amount payable for in such month to
hio Company by domestic consumers, shall be deemed to be
elivered by the Hope Company for manufacturing purposes at

the rate set forth in caluse "*b*" of the fifteenth paragraph hereof; if, however, the said computation is less than the amount of gas payable for to the Ohio Company in such month by domestic consumers, then the Hope Company shall be paid for all of the gas contained in such computation at the average rate per thousand cubic feet paid to the Ohio Company by domestic consumers in such month.

Seventeenth. Where gas is measured by Pitot tubes, meters or other devices, such measuring instruments shall be of a standard registering type and the gas shall be measured on a basis of
113 10 ounces pressure to the square inch above 14.4 pounds atmospheric pressure, according to Boyle's law for the measurement of gas at varying pressures, without correction for temperature or barometric conditions. Each company shall have full access to the measuring stations at all times with the right to keep an employe or employes there for the purpose of checking the gas measurements, where Pitot tubes are used they shall be read at 15 minute intervals throughout each day of 24 hours, and duplicate statements of the daily readings shall be mailed daily to each party; where meters are used such meters shall be read by the Ohio Company daily, or as often as the meters require, but each party shall have constant access to the meters.

If either party challenges the accuracy of any meter or other device in use under the sixteenth paragraph of this contract, and desires to have the meter or such device tested or repaired, the Ohio Company shall test and repair the same in the presence and to the satisfaction of the Hope Company, or a representative, if the Hope Company wishes to exercise the right to be present or to be represented at such test. Before taking out such meter or device for test or repairs, a correctly registering meter or other agreed device shall be set in its place, and adjustment and settlement for the inaccurate measurements by the defective meter shall be made at the regular monthly periods on the basis of the amount of gas registered at like pressures for like periods of time when the meter was registering accurately.

Eighteenth. The Ohio Company undertakes and agrees that on or before the 25th day of each month it will furnish to the Hope Company a detailed statement of the amount of gas charged to its domestic consumers during the preceding month, showing separately the amount so supplied in each city and town supplied by it either directly or through distributing companies; and the rates at which gas is sold in each of said cities and towns; the number of domestic consumers in each of said cities and towns; the amounts charged during the preceding month to each consumer using gas for manufacturing purposes; whether any gas has been obtained from other sources; and if so the amount of gas obtained from the Hope Company
114 and the amount of gas obtained from other sources determined as hereinbefore provided; and all such other data as the Hope Company may reasonably require or as may be necessary to enable the Hope Company to determine the amount which it is entitled to receive for gas supplied by the Hope Company to the

Company and charged to consumers during the preceding
The Ohio Company undertakes and agrees that it will pay
-monthly installments the amount due to the Hope Company
gas delivered by the Hope Company to the Ohio Company
the preceding month; the first installment shall be paid on or
he 15th of the month and shall be 75 per cent. of the total
due for the month, approximated as fairly as may be at the
the Ohio Company; the second installment or balance shall
in full on the 27th day of the month; the Ohio Company
ees that the amounts of gas charged to consumers during each
shall be true statements of the amounts actually delivered
mers determined as is provided in Paragraph Ninth hereof.

teenth. It is understood and agreed that the minimum price
n cents per thousand cubic feet hereinabove provided for is
pon an assumed pressure not exceeding 8 ounces above at-
ric, and that in case of the delivery of gas to consumers at a
exceeding 8 ounces above atmospheric, the amount of gas
harged to such consumers shall be increased proportionately
ncrease in the density of the gas.

ntieth. The Ohio Company covenants to use diligent effort
ntain and keep up its deliveries of natural gas under the spirit
ention of this agreement in order that the natural gas which
pe Company is prepared to deliver hereunder may find a
ious market.

nty first. This contract shall be binding upon the parties
and their successors and assigns, respectively, provided, how-
at in case the gas distributing system now or hereafter owned
trolled by the Ohio Company is broken up, so that parts
are vested in different owners, the Hope Company, at its
shall have the right to terminate this contract.

16 In witness whereof, the parties hereto have hereunto caused their corporate names to be signed by their ive Presidents or Vice Presidents and their respective seals to unto affixed by their respective Secretaries the day and year ove written.

HOPE NATURAL GAS COMPANY,
By JOHN G. PEW,
Vice President.

st:

CHRISTY PAYNE,
Secretary.

THE EAST OHIO GAS COMPANY,
By M. B. DALY,
President.

st:

N. V. SHULTEIS,
Secretary.

EXHIBIT D. March 1st, 1910. Christy Payne.

116*a* PENNSYLVANIA EXHIBIT 20.

Offered at p. 225 of Printed Record by Witness Sullivan.

Contract Between the Mountain State Gas Company and the River Gas Company Dated April 1, 1910.

117 EXHIBIT A. April 15th, 1910. Christy Payne, Secretary.

This agreement, Made and entered into this 1st day of April, A. D. 1910, by and between the Mountain State Gas Company, a West Virginia Corporation, party of the first part, and The River Gas Company, also a West Virginia Corporation, party of the second part,

Witnesseth: Whereas the party of the second part has sold and delivered on this day to the party of the first part all of its property situate in the State of West Virginia, consisting of pipe lines, natural gas distributing plants, and interests in oil and gas producing properties, and as a part of the consideration from the sale, a contract was to be entered into whereby the party of the first part should agree to supply to the party of the second part all of the natural gas which the party of the second part shall require for its consumers in the State of Ohio, as hereinafter set forth, and

Whereas, the Boards of Directors of the parties hereto have in meetings separately assembled on the 15th day of April, 1910, duly adopted and approved this instrument as the agreement so agreed to be entered into as a part of the consideration for said sale, and have authorized their respective officers to execute the same, to take effect as of the 1st day of April 1910,

Now therefore, for and in consideration of the premises, and of the mutual covenants and agreements herein contained to be faithfully performed by each party, its successors and assigns, to the other, the parties hereto, the party of the first part being hereinafter called the "Selling Company and the party of the second part the Buying Company," have agreed and do hereby mutually agree as follows:

118 First. The Selling Company undertakes and agrees, during the continuance of this contract, to sell and deliver to the Buying Company, and the Buying Company undertakes and agrees to purchase and take from the Selling Company,

(*a*) All the natural gas required by the Buying Company for the supply of all of the consumers of the Buying Company paying domestic rates;

(*b*) Such amounts of natural gas as may be required by the Buying Company to fulfill its contracts made with the consent of the Selling Company for the sale of gas at special rates for manufacturing purposes;

led, however, that the Selling Company shall not be obligated and deliver or the Buying Company to purchase and take gas ess of the amounts currently required for the aforesaid pur- or in excess of the amount which can be transported and de- l at a safe pressure through the pipe lines of the Selling Com- now constructed from the gas fields of West Virginia to the on points with the lines of the Buying Company at the State between the States of West Virginia and Ohio. At the op- f the Selling Company, however, it may increase the capacity lines to meet any increased requirements of the Buying Com-

s further provided that the Buying Company shall have the to produce and market gas from any gas lands or leases which owns in the State of Ohio, and to market from lands in Ohio as which it has heretofore contracted to purchase, but such all be accurately and separately measured by meter by the g Company and a statements of the amount so measured based upon a pressure of eight ounces shall be rendered at the end of each month by the said Buying Company to the said Sell- ing Company.

ond. The natural gas to be sold and delivered hereunder shall ivered by the Selling Company to the Buying Company at the ary line between the States of Ohio and West Virginia, the lines of the Selling Company are now connected to the f the Buying Company.

rd. No dominion or control over the natural gas delivered this contract shall remain in the Selling Company after the sses the points of delivery above stated, nor shall the Selling any be responsible for or on account of anything that may ter be done, happen or arise touching said gas; and the Buy- mpany undertakes and agrees that it will at all times and from o time keep free, same harmless and indemnify the Selling any from any and all manner of claims, suits and damages ount of any conduct, act or thing touching the said gas after left the said points of delivery.

rth. The Selling Company undertakes and agrees that at all during the continuance of this contract it will use all reason- iligence in developing and extending its gas leases and prop- and in obtaining gas therefrom for the purpose of fulfilling igations hereunder; and will provide and maintain in good and condition all such compressing stations, pipe lines and facilities in the State of West Virginia to deliver the gas re- by the Buying Company up to the capacity at a safe pressure of the pipe lines of the Selling Company now con- structed to said delivery point.

h. Where either party to this contract fails to perform any tion herein assumed by it, and such failure is due to the Acts l, or a public enemy, strikes, riots, injunctions or other inter-

ference through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, sudden or unfor-seen failure of gas wells, or to any cause not due to the fault of such party, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder, but such party shall use due diligence to again put itself in position to carry out all of the obligations, which, by the terms hereof, it has assumed.

Sixth. This contract shall continue between the parties hereto so long as the Selling Company produces gas in marketable quantities from gas fields owned or leased by it in West Virginia, but the Selling Company reserves the right to make and enter into contracts with other companies for the sale to such companies of natural gas and the right to prefer the domestic consumers directly supplied with natural gas through the various distributing systems now constructed and owned by the Selling Company in West Virginia, or that may be hereafter constructed and owned by it; and in the ordinary course of business the Selling Company shall have the right to sell and dispose of all or any part of the gas properties now or hereafter owned or leased by it.

121 Seventh. It is mutually understood and agreed that the Buying Company shall keep the Selling Company at all times fully informed of all facts tending to show the amount of natural gas which will be necessary from time to time to supply its requirements hereunder, and that so long as the Selling Company exercises due diligence in making provision to supply and does supply the amount of natural gas estimated to be necessary to meet such requirements, it shall not be liable by reason of its failure to supply gas in excess of said estimated amount.

Eighth. The Buying Company undertakes and agrees at all times during the continuance of this contract to keep its lines from the Ohio River to the cities and towns supplied by it and all branches therefrom and the various distributing systems connected therewith, in good order and condition, so as to reduce, as far as possible, the waste and escape of gas, and that all gas supplied by it to domestic consumers or for manufacturing purposes shall be delivered at a pressure not to exceed eight ounces and measured by standard meters, which it will install and keep in good order and condition; that all of said meters used for measuring gas sold for domestic purposes shall be read at least once in each calendar month, and that meters used for measuring gas sold for manufacturing purposes, pursuant to the provisions hereof, shall be read daily, and that reports of the readings of all meters shall be furnished monthly to the Selling Company. The measurement of gas sold for lighting streets and for other purposes where measurement by meters is impracticable shall be estimated monthly and the amount of such estimates reported to the Selling Company.

Ninth. The Buying Company further undertakes and agrees that the Selling Company shall at all times through its and representatives have access to all meters, pipe lines and ices used throughout the plants of the Buying Company, either ng or in buying gas, and shall have the right to have such examined and tested, and that the Selling Company by its y accredited representatives shall, at all times, have the right nine the books of account of the Buying Company so far as ooks of account in any way relate to the purchase or distri- of natural gas.

th. It is mutually understood and agreed that for the pur- f this contract the terms "Manufacturing gas" and "gas sold anufacturing purposes" shall be deemed to include gas sold special contracts and at special rates exclusively for manu- ng purposes, and the terms "gas sold for domestic purposes" gas sold to domestic consumers" shall be deemed to include sold to consumers by the Buying Company, except gas sold nufacturing purposes, as herein defined.

enth. Any gas that may be used by the Buying Company operation of compressing stations or other plants owned by lighting or heating its own buildings, shall be deemed to sold for domestic purposes, unless a special agreement is n reference thereto with the Selling Company.

lfth. It is mutually understood and agreed that insofar as the g Company does not obtain from the Selling Company all the quisite for the supply of it- consumers, it may obtain the t of gas required to supplement the supply from other sources; but such supplementary supply shall always be limited in volume to the amount which the Selling Company is cur- rently failing to supply, and shall be measured separately and tely by the Buying Company by meter, and upon a basis of 8 pressure, and a monthly statement of the amount shall be ed by the Buying Company to the Selling Company, at the each month.

rteenth. It is mutually understood and agreed that the Selling ny will sell and deliver to the Buying Company, and the Buy- mpany will purchase and take from the Selling Company the t of natural gas sold for manufacturing and street lighting es by the Buying Company under special one year contracts, f which *have* been submitted to and approved in writing by lling Company. But all such special contracts for gas sold nufacturing purposes shall provide that natural gas will be d thereunder only in so far as the same is not necessary to he requirements of domestic consumers supplied through pipe f the Buying Company.

rteenth. The Buying Company undertakes and agrees that pay to the Selling Company for natural gas sold and delivered y the Selling Company hereunder as follows:

(*a*) 66 2/3 per centum of the gross receipts of the Buying Co
pany from its sales of natural gas to domestic consumers, provid
always that during the period from April 1st, 1910, to and i
cluding March 31st, 1915, the price received by the Selling Compa
from the Buying Company shall at no time be less than 12 cents
each one thousand cubic feet; and that during the period from Ap
1st, 1915, to and including the 31st day of March, 1920, the pri
received by the Selling Company from the Buying Company sh
at no time be less than 14 cents for each one thousand cubic feet
gas; and that during the period from April 1st, 1920, to and i
cluding the 31st day of March, 1925, the price received by t
Selling Company from the Buying Company shall at no time
less than 18 cents for each one thousand cubic feet of ga
124 and that for the period from and after April 1st, 1925,
the Selling Company in making diligent effort in its produ
tion of gas for its consumers, whoever and wherever they may b
finds that it is compelled to go farther afield with its pipe line,
finds from any cause that the cost of producing its gas on the ave
age throughout its field has materially increased, then the price la
named to be received by the selling Company from the Buying Co
pany shall be increased from year to year so as to yield to the Sellin
Company a larger price in the same proportion that the cost
producing the gas has increased, or shall increase from year to ye
over the cost on the 1st day of April, 1920. And if the parties here
cannot agree upon the amount of such increased percentage, the
the question of the amount of the increase in the rate, if any, sha
be submitted to arbitrators, one to be chosen by each party and th
two so chosen, if they cannot agree, to select an umpire; the awa
of any two of the arbitrators to be final and conclusive, and the co
of the award to be borne equally by the parties hereto.

(*b*) Seventy-five per centum of the gross receipts of the Buyin
Company from its sales of natural gas for manufacturing purpose

Provided that there shall be first deducted from the gross receip
of the Buying Company the amount of money received by it for g
produced from its own gas properties in the State of Ohio, or fro
gas secured by it to supplement the supply received durin
125 a shortage of the deliveries by the Selling Company, whic
deduction shall be based upon the lowest rate received for g
currently sold by the Buying Company to its consumers. It is pr
vided, however, that the Selling Company may erect pitot tube
meter measuring stations on the West Virginia side of the Oh
River at any or all of the river crossings and conr ect the same to a
or all of the pipes through which gas is sold to the Buying Compa
by the Selling Company in order to measure the gas so sold a
there delivered, to ascertain the amount of leakage and unaccount
for gas occurring in the lines, meters and distributing plants of t
Buying Company; if it has ascertained that such unaccounted
gas exceeds 2 per centum of the volume of gas sold and accounted
by the Buying Company, then the Buying Company shall pay to
Selling Company for all unaccounted for gas above 2 per centu

of the gross volume of natural gas sold and accounted for by the Buying Company such payments to be made at the monthly periods herein set forth and at the average price received for the month to the Selling Company for all gas accounted for by the Buying Company. The gas shall be measured at said pitot tube or meter stations on a basis of eight ounces to the square inch according to Boyle's Law for the measurement of gas at varying pressures, and the cost of maintaining and operating the said pitot tube or meter stations, which shall primarily be under the control of the Selling Company during all the time that the said leakage exceeds said per centum, shall be borne by the parties hereto equally, and the Buying Company as well as the Selling Company, shall have full access to the stations at all times with the right to keep an employee or employees there for the purpose of checking the gas measurements.

126 Fifteenth. The Buying Company undertakes and agrees that on or before the fifteenth day of each month it will furnish to the Selling Company a detailed statement of the gas received by it during the preceding month and of the amounts payable therefor, and within five days thereafter will pay such amount to the Selling Company; the Buying Company agrees to furnish any other reasonable data that the Selling Company may require.

Sixteenth. It is mutually understood and agreed that in case the Buying Company shall fail to pay to the Selling Company any amounts that may be due and payable hereunder to the Selling Company within twenty (20) days after such amount becomes due and payable, or shall fail to render the statements required hereunder, or to perform the covenants of this agreement, the Selling Company shall have the right, without cancelling this contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder until all amounts due to it are paid, or at its option shall have the right to terminate this contract on thirty (30) days' notice to the Buying Company without prejudice to its right to collect the amounts due it at the time of such termination for any gas previously furnished hereunder.

Seventeenth. This contract shall be binding upon the parties hereto and their successors and assigns, respectively; provided, however, that in case the gas distributing system now or hereafter owned or controlled by the Buying Company is broken up, so that parts thereof are vested in different owners, the Selling Company, at its option, shall have the right to terminate this contract.

127 & 128 In witness whereof the parties hereto have hereunto caused their corporate names to be signed by their respective Vice Presidents and their respective seals to be hereunto affixed by their respective Secretaries the day and year first above written.

MOUNTAIN STATE GAS COMPANY,
By JOHN TONKIN,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

THE RIVER GAS COMPANY.
By JOHN G. PEW,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

128*a* PENNSYLVANIA EXHIBIT 21.

Offered at p. 225 of Printed Record by Witness Sullivan.

Contract Between the Hope Natural Gas Company and Fayette County Gas Company Dated May 1, 1910.

129 Executed in Duplicate.

This agreement, Made and entered into this 1st day of May, A. D. 1910, by and between the Hope Natural Gas Company, a West Virginia corporation, party of the first part, and the Fayette County Gas Company, also a West Virginia corporation, party of the second part,

Witnesseth, That whereas the party of the second part is the owner of franchises or rights in and is supplying natural gas to the following cities and towns in the State of Pennsylvania, viz.: Uniontown, Connellsville, Scottdale, Mt. Pleasant, Tarrs, Alverton, New Stanton, Hopewood, McClellantown, Masontown, Dawson, Vanderbilt and Youngwood, and owns and maintains a 12-inch pipe line to the State line between the States of Pennsylvania and West Virginia, and

Whereas the party of the first part is the owner of gas leases, properties, wells and pipe lines in the State of West Virginia, with a 12-inch pipe line extending to and meeting the pipe line of the party of the second part at the said State Line, and

Whereas, the party of the second part desires to buy from the party of the first part, and the party of the first part desires to furnish to the party of the second part the natural gas to be supplied to the consumers of the party of the second part in said cities and towns.

Now therefore, for and in consideration of the premises, and of the mutual covenants and agreements herein contained, to be faithfully performed by each party, its successors and assigns, to the other, the parties hereto, the party of the first part hereinafter called the "Selling Company" and the party of the second part the "Buying Company", have agreed and do hereby mutually agree as follows:

130 First. The Selling Company undertakes and agrees during the continuance of this contract, to sell and deliver to the Buying Company, and the Buying Company undertakes and agrees to purchase and take from the Selling Company all of the natural gas required by the Buying Company for the supply of all

f the consumers of the Buying Comnpay, which it now has or ay hereafter acquire, paying domestic rates in the cities, towns nd villages now furnished with natural gas by the Buying Comany; providing, however, that the Selling Company shall not be bligated to sell and deliver, or the Buying Company to purchase nd take gas in excess of the amounts currently required for the oresaid purpose.

The Selling Company also undertakes and agrees for the term f 2 years from and after May 1st, 1910, to sell and deliver to the uying Company, and the Buying Company undertakes and agrees purchase and take from the Selling Company at the special rice hereinafter agreed upon an additional volume of gas in the e summer months from May 1st, 1910, to and including Septemer 30th, 1910, and in the six summer months from April 1st, 1911, and including September 30th, 1911, not to exceed 3,000,000 ubic feet per day, to be supplied for mill use under a contract now inding upon the Buying Company. For the purposes of this conract domestic gas is hereby defined as all gas sold to consumers t rates other than special rates to manufacturers and boilers which ave been agreed to by the Selling Company.

Second. The 12 inch line of the party of the second part in the tate of Pennsylvania meets and is joined to the 12 inch West Virginia line of the party of the first part at the State Line between he States of Pennsylvania and West Virginia, upon the lands of I. L. Core, situate along the boundary line of the District of Battelle, in Monongalia County, West Virginia, with the town-31 ship of — in Greene County, Pennsylvania. The junction point of the pipe lines of the parties hereto shall be nown and designated for the purposes of this contract as Core tation, and at that point there shall be erected a Pitot tube measring station for the purpose of measuring the gas sold and delivered o the Buying Company hereunder; the said station shall be erected y the Selling Company, connected to the lines of each party and ully equipped, ready to be put into operation on the 1st day of lay, 1910; the said Station shall thereafter be maintained and perated by the Selling Company, but the Buying Company shall ave free access to the station at all times, with the right to employ en to read or check the readings of the Pitot tubes; the Buying ompany shall reimburse the Selling Company for one half of the ost of erecting the station, and the cost of maintaining and operating the same from time to time shall be borne equally by the arties hereto. The reading of the Pitot tubes shall be under the oint control of the parties hereto, and shall be made at 15 minute ntervals during each day of 24 hours; duplicate reports of the aily readings shall be mailed daily to each party.

Third. The Buying Company undertakes and agrees that it will ay to the Selling Company for the natural gas sold and delivered o it by the Selling Company, upon the basis of the measurements ecorded by said Pitot tubes, calculated upon a pressure of 12 ounces

to the square inch, according to Boyle's Law for the measurement of gas at varying pressures, the following rates and prices, viz:

(a) For all gas sold and delivered from the 1st day of May, 1910, to and including the 30th day of April, 1920, that price from
132 month to month for each 1,000 cubic feet of gas equal to 50 per centum of the average price per thousand cubic feet charged from month to month by the Buying Company to its domestic consumers;

Provided, always, that during the period from May 1st, 1910, to and including April 30th, 1915, the price received by the Selling Company from the Buying Company shall at no time be less than 12½ cents for each 1,000 cubic feet; and that during the period from May 1st, 1915, to and including April 30th, 1920, the price received by the Selling Company from the Buying Company shall at no time be less than 14 cents for each 1,000 cubic feet of gas; and provided also that from the 1st day of May, 1910, to and including the 30th day of September, 1910, and from the 1st day of April, 1911, to and including the 30th day of September, 1911, for the gas sold by the Selling Company to be delivered by the Buying Company for mill use, but not exceeding 3,000,000 cubic feet per day, under a contract now binding upon the Buying Company, the price to be paid the Selling Company for gas delivered to the mill shall be 75 per centum of the rate received by the Buying Company from the mill instead of the price above stipulated to be paid for all gas; but the price received by the Selling Company from the Buying Company for such mill gas, shall at no time be less than 7½ cents for each 1,000 cubic feet of gas. The gas so sold for mill use shall be accurately measured by the Buying Company by standard meters at a pressure not exceeding 8 ounces, and the amount of gas so measured, but not exceeding 3,000,000 cubic feet each day, shall be deducted monthly from the amount of gas registered by the Pitot tube station;

133 (b) For all gas sold and delivered on and after the 1st day of May, 1920, that price from month to month for each 1,000 cubic feet of gas, equal to 55 per centum of the average price per thousand cubic feet charged from month to month by the Buying Company to its domestic consumers; provided that the price received by the Selling Company from the Buying Company on and after the 1st day of May, 1920, shall at no time be less than 16½ cents for each 1,000 cubic feet of gas;

Provided also that after the 1st day of May, 1920, if the Selling Company in making diligent effort in its production of gas for its consumers, whoever and wherever they may be, is compelled to go farther afield with its pipe lines than the counties of Monongalia, Marion, Taylor, Harrison, Wetzel, Marshall, Tyler, Lewis, Upshur, Doddridge, Wirt, Pleasants, Wood, Ritchie, Calhoun, Gilmer, Braxton and Webster, or finds from other causes that the cost of producing its gas on the average throughout its field has materially

increased, then the percentage last named shall be increased so as to yield to the Selling Company a larger price, in the same proportion that the cost of producing the gas has increased over the cost at the time of the making of this contract. And if the parties hereto cannot agree upon the amount of such increased percentage, then the question of the amount of the increase in the rate, if any, in order to fix the proper rate at which the profit in handling the gas from the well to the consumer should be equitably divided between the parties hereto, shall be submitted to arbitrators, one to be chosen by each party and the two so chosen, if they cannot agree,
134 to select an umpire; the award of any two of the arbitrators to be final and conclusive, and the cost of the award to be borne equally by the parties hereto.

Fourth. The Buying Company agrees to pay to the Selling Company at its offices in Pittsburgh, Pennsylvania, on or before the 15th day of each month for all gas sold and delivered to it in the preceding month.

Fifth. The Buying Company agrees to keep the meter or meters through which it delivers said limited quantities of gas for mill use, in a condition of good repair for accurate measurement of gas, and the Selling Company may have access to said meter or meters with every reasonable opportunity of examining and testing the same. Such meters shall be read daily and monthly reports of the readings of said meter or meters shall be rendered the Selling Company by the Buying Company on or before the 5th day of each month. If the Selling Party challenges the accuracy of any such meter and desires to have the meter tested or repaired, the Buying Company shall test and repair the same in the presence and to the satisfaction of the Selling Party or a representative, if such party wishes to exercise the right to be present or to be represented at such test; the cost of testing and repairing the meter shall be borne by the party challenging the accuracy of the same, if the meter on test proves to be correct, or within 3 per centum correct; but if the meter on test proves more than 3 per centum fast or slow, then the cost of testing and repairing the meter shall be borne by the Buying Company; for repair work the meter shall be shipped to Pittsburgh, Pennsylvania, or to any properly equipped shop of Selling Party, and there tested, adjusted or repaired.
135 During such time as the meter or meters are out of repair and while being tested, the gas taken shall be estimated until the repaired meter is installed, and adjustment and settlement shall be made between the parties hereto at the regular monthly periods on the basis of the amount of gas registered at like pressures for like periods of time when the meter was registering accurately.

Sixth. No dominion or control over the natural gas delivered under this contract shall remain in the Selling Company after the gas passes the point of delivery above stated, nor shall the Selling Company be responsible for or on account of anything that may be done, happen or arise touching said gas after its delivery; and the

Buying Company undertakes and agrees that it will at all times and from time to time keep free, save harmless and indemnify the Selling Company from any and all manner of claims, suits and damages on account of any conduct, act or thing touching the said gas after it has left the said point of delivery.

Seventh. The Selling Company undertakes and agrees that at all times during the continuance of this contract it will use all reasonable diligence in developing and extending its gas leases and properties and in obtaining gas therefrom for the purpose of fulfilling its obligations hereunder; and will use all reasonable diligence to provide and maintain in good order and condition all such compressing stations, pipe lines and other facilities in the State of West Virginia to deliver the gas at said Core Station in volume and pressure to meet the requirements of the Buying Company.

136 Eighth: It is mutually understood and agreed that the Buying Company shall keep the Selling Company at all times fully informed of all facts tending to show the amount of natural gas which will be necessary from time to time to supply its requirements hereunder, and that so long as the Selling Company exercises due diligence in making provision to supply and does supply the amount of natural gas estimated to be necessary to meet such requirements, it shall not be liable by reason of its failure to supply gas in excess of said estimated amount.

Ninth. It is mutually understood and agreed that in so far as the Buying Company during any period does not obtain from the Selling Company all the gas requisite for the supply of its consumers, it may obtain the amount of gas currently required to supplement the supply during such period from other sources. Should the Buying Company desire at any time to purchase additional plants or to extend its distributing system to embrace any other cities or towns not herein named, the Selling Company shall have the right to require the Buying Company to include such additional cities or towns within the terms of this contract. If at any time during the continuance of this contract the Buying Company requires in addition to the gas deliverable by the Selling Company hereunder more gas than the Buying Company can obtain from the territories now owned and leased by it or under contracts which it now has with other parties for the purchase of gas, it will purchase the additional gas required from the Selling Company so far as the Selling Company is willing to supply the same on terms as advantageous to the Buying Company as those on which the Buying Company can obtain same from other sources.

137 Tenth. Where either party to this contract fails to perform any obligation herein assumed by it, and such failure is due to the Acts of God, or a public enemy, strikes, riots, injunctions or other interferences through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, sudden or unforseen failure of gas wells, or to any causes not due to the fault of such party, or is caused by the

necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder, but such party shall use due diligence to again put itself in position to carry out all of the obligations, which, by the terms hereof, it has assumed.

Eleventh. This contract shall continue between the parties hereto for the term of Twenty (20) years from the date hereof, or as long thereafter as the Selling Company produces gas in marketable quantities from the counties named in the Third Section hereof, but the obligation of the Selling Company to deliver gas hereunder shall be limited to the amount which it is currently able to supply from its own production consistently with its present or future contracts with other purchasers, provided, however, that the Selling Company is to have the right at any and all times to supply the domestic consumers connected to its own system in West Virginia and to the systems in West Virginia which it is supplying with gas and to The East Ohio Gas Company and The Peoples Natural Gas Company to the extent of their requirements for domestic consumers, in preference to the Buying Company, but otherwise is not to give other purchasers the preference over the Buying Company.

The Selling Company reserves the right to surrender, exchange, sell and dispose of any part of the gas properties now or hereafter owned or leased by it; should, however, the Selling Company
138 desire to sell all of its gas properties, it shall do so only subject to this agreement.

Twelfth. It is mutually understood and agreed that in case the Buying Company shall fail to pay to the Selling Company any amounts that may be due and payable hereunder to the Selling Company within twenty (20) days after such amount becomes due and payable, or to perform the covenants of this agreement, the Selling Company shall have the right, without cancelling this contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder until all amounts due to it are paid, or at its option shall have the right to terminate this contract on thirty (30) days' notice to the Buying Company without prejudice to its right to collect the amounts due it at the time of such termination for any gas previously furnished hereunder.

Thirteenth. This contract shall be binding upon the parties hereto and their successors and assigns respectively; provided, however, that in case the gas distributing system now or hereafter owned or controlled by the Buying Company is broken up, so that parts thereof are vested in different owners, the Selling Company, at its option, shall have the right to terminate this contract.

139 & 140 In witness whereof the parties hereto have hereunto caused their corporate names to be signed by their respective Presidents and their respective seals to be hereunto affixed by their respective Secretaries, the day and year first above written.

HOPE NATURAL GAS COMPANY,
By JOHN G. PEW,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

FAYETTE COUNTY GAS COMPANY,
By GEO. W. CRAWFORD,
President.

Attest:
H. C. REESER,
Secretary

140*a* PENNSYLVANIA EXHIBIT 22.

Offered at p. 360 of Printed Record by Witness Wallace.

Map Showing Natural Gas Property of the United Fuel Gas Company in West Virginia, Kentucky, and Ohio.

NOTE.—This was replaced by Pennsylvania Exhibit 39 D.

140*b* PENNSYLVANIA EXHIBIT 23.

Offered at p. 486 of Printed Record by Witness Reed.

Map Showing the Natural Gas Property of the Philadelphia Company in Pennsylvania and West Virginia January 1, 1920.

NOTE.—This was replaced by Pennsylvania Exhibit 39 F.

140*c* PENNSYLVANIA EXHIBIT 24.

Offered at p. 534 of Printed Record by Witness Angle.

Map Showing Fayette County Gas Company's Natural Gas System.

NOTE.—This was replaced by Pennsylvania Exhibit 39 A.

141 PENNSYLVANIA EXHIBIT 25.

Offered at p. 741 of Printed Record by Witness Batchelor.

Outline Map of Main Lines of the Natural Gas Company of West Virginia.

(Here follow reproductions of map of main line of the Natural Gas Company of West Virginia, marked page 141, and map showing natural gas property of West Virginia, southern division, marked page 141*a*.)

(Here follow Pennsylvania Exhibits 27 and 28, marked pages 141*b*-143, inclusive.)

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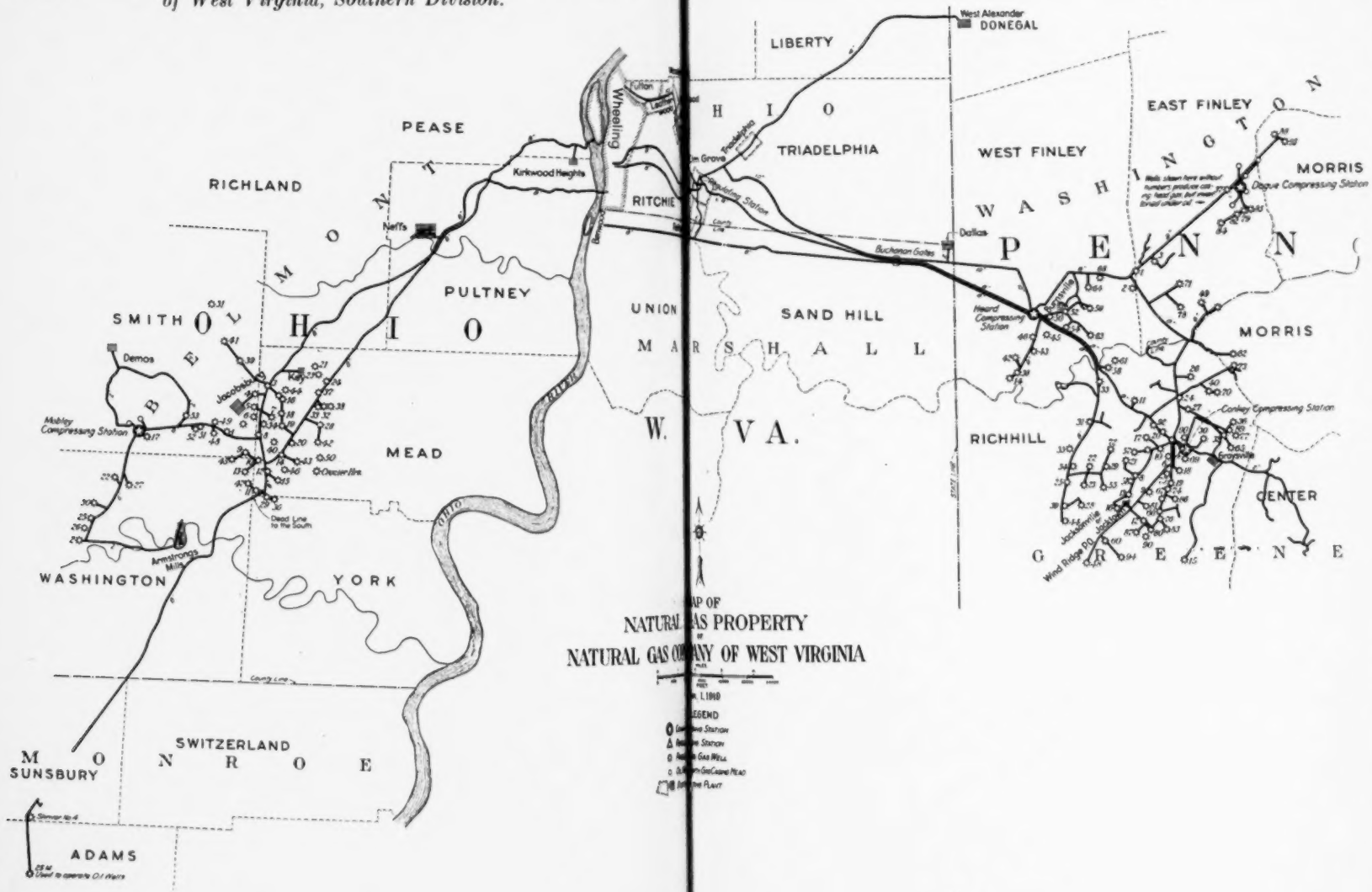
Offered at p. 746 of Printed Record by Witness Batchelor.

Map Showing Natural Gas Property of the Natural Gas Company of West Virginia, Southern Division.



PENNSYLVANIA EXHIBIT 27.

Offered at p. 814 of Printed Record by Witness Anderson.

Well Production and Gas Leases Controlled for Year Ending December 31, 1919, *of Natural Gas Companies in West Virginia.*

PENNA. EX. NO. 27—ANDERSON, H. C.

Anderson & Taylor, Consulting Engineers,

504-507 Coyle & Richardson Bldg., Charleston-Kanawha, W. Va.

Well Production for the Year Ended December 31, 1919, *of Natural Gas Companies under the Jurisdiction of the Public Service Commission.*

Gas Leases Controlled December 31, 1919, *by Natural Gas Companies under the Jurisdiction of the Public Service Commission.*

	Wells owned Dec. 31, 1919.		Wells in use Dec. 31, 1919.		Av. rock pressure, lbs.		Total dy. capacity of well owned (M cu. ft.).		Daily production from wells owned (M cu. ft.).		Unoperated acreage.		Operated acreage.		Total unop. & op. acreage.	
	Total.	Within W. Va.	Total.	Within W. Va.	Total.	Within W. Va.	Total.	Within W. Va.	Total.	Within W. Va.	Total.	Within W. Va.	Total.	Within W.Va.	Total.	Within W. Va.
Aripuru Oil & Gas Co.	6	6	6	6	30	30	682	682	753	753	17	17	149	149	166	166
Allen, Virgil I.	1	1	1	1	50	50	64	64	64	64	.....	.....	64	64	64	64
Bailey Gas Co.	17	17	17	17	...	...	.....	.....	.....	.....	135	135	1,500	1,500	1,635	1,635
Berea Heat & Light Co.	2	2	2	2	200	200	40	40	28	28	.....	.....	6	6	6	6
Bridgeport Natural Gas & Oil Co.	12	12	12	12	55	55	1,000	1,000	773	773	105	105	468	468	573	573
Bristol Oil & Gas Co.	6	6	6	6	60	60	500	500	237	237	.....	.....	227	227	227	227
Buckhannon Fuel Co.	4	4	4	4	...	...	40	40	40	40	.....	.....	239	239	239	239
Cameron Heat & Light Co., The	7	7	7	7	125	125	200	200	200	200	.....	.....	211	211	211	211
Carnegie Natural Gas Co.	817	571	809	530	...	...	.....	.....	.....	.....	89,108	43,171	70,817	33,921	159,925	77,092
Cather Gas Co., J. B.	3	3	3	3	280	280	500	500	67	67	.....	.....	.....	.....	.....	.....
City & Suburban Gas Co.	37	20	37	20	200	100	1,050	1,050	959	920	3,336	207	3,775	1,761	7,111	1,968
Clarksburg Light & Heat Co.	130	130	130	130	105	105	10,000	10,000	9,188	9,188	3,683	3,683	8,483	8,483	12,166	12,166
Columbia Gas & Electric Co.	255	254	227	227	307	307	121,149	121,149	15,547	15,547	220,707	180,933	29,237	28,737	249,944	209,670
Comet Oil & Gas Co., The	18	18	18	18	75	75	4,596	4,596	573	573	3,085	3,085	1,800	1,800	4,885	4,885
Fay Company	...	....	....	....	...	...	.....	.....	.....	.....	450	450	.....	.....	450	450
Glenville Natural Gas Co.	1	1	1	1	...	...	.....	.....	.....	.....	.....	.....	200	200	200	200
Harshbarger Oil & Gas Co.	12	12	12	12	300	300	.....	.....	152	152	1,050	1,050	1,000	1,000	2,050	2,050
Home Petroleum & Natural Gas Co., The	4	4	24	24	45	45	.....	.....	165	165	.....	.....	251	251	251	251
Hope Natural Gas Co.	3,348	3,348	....	....	...	...	.....	.....	129,585	129,585	690,094	690,094	326,420	326,420	1,016,514	1,016,514
Huntington Development & Gas Co.	162	162	162	162	200	200	.....	.....	5,042	5,042	3,393	3,393	1,491	1,491	4,884	4,884
Imperial Oil & Gas Products Co.	16	15	16	15	210	144	5,314	925	2,022	925	9,182	7,172	4,517	3,331	13,699	10,503
Manufacturers Gas & Electric Light Co.	5	5	4	4	125	125	300	300	314	314	11	11	126	126	137	137
Manufacturers Light & Heat Co., of Penn., The	1,235	461	1,189	430	...	...	68,693	29,092	34,495	14,779	215,464	94,281	132,029	48,155	347,493	142,436
Monongahela Valley Traction Co. (Gas Dept.)	70	70	70	70	...	...	8,962	8,962	3,925	3,925	14,620	16,620	5,047	5,047	19,667	19,667
Montgomery Gas Co., The	8	8	8	8	315	315	4,000	4,000	1,220	1,220	1,180	1,180	373	373	1,553	1,553
Moore, Herman	4	4	4	4	...	...	.....	.....	.....	.....	.....	.....	35	35	35	35
Natural Gas Co. of West Virginia	288	....	266	....	200	...	21,600	.....	10,965	.....	91,748	12,276	32,084	.....	123,832	12,276
Ohio Fuel Oil Company	17	13	17	13	...	...	.....	.....	912	9	304,091	59,728	1,828	1,728	305,919	61,456
Pittsburgh & West Virginia Gas Co.	1,238	1,238	1,200	1,200	186	186	.....	.....	.....	.....	209,128	209,128	108,198	108,198	317,326	317,326
Raccoon Gas Co.	10	10	10	10	150	150	.....	.....	638	638	525	525	378	378	903	903
Randall Gas Co.	35	28	38	31	89	100	6,833	5,465	2,007	1,796	2,193	2,067	2,050	1,611	4,243	3,678
Reserve Gas Co.	735	735	....	....	...	...	.....	.....	57,686	57,686	4,664	4,664	51,468	51,468	56,132	56,132
Salem Natural Gas Co.	6	6	6	6	...	...	230	230	.....	.....	.....	.....	386	386	386	386
Shields Oil & Gas Co., The	4	4	2	2	439	439	5,540	5,540	81	81	150	150	1,710	1,710	1,860	1,860
Shinnston Oil Co.	1	1	1	1	20	20	25	25	.....	.....	...	.....	4	4	4	4
Travis, C. B.	1	1	1	1	200	200	.....	.....	200	200	460	460	8	8	468	468
United Fuel Gas Co.	657	612	....	....	...	...	.....	.....	.....	.....	740,145	655,166	66,041	62,331	806,186	717,497
West Union Gas Co.	3	3	3	3	...	...	.....	.....	.....	.....	212	212	155	155	367	367
West Virginia Central Gas Co.	161	161	156	156	172	172	14,840	14,840	.....	.....	24,703	24,703	9,364	9,364	34,067	34,067
West Virginia Heat & Light Co.	9	9	9	9	33	33	800	800	.....	.....	218	218	436	436	654	654
W. Va. Traction & Electric Co. (Gas Dept.)	83	70	83	70	100	125	3,348	3,348	5,209	5,209	.....	6,770	7,146	6,117	7,146	12,887
Wetzel Natural Gas Co	3	3	3	3	75	75	200	200	46	46	28	28	45	45	73	73
Total	9,432	8,026	4,542	3,196							2,663,885	2,017,682	870,432	708,006	3,504,317	2,175,688
Sundry companies	111	110	111	110												
Total	9,543	8,136	4,653	3,306												

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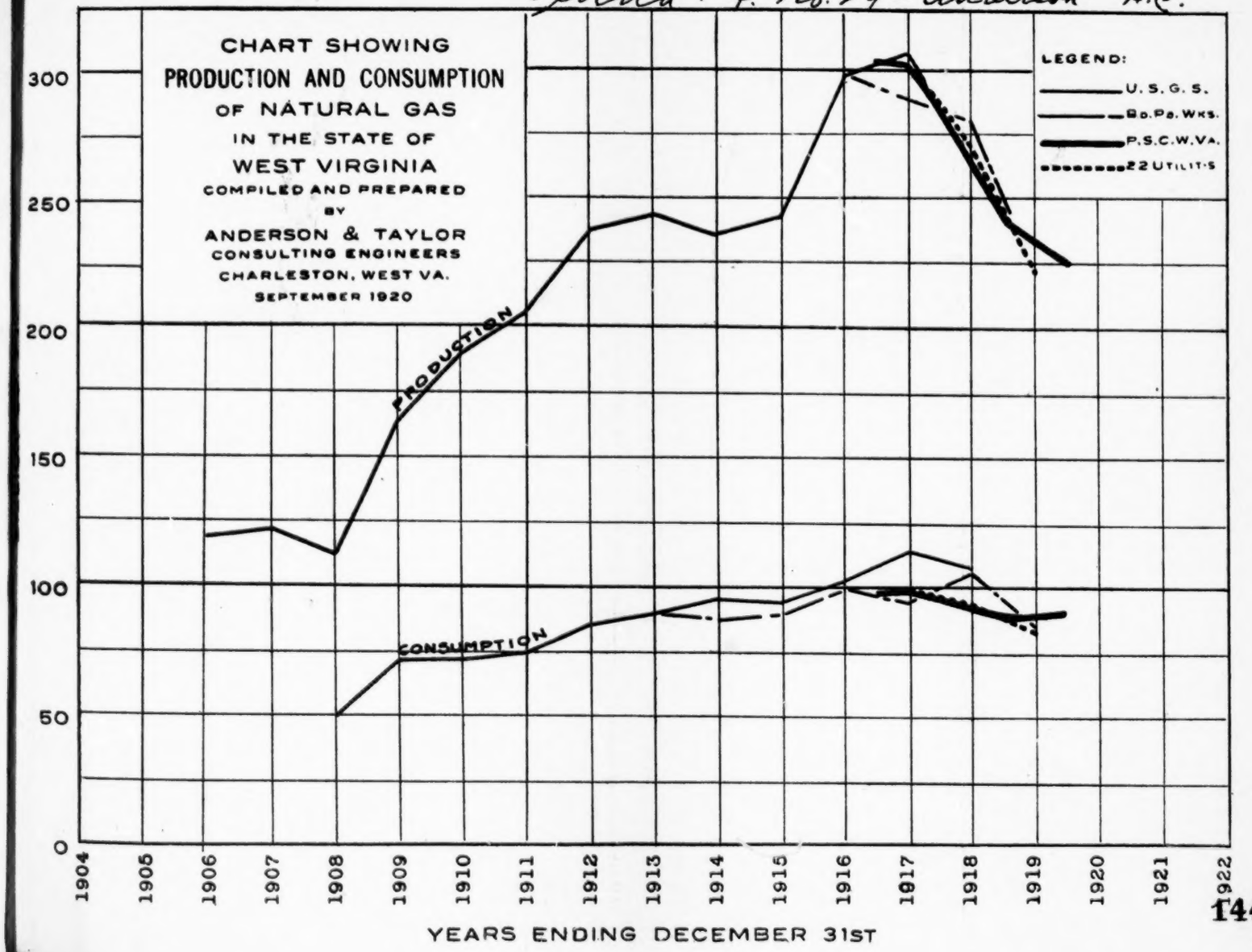
Penna. Ex. No. 29 - Anderson N.C.



PENNSYLVANIA EXHIBIT #30.

Offered at p. 819 of Printed Record by Witness Anderson.

Distribution of Natural Gas in U. S. in 1918, *Geological Survey Figures.*

PENNSYLVANIA EXHIBIT 30.

Distribution of Natural Gas Consumed in the United States in 1918.

State.	Number of producers.	Consumers.		Gas consumed.								
				Domestic.			Industrial			Total.		
		Domestic.	Industrial.	Volume (M cu. ft.).	Average price (cents per M cu. ft.).	Value.	Volume (M cu. ft.).	Average price (cents per M cu. ft.).	Value.	Volume (M cu. ft.).	Average price (cents per M cu. ft.).	Value.
Ohio	2,359	885,876	4,010	98,023,666	32.36	$31,721,005	45,561,594	26.27	$11,973,156	143,585,260	30.43	$43,694,161
Pennsylvania	1,509	481,275	4,486	59,839,730	31.37	18,772,970	117,300,074	22.16	26,004,250	177,139,804	25.27	44,777,220
New York	342	169,308	641	19,637,845	33.60	6,599,907	703,362	25.49	179,300	20,341,207	33.32	6,779,207
Kansas	412	120,350	877	14,808,432	29.97	4,439,202	19,103,851	13.74	2,625,016	33,912,283	20.83	7,064,218
West Virginia	407	127,168	1,873	20,968,624	21.02	4,409,125	87,704,820	8.97	7,875,664	108,673,444	11.30	12,284,789
Oklahoma	398	120,507	1,480	21,493,267	20.37	4,379,661	85,168,137	9.79	8,344,703	106,661,404	11.92	12,724,364
California	95	260,767	894	5,901,797	66.78	3,941,560	33,817,144	11.85	4,010,106	39,718,941	20.01	7,951,666
Texas	81	79,865	793	7,212,092	38.75	2,795,265	13,070,621	20.83	2,723,197	20,282,713	27.20	5,518,462
Kentucky	122	90,849	100	7,922,941	30.98	2,454,936	4,277,249	14.92	638,457	12,200,190	25.35	3,093,393
Missouri	34	84,038	186	4,054,772	54.80	2,222,346	456,449	29.83	136,198	4,511,221	52.28	2,358,544
Arkansas	12	21,742	226	3,551,314	31.10	1,104,529	8,677,974	9.98	866,571	12,229,288	16.11	1,971,100
Indiana	931	31,032	284	2,428,003	37.48	910,215	2,088,580	28.73	600,189	4,516,583	33.44	1,510,404
Louisiana	73	24,370	578	4,264,777	20.41	870,587	22,059,373	7.82	1,726,448	26,324,150	9.86	2,997,035
Illinois	186	8,669	90	596,758	40.38	241,024	3,876,260	9.80	379,925	4,473,018	13.88	620,949
Montana	6	1,198	1	176,727	35.10	62,048	312	32.05	100	177,039	35.10	62,148
Wyoming	25	999	46	189,010	32.34	61,128	4,149,830	2.29	95,043	4,338,840	3.59	156,171
South Dakota	31	391	2	20,166	67.46	13,604	22,020	25.00	5,505	42,186	45.29	19,109
Alabama	9	102	1	2,600	41.92	1,090	2,000	40.00	800	4,600	41.08	1,890
Tennessee	11	6	6	1,442	52.01	750	1,825,283	19.74	360,390	1,826,725	19.76	361,140
Michigan	19	12	2	745	100.00	745	428	70.09	300	1,173	89.08	1,045
Colorado	17	6	3	2,553	28.39	725	7,550	24.50	1,850	10,103	25.48	2,575
Oregon	3	3	...	2,200	25.00	550	.....	.....	.....	2,200	25.00	550
North Dakota	7	6	...	913	52.02	475	.....	.....	.....	913	52.02	475
Iowa	7	3	...	1,758	13.93	245	.....	.....	.....	1,758	13.93	245
Maryland, Utah, Washington	5	1	2	166	30.12	50	25,750	10.29	2,650	25,916	10.41	2,700
Total	7,101	2,508,543	16,581	271,102,298	31.35	$85,003,742	449,898,661	15.23	$68,549,818	721,000,959	21.29	$153,553,560

Natural Gas Produced and Consumed in the United States in 1918.

State.	Production.				Consumption.			
	Percentage.	Volume (M cubic feet).	Average price (cents per M cubic feet).	Value.	Percentage.	Volume (M cubic feet).	Average price (cents per M cubic feet).	Value.
West Virginia	36.78	265,160,917	15.58	$41,324,365	15.07	108,673,444	11.30	$12,284,789
Oklahoma	17.24	124,317,179	12.71	15,805,135	14.79	106,661,404	11.92	12,724,364
Pennsylvania	17.17	123,813,358	31.18	38,608,883	24.57	177,139,804	25.27	44,777,220
Ohio	8.50	61,261,069	39.55	24,234,741	19.92	143,585,260	30.43	43,694,161
California	5.51	39,718,941	20.01	7,951,666	5.51	39,718,941	20.01	7,951,666
Louisiana	5.01	36,094,132	13.60	4,912,235	3.65	26,324,150	9.86	2,597,035
Kansas	3.86	27,824,641	23.86	6,640,781	4.71	33,912,283	20.83	7,064,218
Texas	1.86	13,439,624	37.40	5,027,449	2.81	20,282,713	27.20	5,518,462
New York	1.17	8,460,583	67.05	5,673,131	2.82	20,341,207	33.32	6,779,207
Arkansas	.73	5,294,663	10.86	575,115	1.76	12,229,288	16.11	1,971,100
Illinois	.62	4,473,018	13.88	620,949	.62	4,473,018	13.88	620,949
Wyoming	.60	4,338,840	3.59	156,171	.60	4,338,840	3.59	156,171
Kentucky	.42	3,022,439	22.03	665,843	1.69	12,200,190	25.35	3,093,393
Tennessee	.53	1,826,725	19.76	361,140	1.54	1,826,725	19.76	361,140
Indiana		1,666,822	53.97	899,671		4,516,583	33.44	1,510,404
Montana		177,039	35.10	62,148		177,039	35.10	62,148
South Dakota		42,186	45.29	19,109		42,186	45.29	19,109
Maryland, Utah, Washington		25,916	10.41	2,700		25,916	10.41	2,700
Missouri		22,120	25.08	5,548		4,511,221	52.28	2,358,544
Colorado		10,103	25.48	2,575		10,103	25.48	2,575
Alabama		4,600	41.08	1,890		4,600	41.08	1,890
Oregon		2,200	25.00	550		2,200	25.00	550
Iowa		1,758	13.93	245		1,758	13.93	245
Michigan		1,173	89.08	1,045		1,173	89.08	1,045
North Dakota		913	52.02	475		913	52.02	475
Total	100.00	721,000,959	21.29	$153,553,560	100.00	721,000,959	21.29	$153,553,560

143*a* PENNSYLVANIA EXHIBIT 29.

Offered at p. 817 of Printed Record by Witness Anderson.

Chart Showing Production and Consumption of Natural Gas in West Virginia.

(Here follow chart, Pennsylvania Exhibit No. 29, marked page 144, and Pennsylvania Exhibit No. 30, marked pages 144*a* and 145.)

145a PENNSYLVANIA EXHIBIT 31.

Offered at p. 822 of Printed Record by Witness Anderson.

Relation of Operated and Unoperated Leaseholds to Large and Small Companies in West Virginia.

146 PENNA. EX. 31—ANDERSON. 9/16/20. E. M.

August 19, 1920.

Statement Showing Relation of Operated and Unoperated Leaseholds of Large Interstate Natural Gas Companies and Small Local Intrastate Natural Gas Companies Doing Business in the State of West Virginia.

Company.	Unoperated acres.	Operated acres.	Total acres.	Unoperated.	Operated.
Carnegie Nat. G. Co.	89,108	70,817	159,925	.....	.....
Col. Gas & Elec. Co.	220,707	29,237	249,944	.....	.....
Hope Nat. Gas Co.	690,094	326,420	1,016,514	.....	.....
Mfg. L. & H. Co.	215,464	132,029	347,493	.....	.....
Ptbg. & W. Va. G. Co.	209,128	108,198	317,326	.....	.....
Reserve Gas Co.	4,664	51,468	56,132	.....	.....
United Fuel Gas Co.	740,145	66,641	806,786	.....	.....
Total (7) large interstate Gas Cos.	2,169,310	784,810	2,954,120	73.43%	26.57%
Total 20 small local intrastate Gas Cos.	10,317	17,302	27,619	37.35%	62.65%

of the smaller companies fail to give this information.

PENNSYLVANIA EXHIBIT 32.

Offered at p. 823 of Printed Record by Witness Anderson.

Domestic Natural Gas Statistics for Year 1918 from Geological Survey Report, Domestic Gas Statistics from 1909 to 1919 from the Public Service Commission of West Virginia, and Domestic Gas Statistics of Various Companies in West Virginia.

147

PENNA. EX. 32—ANDERSON. 9/16/20. E. M.

Statement Showing Average Yearly Consumption of Natural Gas in M Cu. Ft. by Domestic Consumers.

From the 1918 Annual Report U. S. Geological Survey.

State.	No. of dom. consumers.	Volume, M cu. ft.	Average per dom. consumer, M cu. ft.	Average price ¢ per M cu. ft.
West Virginia	127,168	20,968,624	164.89	21.02
Pennsylvania	481,275	59,839,730	124.34	31.37
Ohio	885,876	98,023,666	110.65	32.36
Kentucky	90,849	7,922,941	87.21	30.98
Indiana	31,032	2,428,003	78.25	37.48
22 Other States	892,345	81,919,334	91.80	32.64
Total United States	2,508,543	271,102,298	108.07	31.35

PENNA. EX. 32—ANDERSON. 9/16/20. E. M.—*Continued.*

From Special Compilation Taken from Reports to Board of Public Works and the Public Service Commission of West Virginia.

Year.	No. of dom. consumers.	Volume, M cu. ft.	Average per dom. consumer, M cu. ft.
W. Va. 1909	57,208	9,907,023	173.18
" 1910	71,900	11,173,508	155.40
" 1911	70,880	11,311,715	159.59
" 1912	74,985	13,288,159	177.21
" 1913	82,139	12,961,799	157.80
" 1914	88,344	14,265,209	161.47
" 1915	94,098	15,220,207	161.75
" 1916	109,216	15,237,221	139.51
" 1917	122,329	16,404,234	134.10
" 1918	125,341	19,618,873	156.52
" 1919	130,780	18,753,986	143.40

For the State of W. Va. Only, Year Ending 12/31/19.

Name of utility.	No. of domestic consumers.	Volume, M cu. ft.	Average per dom. consumer, M cu. ft.
Charleston-Dunbar N. G. Co.	1,800	265,611	147.56
Clarksburg L. & H. Co.	8,282	1,528,243	184.53
Hope Natural Gas Co.	19,076	2,512,816	131.73
Huntington Dev. & Gas Co.	4,210	960,003	228.03
Mfg. L. & H. Co.	10,967	1,452,353	132.43
Monon. Valley Trac. Co.	6,114	890,622	145.67
Nat. Gas Co. of W. Va.	14,298	1,823,633	127.54
Pittsburgh & W. Va. Gas Co.	4,250	554,350	130.44
Randall Gas Co.	1,310	199,100	151.98
United Fuel Gas Co.	24,528	4,336,112	176.78
W. Va. Central Gas Co.	5,431	642,516	118.31
W. Va. & Md. Gas Co.	6,998	558,732	79.84
W. Va. Trac. & Elec. Co.	2,506	364,321	145.38
54 Other Utilities	21,010	2,665,674	126.88
Total W. Va.	130,780	18,753,986	143.40

PENNA. EX. 32—ANDERSON. 9/16/20. E. M.—*Continued*

Average Price Do m. Gas Yr. 1918.

Charleston-Dunbar N. G. Co.	..
Clarksburg L. & H. Co.	17
Hope Natural Gas Co.	20
Huntington Dev. & Gas Co.	15
Mfg. L. & H. Co.	26
Monon. Valley Trac. Co.	22
Nat. Gas Co. of W. Va.	30
Pittsburgh & W. Va. Gas Co.	22
Randall Gas Co.	16
United Fuel Gas Co.	16
W. Va. Central Gas Co.	25
W. Va. & Md. Gas Co.	33
W. Va. Trac. & Elec. Co.	20
54 Other Utilities	..

PENNSYLVANIA EXHIBIT 33.

Offered at p. 824 of Printed Record by Witness Anderson.

Estimate of Monthly and Yearly Sales of Natural Gas in West Virginia.

149

PENNA. EX. 33—ANDERSON. 9/16/20. E. M.

Estimate of Maximum Monthly Sales in West Virginia.

Name of utility.	Domestic. Yr.	Mo.	M cu. ft.	Industrial. Yr.	Mo.	M cu. ft.	Commercial.	Total. M cu. ft
Clbg. L. & H. Co.	1918,	Jan.	305,000	1917,	May	545,000	....	850,000
Col. G. & E. Co.	1920,	Jan.	8,064	1920,	Jan.	69,164	....	77,228
Hope Nat. G. Co.*	1918,	Jan.	458,711	1917,	May	557,732	....	1,016,443
Hunt D. & G. Co.	1918,	Jan.	199,848	1918,	July	429,682	....	629,530
Imp. O. G. & P. Co.	1920,	Jan.	9,458	1913,	Mar.	170,300	....	179,758
Mfg. L. & H. Co.	1918,	Jan.	187,997	1915,	Dec.	505,994	....	693,991
Nat. G. Co. of W. Va.	1920,	Jan.	435,606	1912,	Sep.	148,374	....	583,980
Ptbg. & W. Va. G. Co.	1920,	Jan.	123,052	1918,	Nov.	368,891	....	491,943
Reserve Gas Co.*	1918,	Jan.	13,558	1917,	Nov.	12,653	....	26,211
United F. Gas Co.	1920,	Jan.	787,424	1918,	Nov.	631,953	....	1,419,377
W. Va. Cent. G. Co.	1918,	Jan.	324,000	1912,	Nov.	754,000	....	1,078,000
W. Va. T. & E. Co.(a)	1920,	Jan.	54,444	1920,	Jan.	81,831	6,718	142,993
Total			2,907,162			4,275,574	6,718	7,189,454

*Does not include gas used in drilling wells and in compressor stations.
(a) Now W. Va. Utilities Company.

Estimate of Yearly Sales of Natural Gas in the State of West Virginia on the Basis of Maximum Monthly Domestic and Industrial Sales.

(1) Name of utility.	(2) Total of maximum monthly dom. & ind. sales, M cu. ft.	(3) Est. yearly total of max. sales, M cu. ft.	(4) Actual total sales year 1919. M cu. ft.	Difference between columns 4 & 3. M cu. ft.
Clbg. L. & H. Co.	850,000	10,200,000	4,542,832	5,657,168
Columbia G. & E. Co.	77,228	926,736	82,364	844,372
Hope Nat. Gas Co.	1,016,443	12,197,316	4,930,212*	7,267,104
Hunt. Dev. & Gas Co.	629,530	7,554,360	4,741,583	2,812,777
Imp. O. & G. P. Co.	179,758	2,157,096	137,578	2,019,518
Mfg. L. & H. Co.	693,991	8,327,892	5,394,317	2,933,575
Nat. Gas Co. of W. Va.	583,980	7,007,760	2,923,345	4,084,415
Pittsburgh & W. Va. G. Co.	491,943	5,903,316	3,100,012	2,803,304
Reserve Gas Co.	26,211	314,532	78,429*	236,103
United Fuel G. Co.	1,419,377	17,032,524	11,323,038	5,709,486
West Va. Cent. Gas Co.	1,078,000	12,936,000	1,034,043	11,901,957
W. Va. Trac. & E. Co.	142,993	1,715,916	1,334,471	381,445
Total	7,189,454	86,273,448	39,622,224	46,651,224

Total sales in the State of W. Va. year 1919 from reports to Bd. of Public Works..... 83,769,937 M. cu. ft.
Total actual Domestic & Industrial sales of above Companies year 1919..... 39,622,224 "

Est. Increase on this basis 98,628,380

Estimate of Yearly Sales of Natural Gas in the State of W. Va. on the Basis of Maximum Industrial and Actual Domestic Sales.

(1) Name of utility	(2) Actual domestic sales year, M cu. ft.	(3) Est. y'rly total of max. ind. sales, M cu. ft.	(4) Est. total of possible actual sales, M cu. ft.	(5) Actual total sales year 1919, M cu. ft.	(6) Difference between columns 4 *or* 5, M cu. ft.
Clarksbg. L. & H. Co.	1,528,243	6,540,000	8,068,243	4,542,832	.....
Columbia Gas & E. Co.	35,133	829,968	865,101	82,364	.....
Hope Nat. Gas Co.	2,512,816	6,692,784	9,205,600	*4,9[illegible]0,212	.....
Hunt. Dev. & Gas Co	960,003	5,156,184	6,116,187	4,741,583	.....
Imperial Oil & Gas Pro. Co.	50,638	2,043,600	2,094,238	137,578	.....
Mfgrs. L. & H. Co.	1,452,353	6,071,928	7,524,281	5,394,317	.....
Nat. Gas Co. of W. Va.	1,823,633	1,780,488	3,604,121	2,923,345	.....
Pittsbrg. & W. Va. Gas Co.	554,350	4,426,692	4,981,042	3,100,012	.....
Reserve Gas Co.	78,429	151,836	230,265	*78,429	.....
United Fuel & Gas Co.	4,336,112	7,583,436	11,919,548	11,323,038	.....
W. Va. Central Gas Co.	642,516	9,048,000	9,690,516	1,034,043	.....
W. Va. Traction & E. Co.	364,321	981,972	1,346,293	1,334,471	.....
Total	14,338,547	51,306,888	65,645,435	39,622,224	26,023,211

Total Sales in the State of W. Va. year 1919 from Reports of Bd. of Public Works ..... 83,769,937 M cu. ft.
Total Actual Domestic & Industrial Sales of above companies, year 1919 ..... 39,622,224 M cu. ft.
% of Actual Sales of 12 companies to total sales 47.3%
Estimated annual increased demand on this basis ..... 55,017,359 M cu ft.

*From Form No. 56 E-P. S. C. W. Va.

151*a* PENNSYLVANIA EXHIBIT 34.

Offered at p. 825 of Printed Record by Witness Anderson.

Comparison of Maximum Yearly Consumption of Natural Gas for Industrial Consumers in the State of West Virginia for Years 1915 to 1919, Inclusive, with Year 1918.

152 PENNA. EX. 34—ANDERSON. 9/16/20. E. N.

Summary of Comparison of Maximum Yearly Consumption of Natural Gas for Industrial Consumers in the State of West Virginia for the Years 1915 to 1919, Inclusive, with the Year 1918.

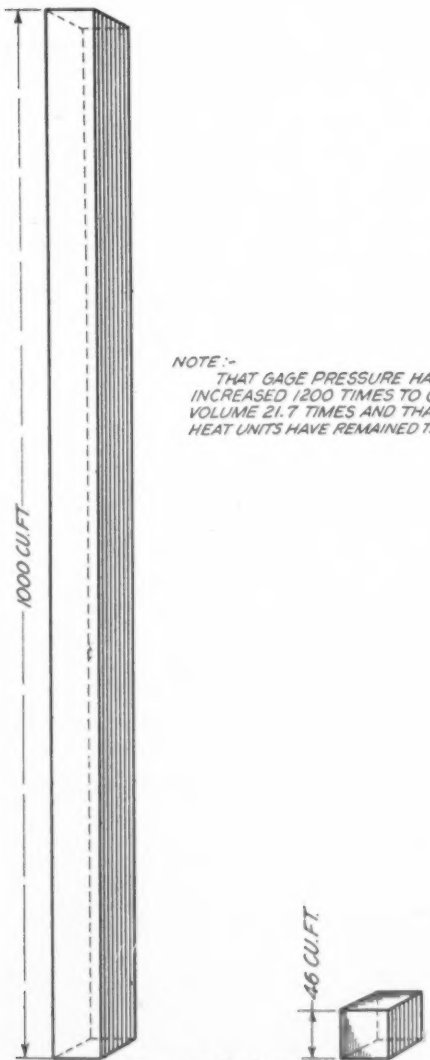
	M cubic feet.	
	Maximum, 1915-1918.	1918.
Bridgeport Natural Gas & Oil Co.	101,270	55,940
Clarksburg Ligh- and Heat Co.	5,306,147	3,586,065
Hope Natural Gas Company	5,223,068	4,017,800
Manufacturers Gas & Elec. Light Co.	106,105	66,102
Manufacturers Light & Heat Co.	5,003,541	3,561,411
Natural Gas Co. of W. Va.	765,953	728,265
Northern Natural Gas Co.	4,699	4,572
Pittsburgh & W. Va. Gas Co.	2,589,159	1,987,470
Raccoon Gas Company	737,453	232,332
Randall Gas Company	747,648	486,372
Reserve Gas Company	9,852	2,943
United Fuel Gas Company	5,441,475	4,910,200
W. Va. Central Gas Co.	735,692	277,558
W. Va. & Md. Gas Company	1,284,170	69,585
W. Va. Utilities Company	1,680,966	684,946
	29,737,208	20,671,589
Percentage increase of Maximum 1915-1918 to yr. 1918		43.86%
Total industrial consumption year 1918 in the State of W. Va. (U. S. G. S.)	87,704,820	M cu. ft.
Estimated total increase of W. Va.	38,467,334	"

(It is to be noted that these figures are based principally on records for only four years.)

DIAGRAM SHOWING HOW A GIVEN AMOUNT OF GAS CAN BE CONTRACTED BY THE APPLICATION OF PRESSURE

Offered at p. 867 of Printed Record by Witness Wyer.

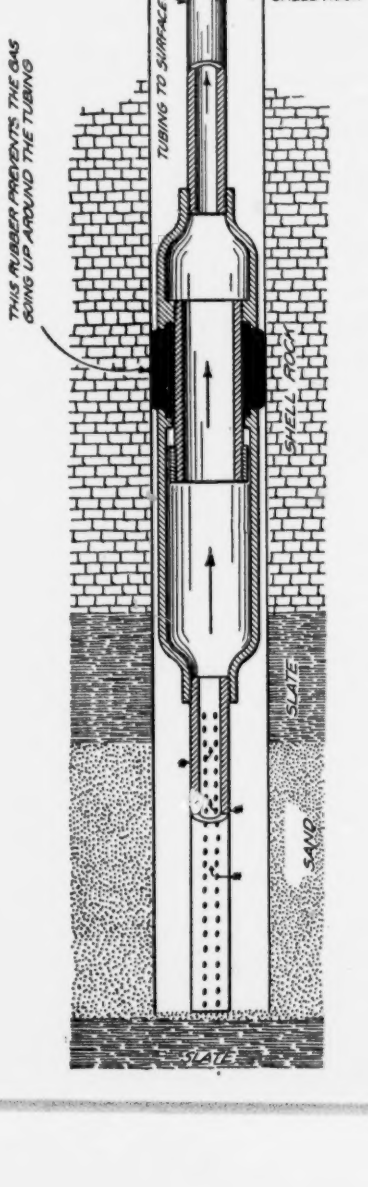
Diagram Showing How a Given Amount of Gas Can Be Contracted by Application of Pressure.



HOW NATURAL GAS IS SEVERED FROM T
AND DELIVERED INTO A

FIRST STEP

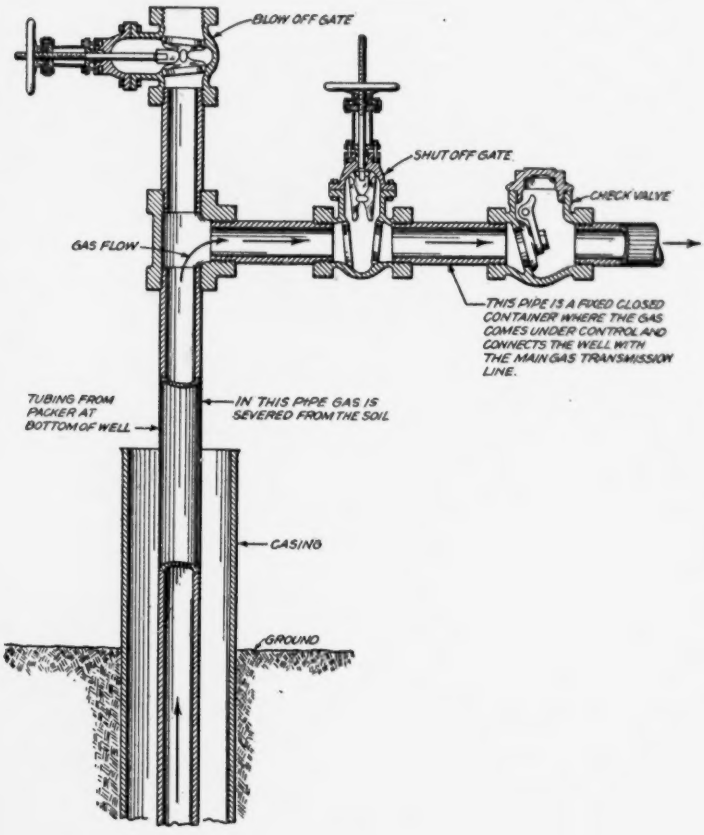
Well packer at bottom of well—usually about ½ mile below the earth's surface—where the gas is separated from the ground, is forced into the tubing, and then comes to the surface.



SOIL. BROUGHT UNDER CONTROL,
CLOSED CONTAINER

FINAL STEP

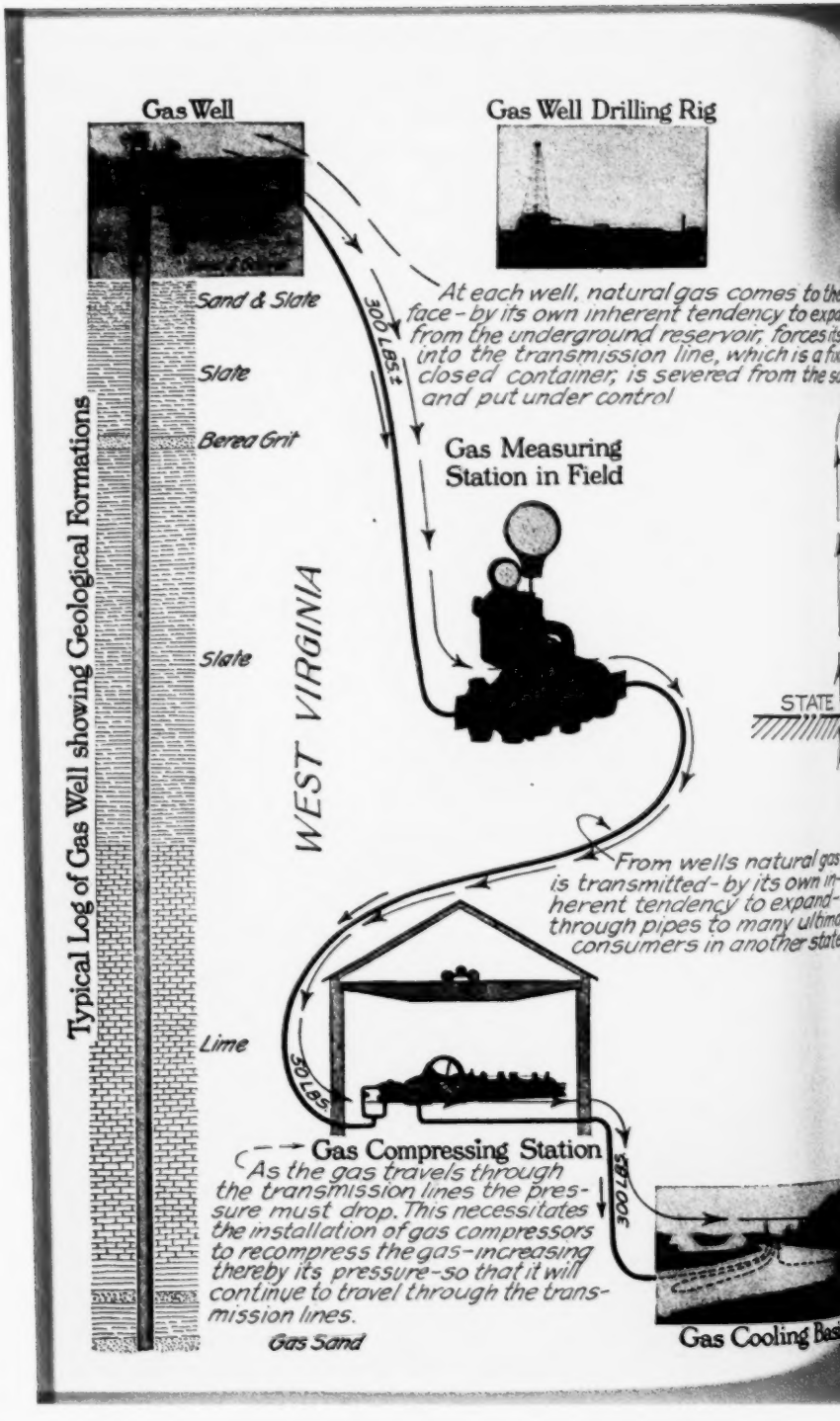
Well fittings above ground where the gas from the packer below as it flows up through the tubing comes under control and is delivered into the well discharge line which is a fixed closed container.



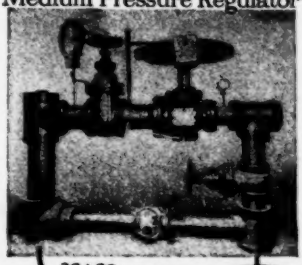
154 PENNSYLVANIA EXHIBIT 36.

Offered at p. 870 of Printed Record by Witness Wyer.

How Natural Gas is Severed from the Soil, Brought under Control, and Delivered Into a Fixed Closed Container.


Gas Well
Gas Well Drilling Rig
Typical Log of Gas Well showing Geological Formations
Sand & Slate
Slate
Berea Grit
Slate
Lime
Gas Sand
300 LBS.
At each well, natural gas comes to the
face - by its own inherent tendency to expa
from the underground reservoir, forces its
into the transmission line, which is a fu
closed container; is severed from the s
and put under control
Gas Measuring
Station in Field
WEST VIRGINIA
STATE
From wells natural gas
is transmitted - by its own in-
herent tendency to expand -
through pipes to many ultima
consumers in another state
300 LBS.
Gas Compressing Station
As the gas travels through
the transmission lines the pres-
sure must drop. This necessitates
the installation of gas compressors
to recompress the gas - increasing
thereby its pressure - so that it will
continue to travel through the trans-
mission lines.
300 LBS.
Gas Cooling Bas

Pitot Tube Gas Measuring Station at Gates of Town



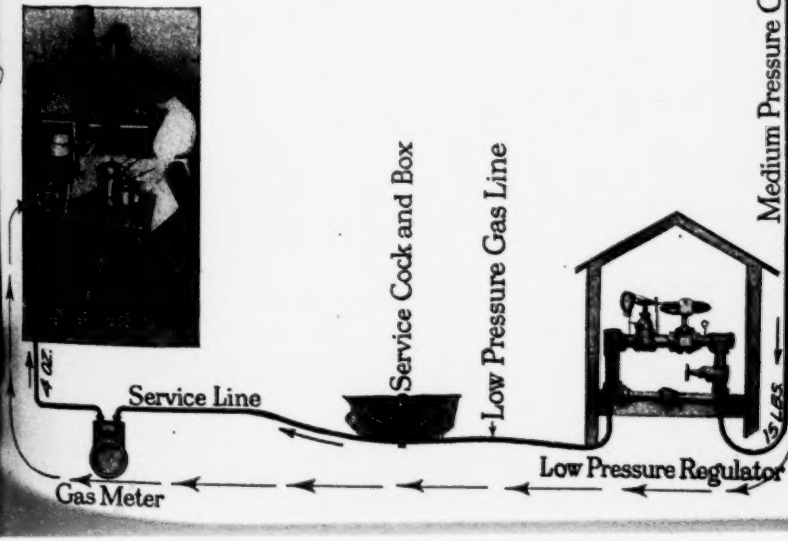
HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMER IN ANOTHER STATE

NE 155

PENNSYLVANIA EXHIBIT 37.

Offered at p. 871 of Printed Record by Witness Wyer.

How Natural Gas from West Virginia is Transmitted to the Consumer in Another State.



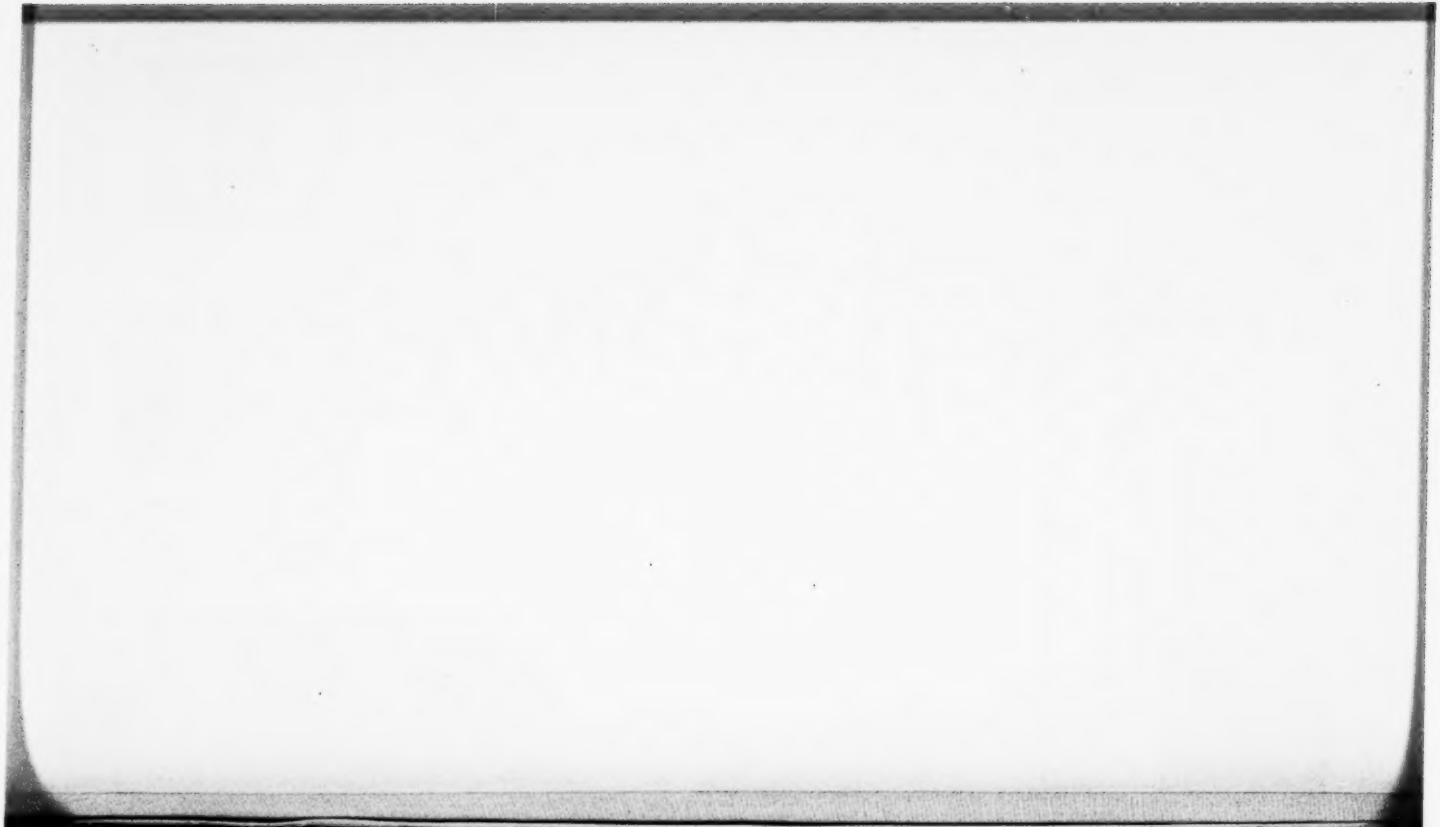
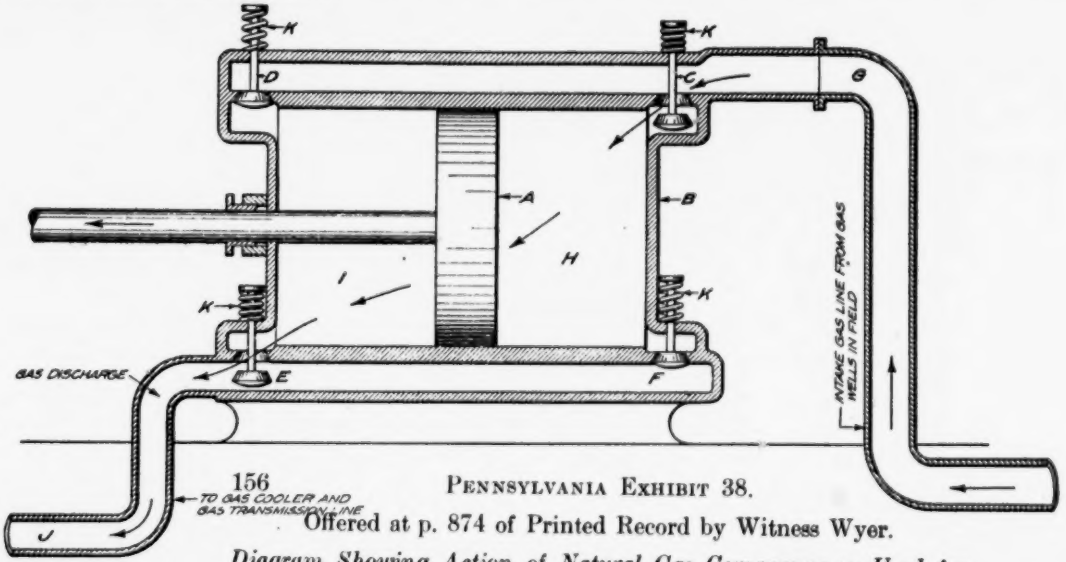


DIAGRAM SHOWING ACTION OF NATURAL GAS COMPRESSOR AS USED FOR COMPRESSING GAS FOR TRANSMISSION THROUGH LINES

The action of a gas compressor is illustrated in the diagram below, where A is a reciprocating piston working in cylinder B. C and D are inlet valves to the cylinder, and E and F are discharge valves to the cylinder, drawn to their seats by the springs K K. All the gas wells are connected to the intake side of a compressor so that the pressure from the wells drives the gas to the compressor. As the piston moves in the direction of the arrow the inlet valve C is opened by the higher pressure of the gas in the intake G, and the gas then rushes from G through C into the space H. As the piston moves toward the end of its stroke the gas in space I is forced out into the discharge line J through the discharge valve E. When the piston A reaches the end of its stroke the spring K closes the valve C and on its return stroke the piston A compresses the gas in H until the pressure is great enough to open the discharge valve F and thereby drive the gas out into the discharge line J.



156 PENNSYLVANIA EXHIBIT 38.

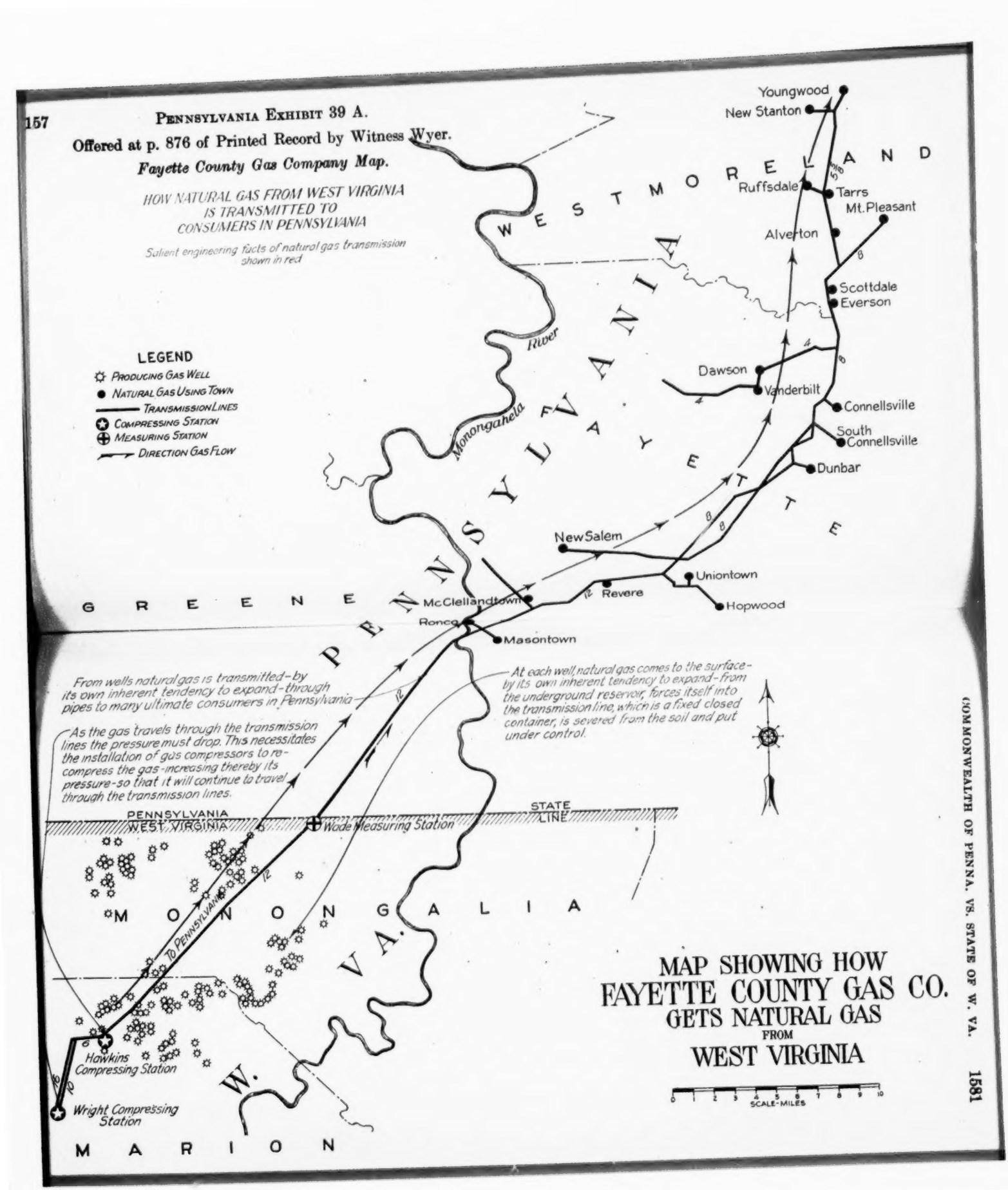
Offered at p. 874 of Printed Record by Witness Wyer.

Diagram Showing Action of Natural Gas Compressor as Used for Compressing Gas Through Transmission Lines.

PENNSYLVANIA EXHIBIT 39 A.

Offered at p. 876 of Printed Record by Witness Wyer.

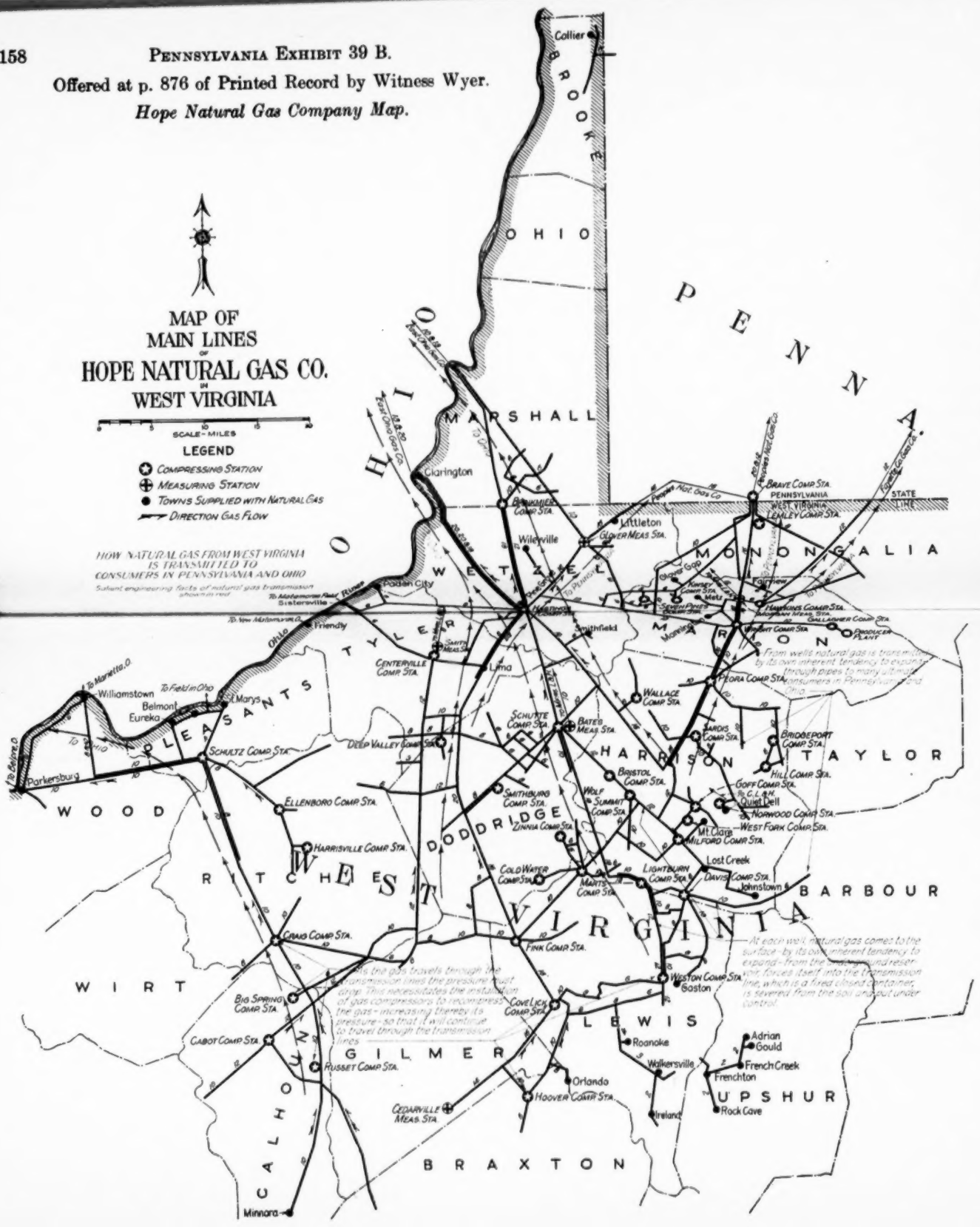
Fayette County Gas Company Map.

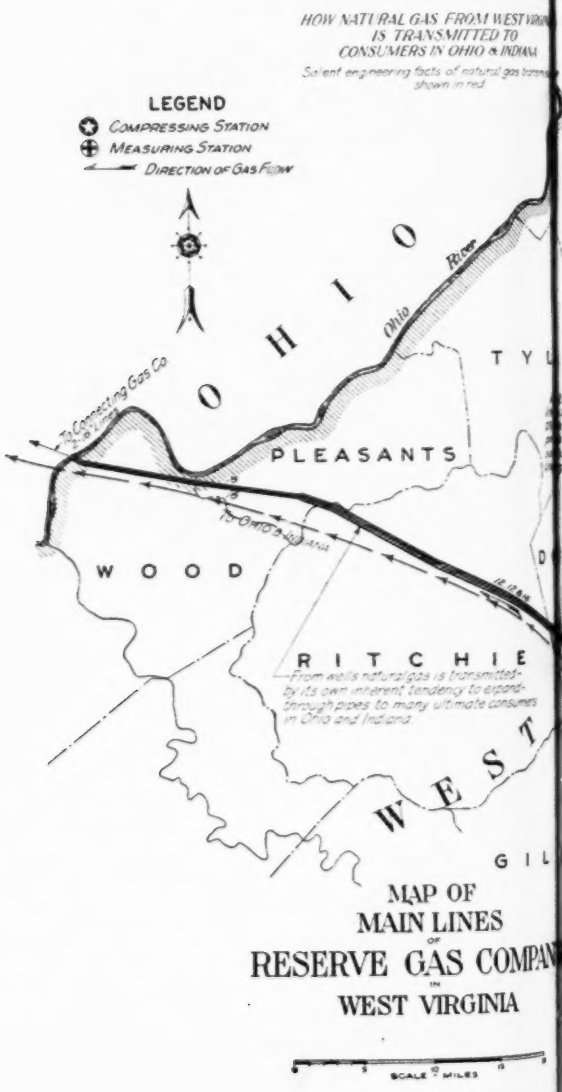


PENNSYLVANIA EXHIBIT 39 B.

Offered at p. 876 of Printed Record by Witness Wyer.

Hope Natural Gas Company Map.

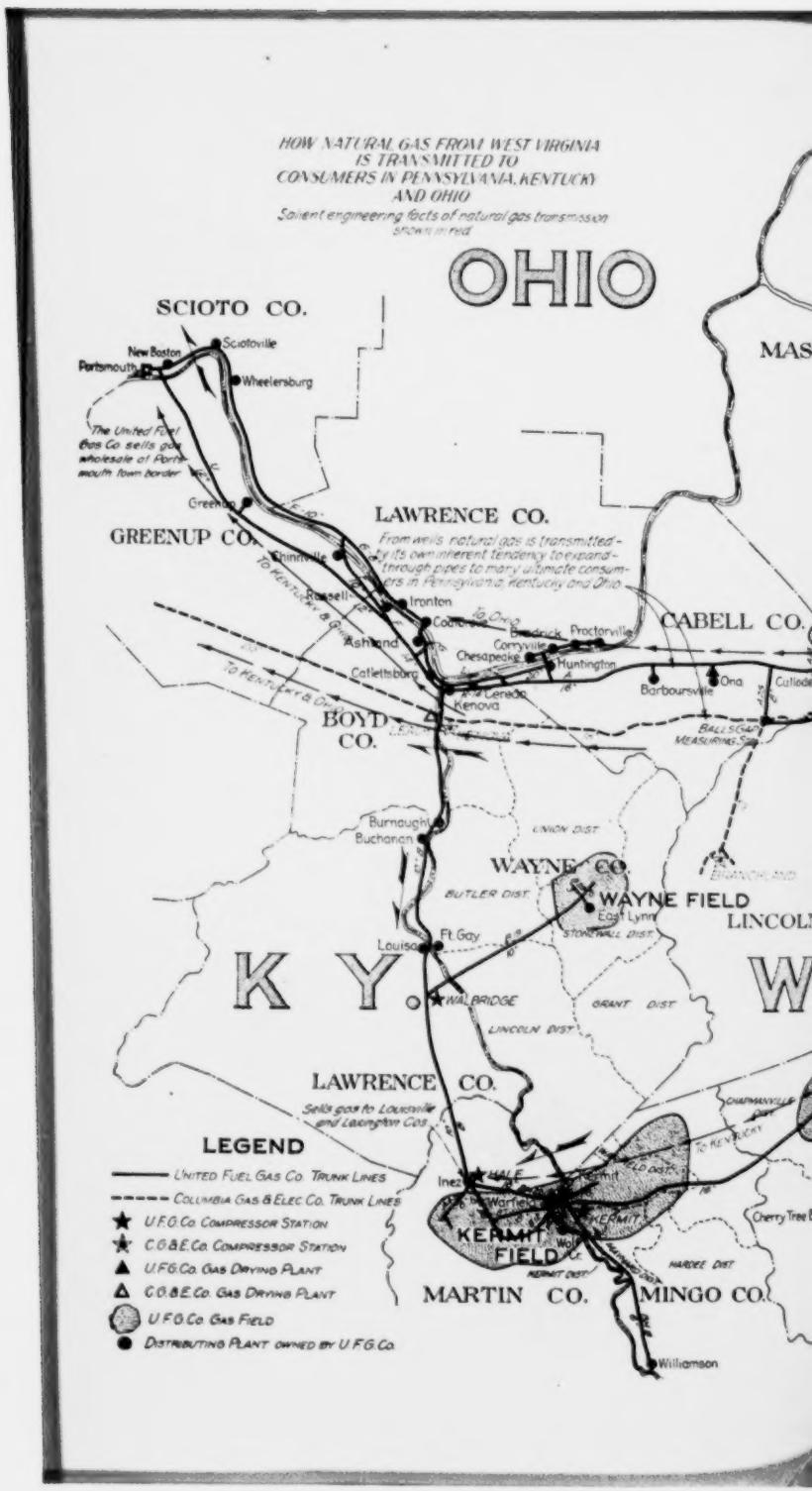



HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMERS IN OHIO & INDIANA
Salient engineering facts of natural gas transmission shown in red
LEGEND
COMPRESSING STATION
MEASURING STATION
DIRECTION OF GAS FLOW
OHIO
Ohio River
To Connecting Gas Co
PLEASANTS
To Ohio & Indiana
WOOD
RITCHIE
From wells natural gas is transmitted by its own inherent tendency to expand through pipes to many ultimate consumers in Ohio and Indiana
WEST
MAP OF
MAIN LINES
OF
RESERVE GAS COMPANY
IN
WEST VIRGINIA
SCALE 10 MILES

159 PENNSYLVANIA EXHIBIT 39 C.

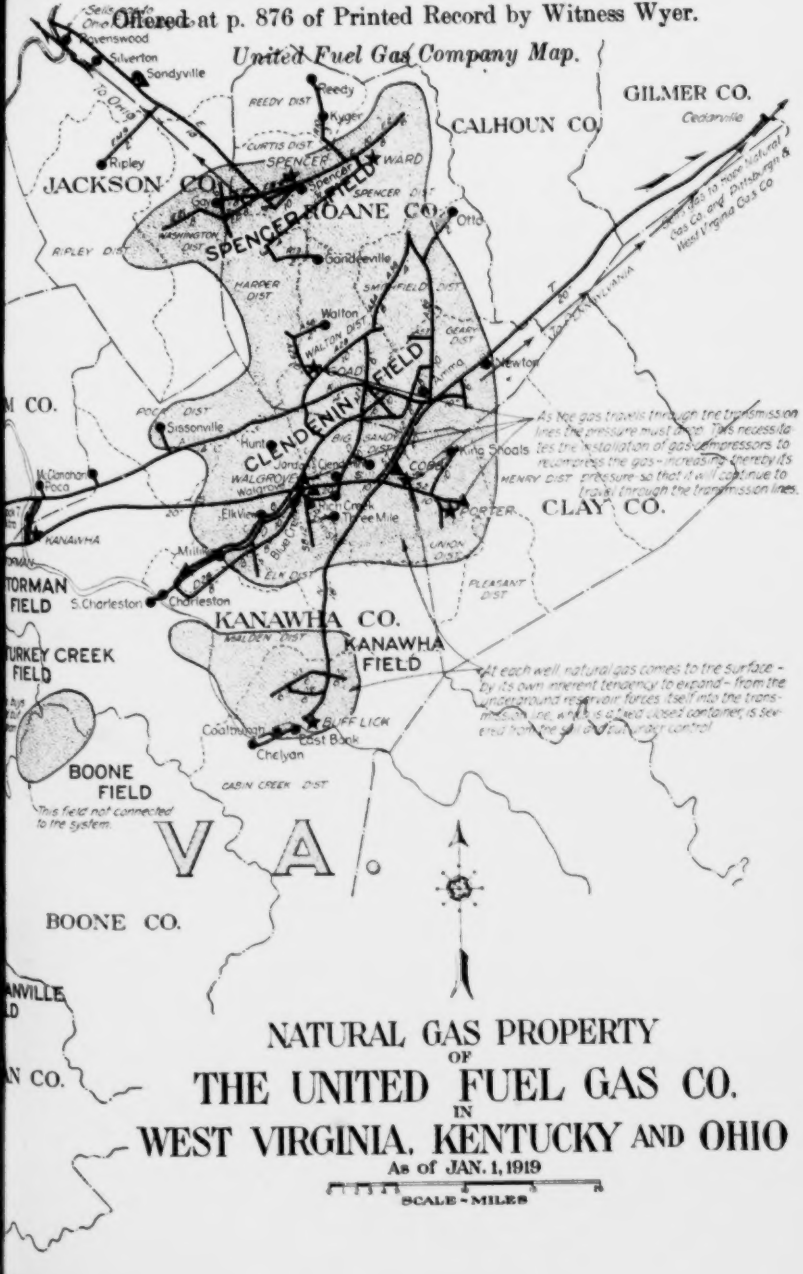
Offered at p. 876 of Printed Record by Witness Wyer.

Reserve Natural Gas Company Map.


HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMERS IN PENNSYLVANIA, KENTUCKY AND OHIO
Salient engineering facts of natural gas transmission shown in red
OHIO
SCIOTO CO.
New Boston
Portsmouth
Sciotoville
Wheelersburg
The United Fuel Gas Co sells gas wholesale at Portsmouth town border
GREENUP CO.
Greenup
LAWRENCE CO.
From wells natural gas is transmitted - by its own inherent tendency to expand - through pipes to many ultimate consumers in Pennsylvania, Kentucky and Ohio
Chinnville
Russell
Ironton
To Ohio
Coalton
Broadrick
Proctorville
CABELL CO.
Ashland
Coryville
Chesapeake
Huntington
Catlettsburg
Cerede
Kenova
Barboursville
Ona
BOYD CO.
Burnaught
Buchanon
UNION DIST.
WAYNE CO.
BUTLER DIST.
WAYNE FIELD
East Lynn
STONEWALL DIST.
Louisa
Ft Gay
K Y
WALBRIDGE
GRANT DIST.
LINCOLN DIST.
LAWRENCE CO.
Sells gas to Louisville and Lexington Cos
LEGEND
UNITED FUEL GAS CO. TRUNK LINES
COLUMBIA GAS & ELEC. CO. TRUNK LINES
U.F.G.Co. COMPRESSOR STATION
C.G.&E.Co. COMPRESSOR STATION
U.F.G.Co. GAS DRYING PLANT
C.G.&E.Co. GAS DRYING PLANT
U.F.G.Co. GAS FIELD
DISTRIBUTING PLANT OWNED BY U.F.G.Co.
Inez
Warfield
KERMIT
KERMIT FIELD
MARTIN CO.
MINGO CO.
Williamson
Cherry Tree

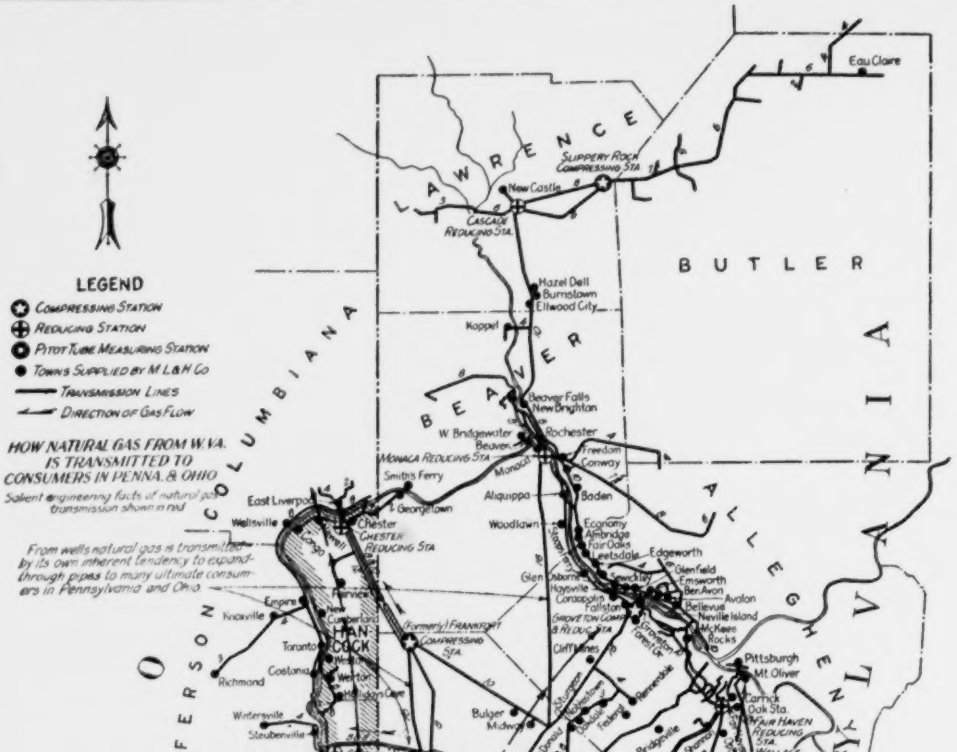
160 PENNSYLVANIA EXHIBIT 39 D.

Offered at p. 876 of Printed Record by Witness Wyer.



NATURAL GAS PROPERTY
OF
THE UNITED FUEL GAS CO.
IN
WEST VIRGINIA, KENTUCKY AND OHIO
As of JAN. 1, 1919

SCALE - MILES


LEGEND
COMPRESSING STATION
REDUCING STATION
PITOT TUBE MEASURING STATION
TOWNS SUPPLIED BY M. L. & H. CO.
TRANSMISSION LINES
DIRECTION OF GAS FLOW
HOW NATURAL GAS FROM W. VA. IS TRANSMITTED TO CONSUMERS IN PENNA. & OHIO
Salient engineering facts of natural gas transmission shown in red
From wells natural gas is transmitted by its own inherent tendency to expand through pipes to many ultimate consumers in Pennsylvania and Ohio
LAWRENCE
BUTLER
BEAVER
ALLEGHENY
COLUMBIANA
JEFFERSON
HANCOCK
Eau Claire
Slippery Rock Compressing Sta.
New Castle
Cascade Reducing Sta.
Hazel Dell
Burnstown
Ellwood City
Koppel
Beaver Falls
New Brighton
W. Bridgewater
Rochester
Beaver
Freedom
Conway
Monaca Reducing Sta.
Monaca
Smiths Ferry
East Liverpool
St. George Town
Aliquippa
Baden
Wellsville
Chester
Chester Reducing Sta.
Woodlawn
Economy
Ambridge
Fair Oaks
Leetsdale
Edgeworth
Glenfield
Emsworth
Ben Avon
Glen
Osborne
Haysville
Sewickley
Avalon
Carnegie
Coraopolis
Fallston
Bellevue
Neville Island
Mc Kees Rocks
Grove Town Comp. & Reducing Sta.
Cliff Mines
Pittsburgh
Mt. Oliver
Carrick
Oak Sta.
Fair Haven Reducing Sta.
Wilkins
Empire
Knoxville
Cumberland
Harvard
Formerly Frankfort Compressing Sta.
Toronto
Weirton
Follansbee
Richmond
Costaning
Wintersville
Steubenville
Bulger
Midway
Tasking
Bentonville
Ridgedale
Robinson
Crafton
Ingram
Thornburg
Edgewood
Swissvale
Wilkinsburg
Braddock
Rankin
Homestead
Munhall
Duquesne
Dravosburg
Clairton
Port Vue
Elizabeth
Monongahela
Donora
Charleroi
Belle Vernon
Fayette City
Perryopolis
Uniontown
Connellsville
Dunbar
Mt. Pleasant
Scottdale
Jeannette
Greensburg
Latrobe
Derry
Ligonier
Somerset
Johnstown
Ebensburg
Cresson
Hollidaysburg
Altoona
Tyrone
Bellwood
Hollidaysburg
Huntingdon
Mt. Union
Lewistown
Mifflin
Mifflintown
Port Royal
Newport
Duncannon
Carlisle
Mechanicsburg
Harrisburg
Middletown
Elizabethtown
Lancaster
Columbia
Marietta
Coatesville
Downingtown
Phoenixville
Norristown
Conshohocken
Bridgeport
Chester
Media
Upper Darby
Philadelphia
Camden
Trenton
Bristol
Morrisville
Doylestown
Quakertown
Allentown
Bethlehem
Easton
Phillipsburg
Hackettstown
Dover
Boonton
Morristown
Summit
Elizabeth
Newark
Jersey City
Hoboken
Paterson
Passaic
Hackensack
Rutherford
Lodi
Hasbrouck Heights
Ridgefield Park
Fort Lee
Englewood
Teaneck
Ridgefield
Hackensack
Nyack
Tarrytown
Yonkers
New York
Brooklyn
Staten Island
Long Island
Sandy Hook
Asbury Park
Red Bank
Freehold
Toms River
Lakewood
Atlantic City
Cape May
Wildwood
Ocean City
Vineland
Millville
Bridgeton
Salem
Woodbury
Glassboro
Camden
Haddonfield
Moorestown
Mt. Holly
Burlington
Bordentown
Trenton
Princeton
New Brunswick
Perth Amboy
Rahway
Elizabeth
Plainfield
Somerville
Flemington
Lambertville
New Hope
Doylestown
Quakertown
Pottstown
Reading
Kutztown
Hamburg
Pottsville
Tamaqua
Lansford
Jim Thorpe
Mauch Chunk
Bethlehem
Allentown

161 PENNSYLVANIA EXHIBIT 39 E.

Offered at p. 876 of Printed Record by Witness Wyer.

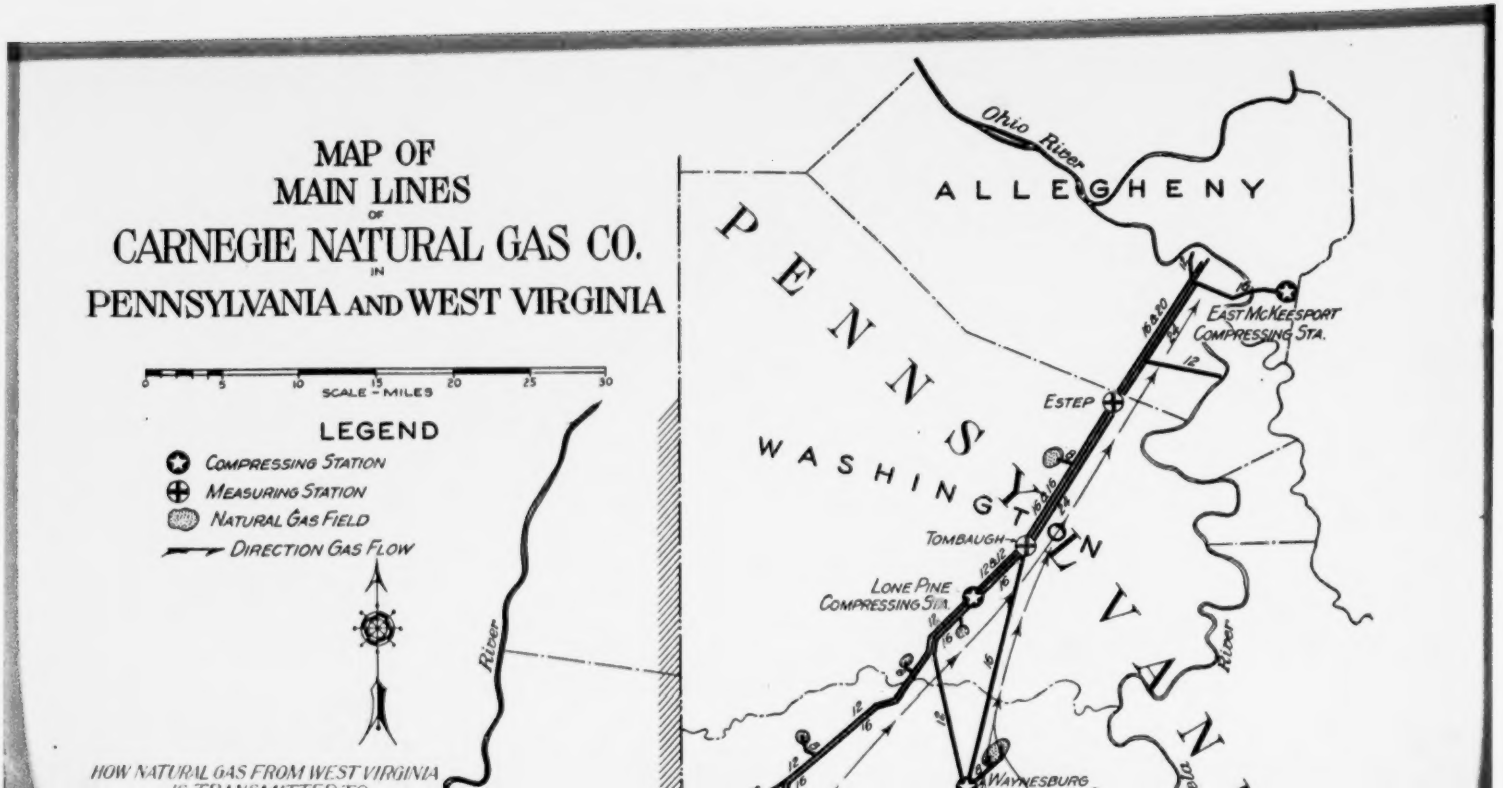
Manufacturers Light & Heat Company Map.

HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMERS IN PENNSYLVANIA
Salient engineering facts of natural gas transmission shown in red
From wells natural gas is transmitted - by its own inherent tendency to expand - through pipes to many ultimate consumers in Pennsylvania
As the gas travels through the transmission lines the pressure must drop. This necessitates the installation of gas compressors to recompress the gas - increasing thereby its pressure - so that it will continue to travel through the transmission lines.
OHIO
BUTLER
ARMSTRONG
BEAVER
ALLEGHENY
INDIANA
WESTMORELAND
WASHINGTON
Ohio River
Allegheny River
Monongahela River
Kiski
Compressing Station No. 33
Compressing Station No. 3 Banks
Elderton
Freeport
North Side Pittsburgh
Tarentum
Springdale
New Kensington
Parnassus
Oakmont
Verona
Pittsburgh
Braddock
Compressing Station No. 20 Murrysville
Wilmerding
Trafford City
Turtle Creek
East Pittsburgh
Homestead
Versailles
Duquesne
Compressing Station No. 27 Local
Bridgeville
Finleyville
Compressing Station No. 2 Canonsburg
Compressing Station No. 35 Elrama
Donora
Charleroi
Compressing Station No. 24 Rogers
Compressing Station No. 14 Wise
Millvale
Sharpsburg
Etna
McKees Rocks
Ingram
Crafton
Carnegie
Compressing Station No. 7 Martin

162 PENNSYLVANIA EXHIBIT 39 F.

Offered at p. 876 of Printed Record by Witness Wyer.

Philadelphia Company Map.


MAP OF
MAIN LINES
OF
CARNEGIE NATURAL GAS CO.
IN
PENNSYLVANIA AND WEST VIRGINIA
0 5 10 15 20 25 30
SCALE - MILES
LEGEND
COMPRESSING STATION
MEASURING STATION
NATURAL GAS FIELD
DIRECTION GAS FLOW
HOW NATURAL GAS FROM WEST VIRGINIA
IS TRANSMITTED TO
Ohio River
ALLEGHENY
PENNSYLVANIA
WASHINGTON
EAST McKEESPORT
COMPRESSING STA.
ESTEP
TOMBAUGH
LONE PINE
COMPRESSING STA.
WAYNESBURG
River

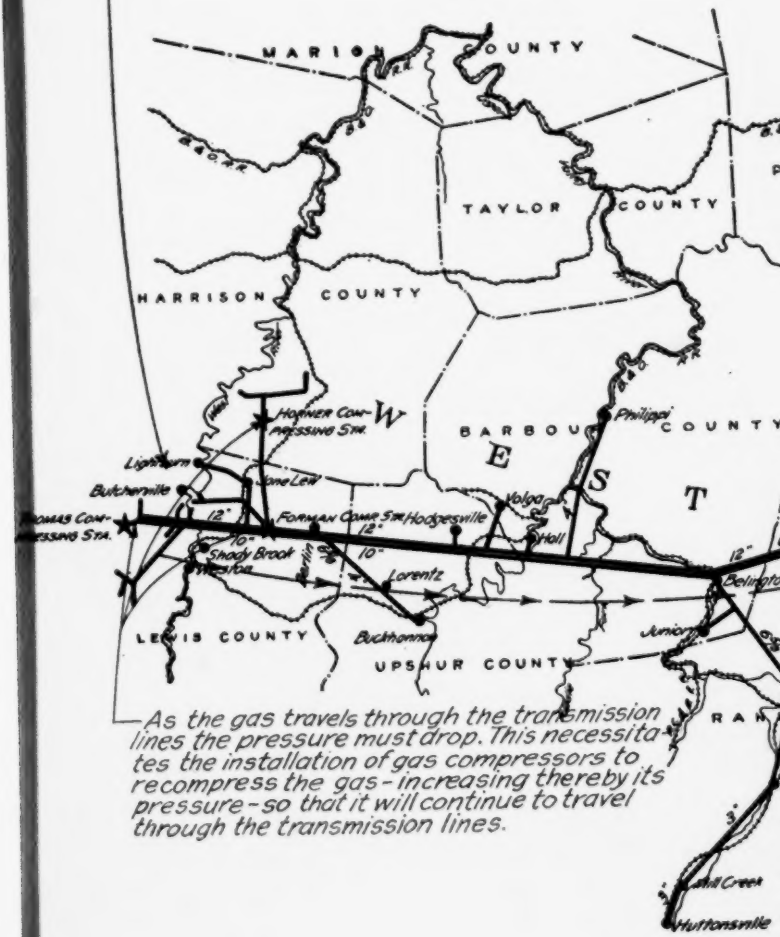
163 PENNSYLVANIA EXHIBIT 39 G.

Offered at p. 876 of Printed Record by Witness Wyer.

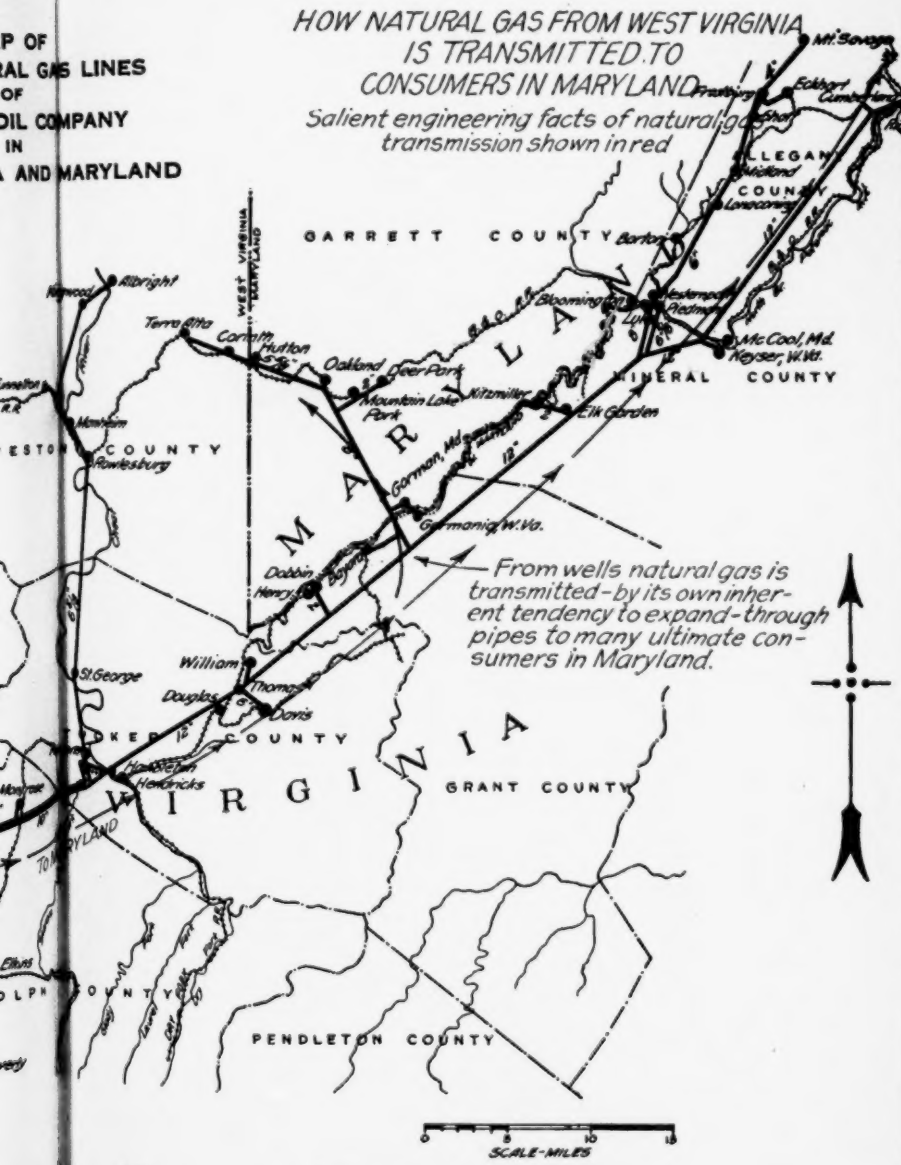
Carnegie Natural Gas Company Map.

At each well, natural gas comes to the surface – by its own inherent tendency to expand – from the underground reservoir, forces itself into the transmission line, which is a fixed closed container, is severed from the soil and put under control.

M
MAIN NATU
EASTERN
WEST VIRGIN



As the gas travels through the transmission lines the pressure must drop. This necessitates the installation of gas compressors to recompress the gas – increasing thereby its pressure – so that it will continue to travel through the transmission lines.

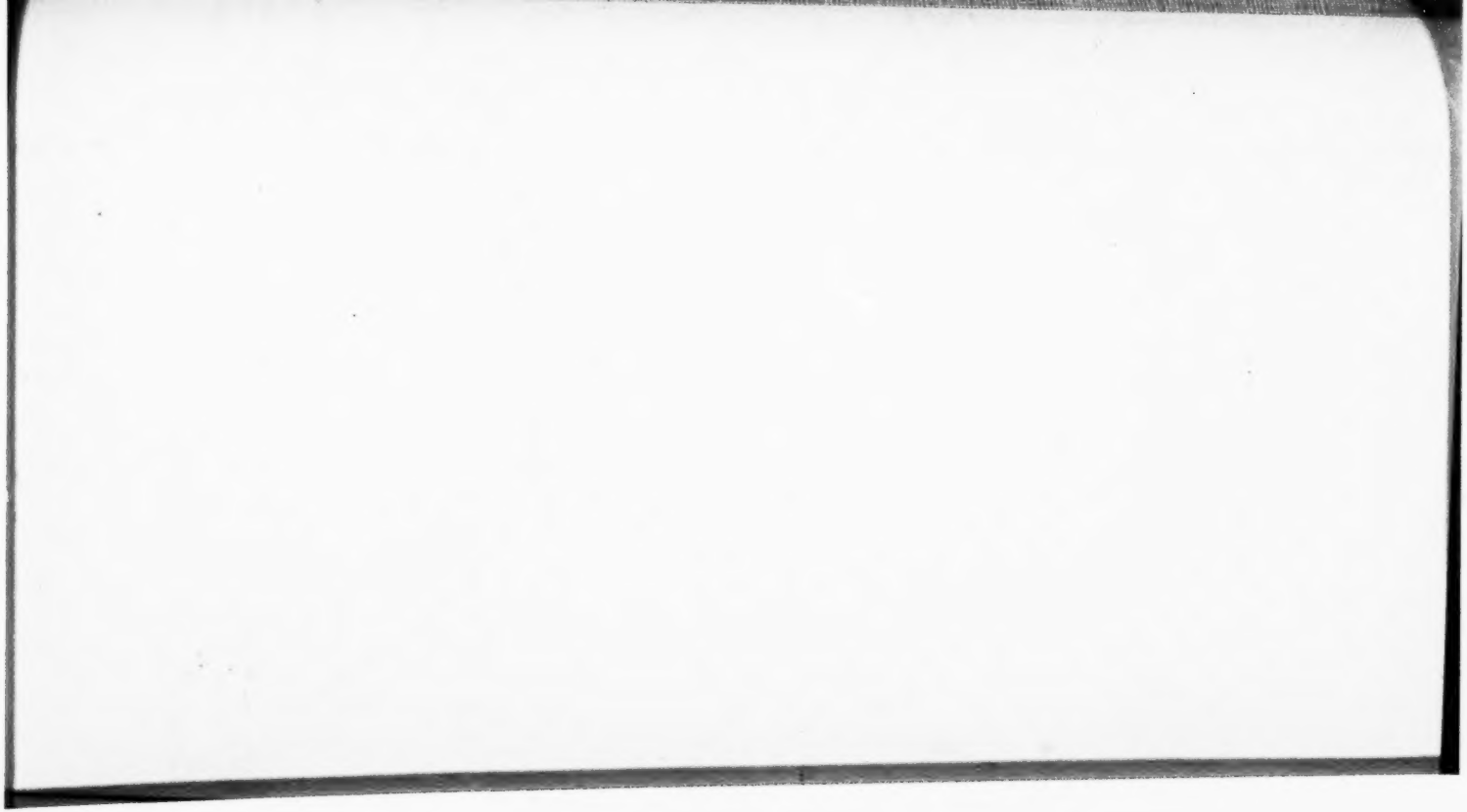


164

PENNSYLVANIA EXHIBIT 39 H.

Offered at p. 876 of Printed Record by Witness Wyer.

Eastern Oil Company Map.



DAILY, ACTUAL AND NORMAL ATMOSPHERIC TEMPERATURES AT PARKERSBURG, WEST VIRGINIA

Based on the United States Weather Bureau records for 1916.

The shaded area below the normal temperature line represents the temperature deficiency and the low points are the ones that create such abnormal demands for domestic natural gas service that necessitate the curtailing of industrial gas during such periods.

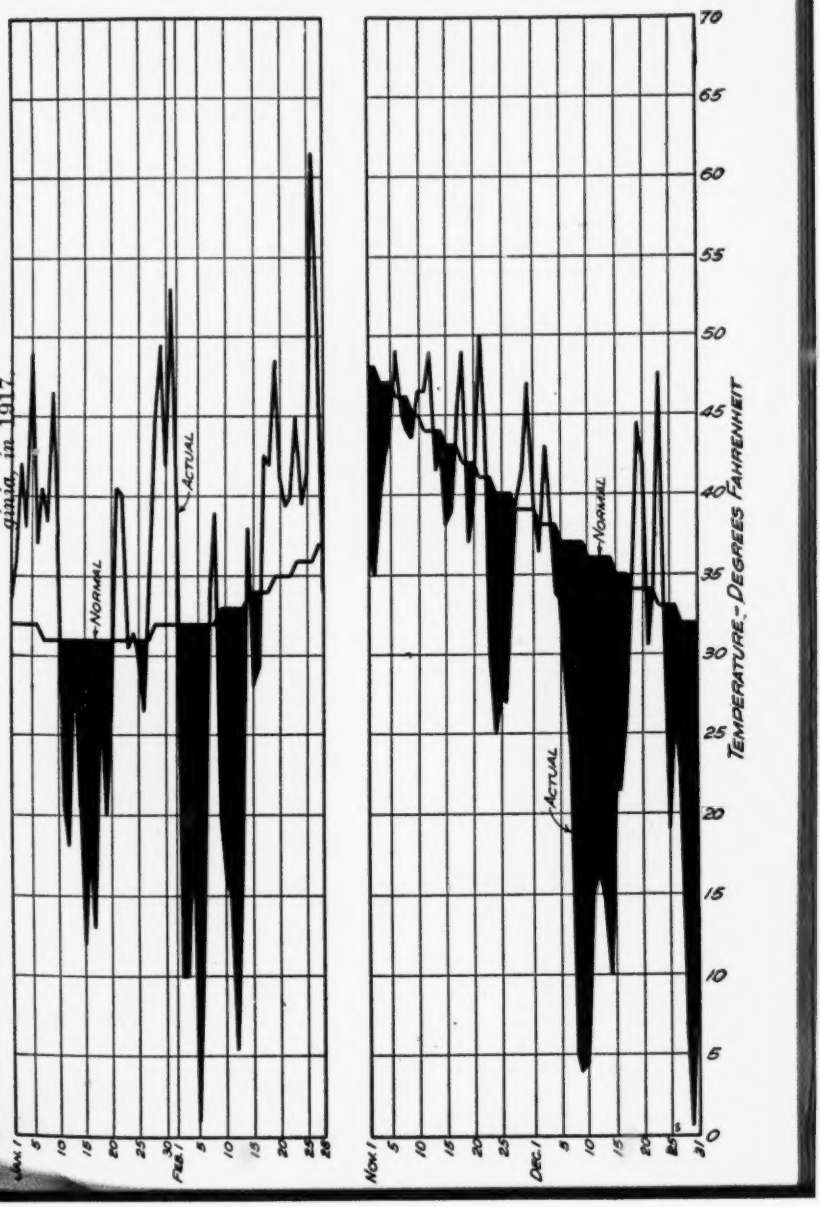
PENNSYLVANIA EXHIBIT 40 A.
165
Offered at p. 893 of Printed Record by Witness Wyer.
Daily Actual and Normal Temperature at Parkersburg, West Virginia, in 1916.

Offered at p. 893 of Printed Record by Witness Wyer.

DAILY, ACTUAL AND NORMAL ATMOSPHERIC TEMPERATURES AT PARKERSBURG, WEST VIRGINIA

Based on the United States Weather Bureau records for 1917.

The shaded area below the normal temperature line represents the temperature deficiency and the low points are the ones that create such abnormal demands for domestic natural gas service that necessitate the curtailing of industrial gas during such periods.



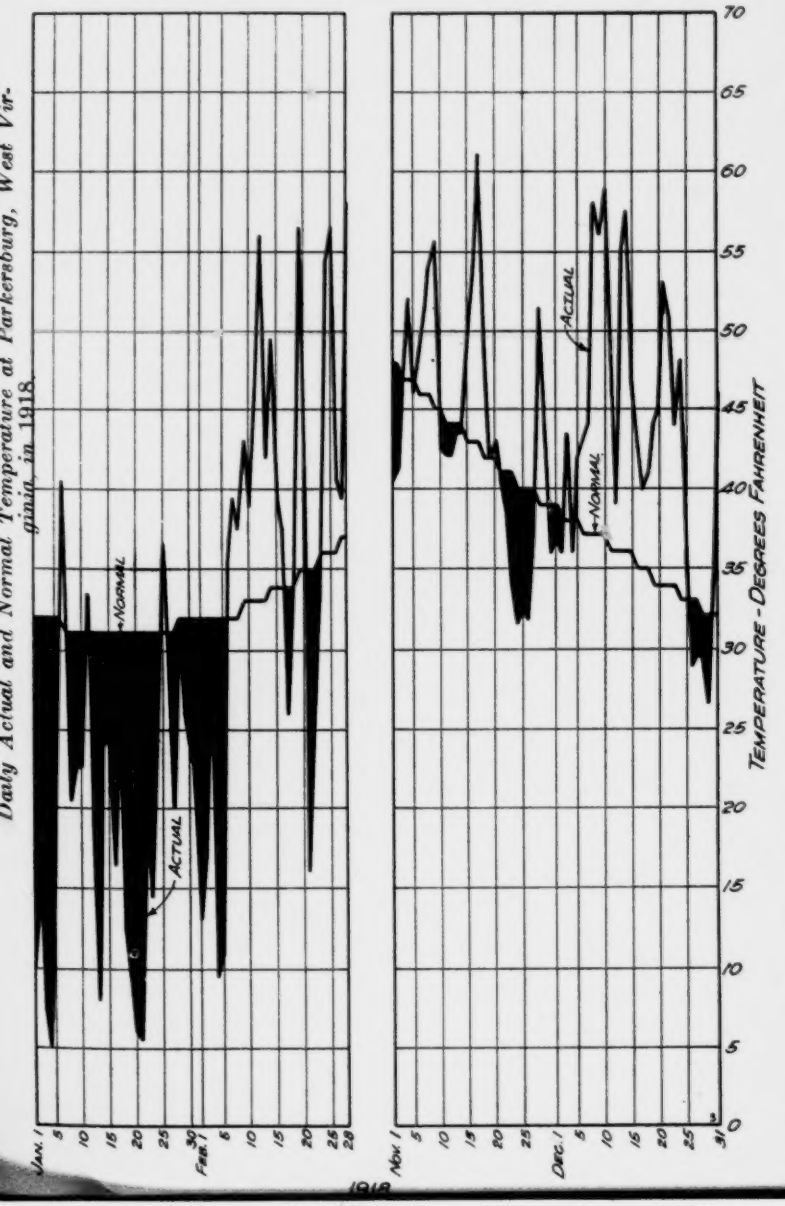
PENNSYLVANIA EXHIBIT 40 C.

(Offered at p. 202 of Printed Record by Witness West.)

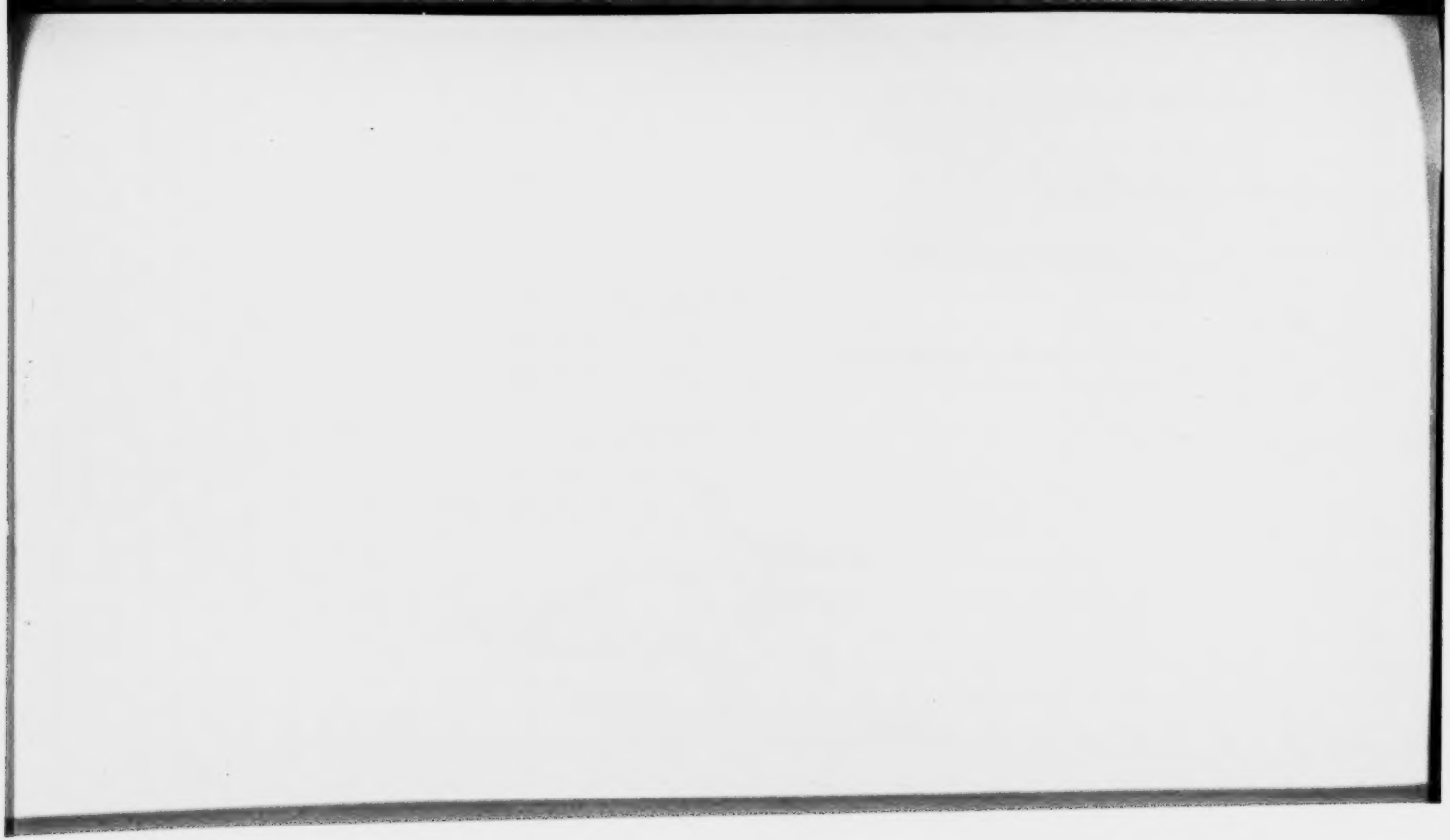
DAILY, ACTUAL AND NORMAL ATMOSPHERIC TEMPERATURES AT PARKERSBURG, WEST VIRGINIA

Based on the United States Weather Bureau records for 1918.

The shaded area below the normal temperature line represents the temperature deficiency and the low points are the ones that create such abnormal demands for domestic natural gas service that necessitate the curtailing of industrial gas during such periods.



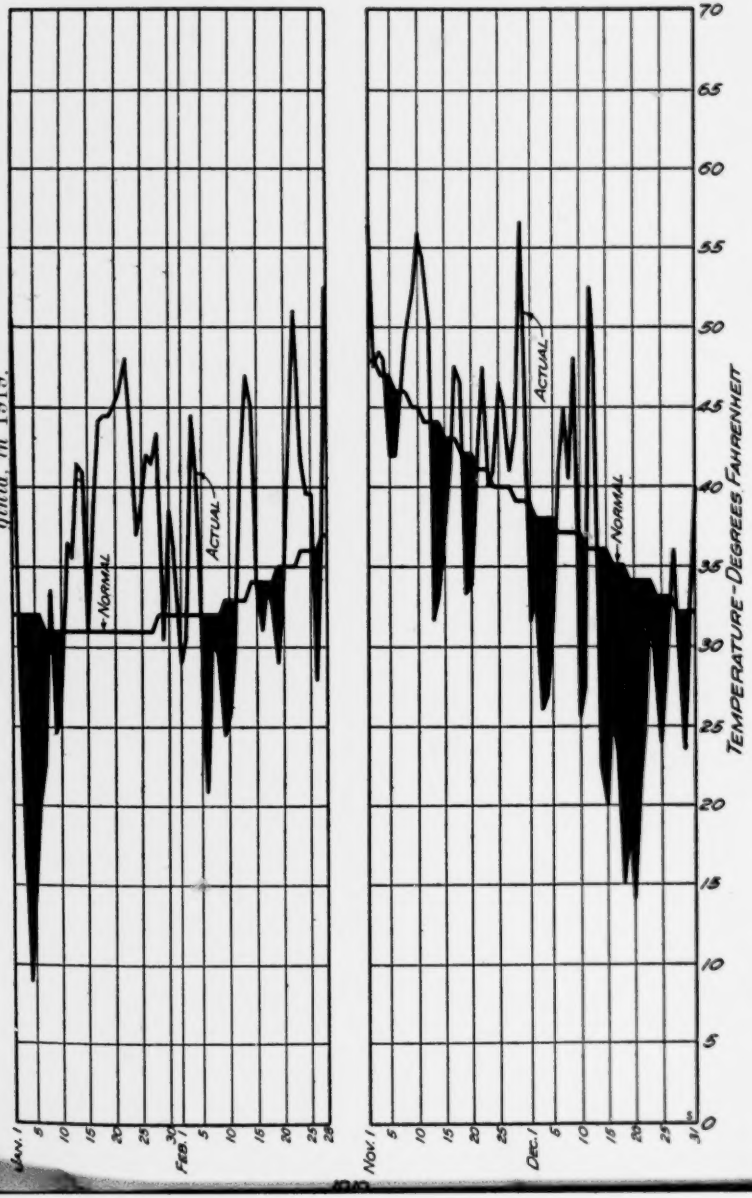
Daily Actual and Normal Temperature at Parkersburg, West Virginia, in 1918.



DAILY, ACTUAL AND NORMAL ATMOSPHERIC TEMPERATURES AT PARKERSBURG, WEST VIRGINIA

Based on the United States Weather Bureau records for 1919.

The shaded area below the normal temperature line represents the temperature deficiency and the low points are the ones that create such abnormal demands for domestic natural gas service that necessitate the curtailing of industrial gas during such periods.

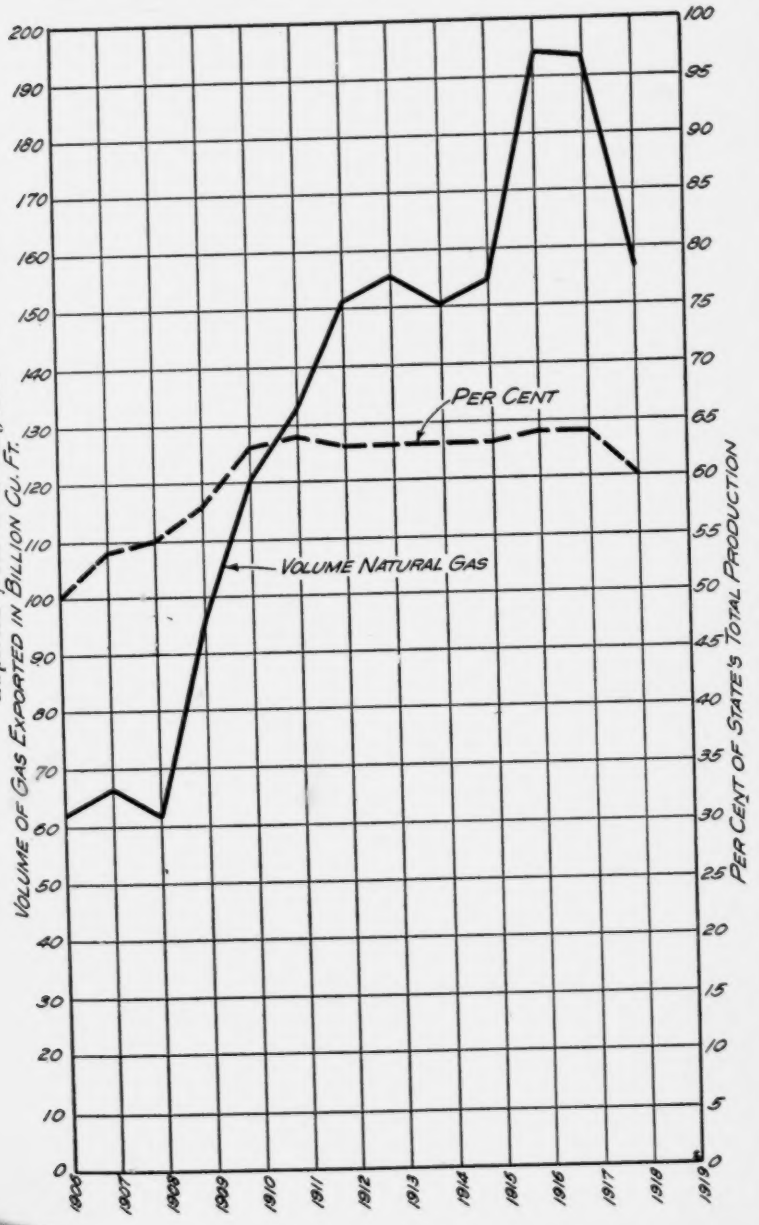


Offered at p. 893 of Printed Record by Witness Wyer.

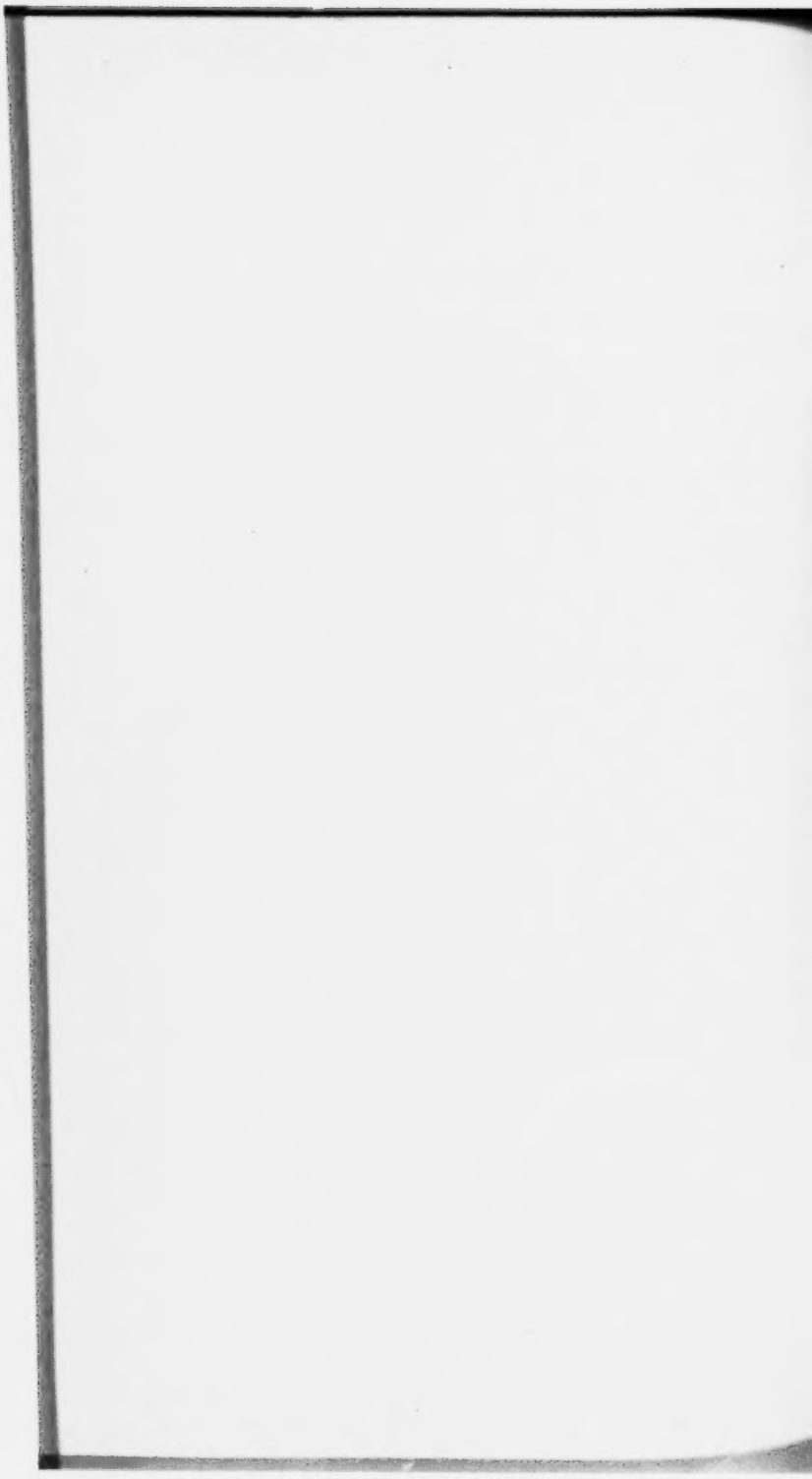
Daily Actual and Normal Temperature at Parkersburg, West Virginia, in 1919.

VOLUME NATURAL GAS
AND
PER CENT OF STATE'S TOTAL PRODUCTION
EXPORTED FROM WEST VIRGINIA

Based on data compiled by the United States Geological Survey.

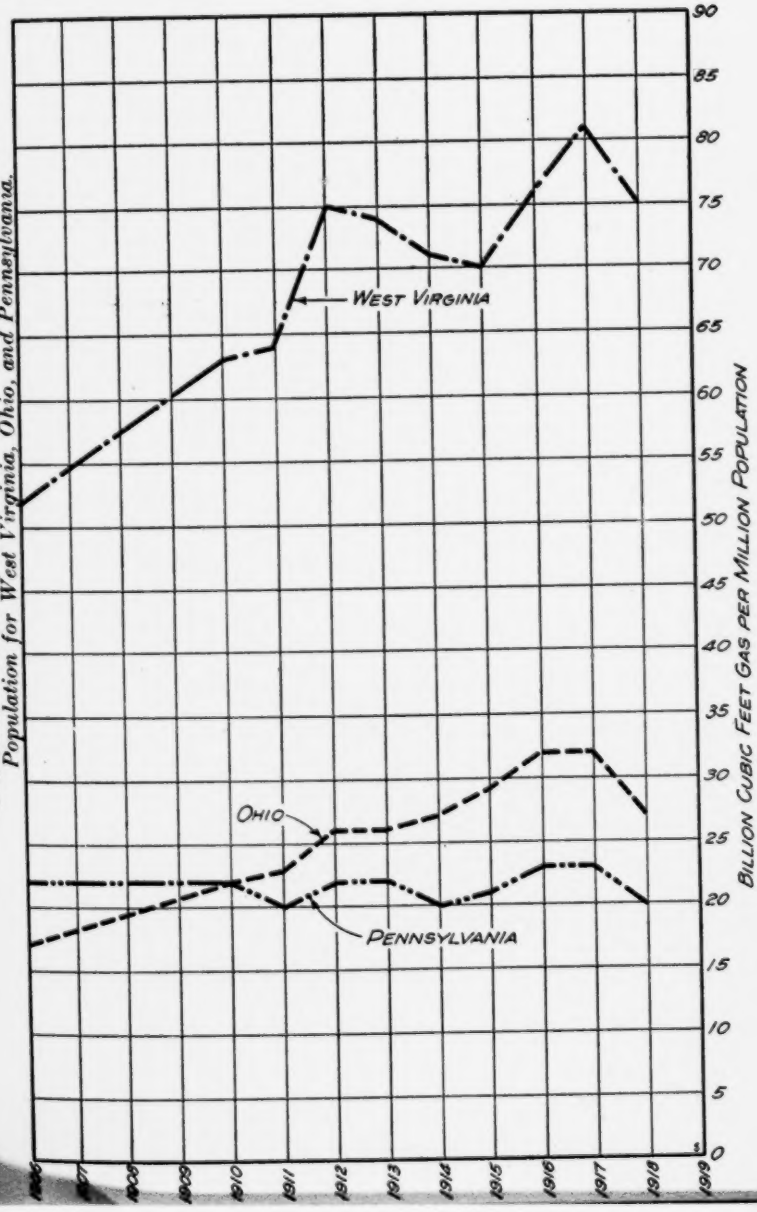


Volume of Natural Gas and Per Cent of State's Total Production Exported from West Virginia.



BILLION CUBIC FEET NATURAL GAS CONSUMED PER MILLION POPULATION IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

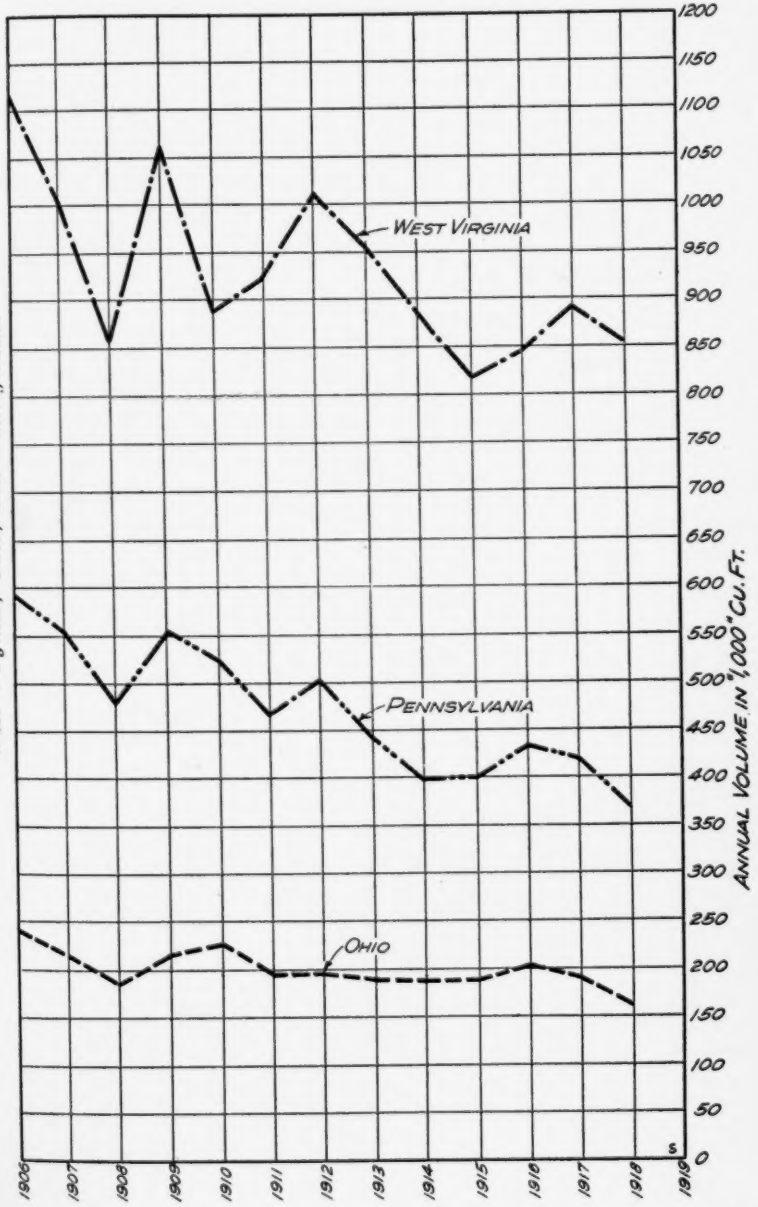
The population data were furnished by the Bureau of the Census and the natural gas data by the United States Geological Survey.



PENNSYLVANIA EXHIBIT 41.
Offered at p. 897 of Printed Record by Witness Wyer.
Total Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio, and Pennsylvania

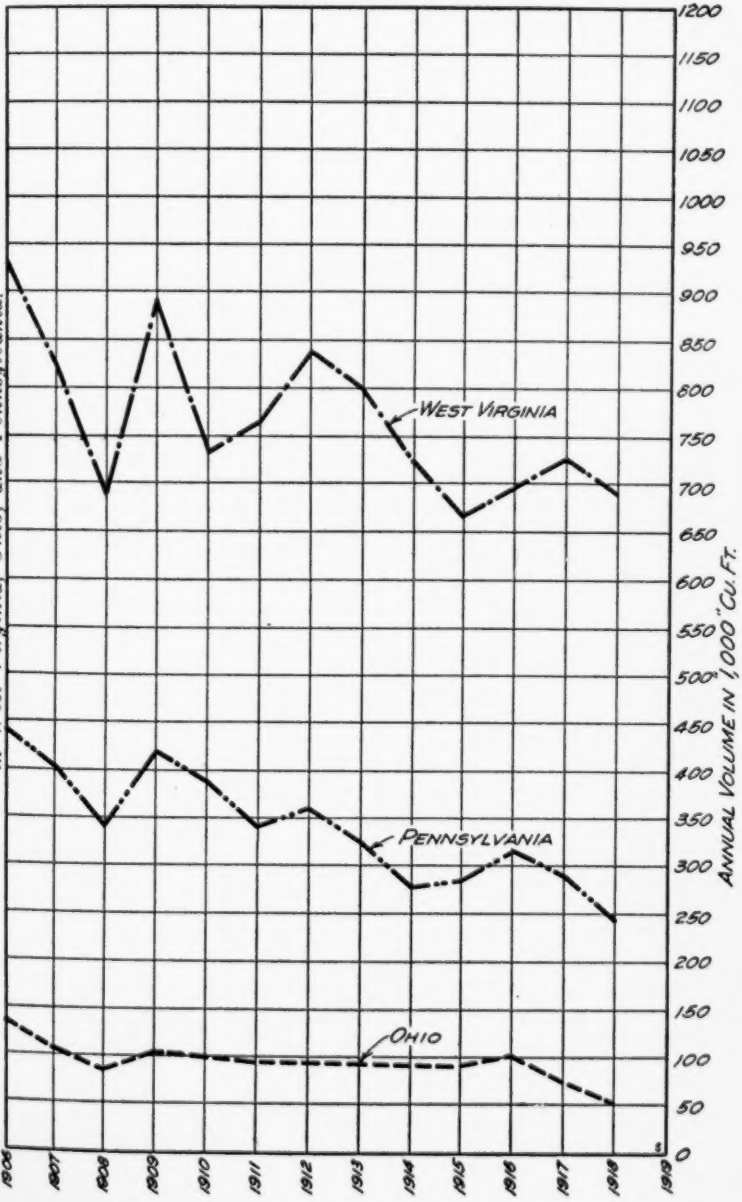
TOTAL NATURAL GAS CONSUMED ANNUALLY PER DOMESTIC CONSUMER IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

Based on data compiled by the United States Geological Survey.

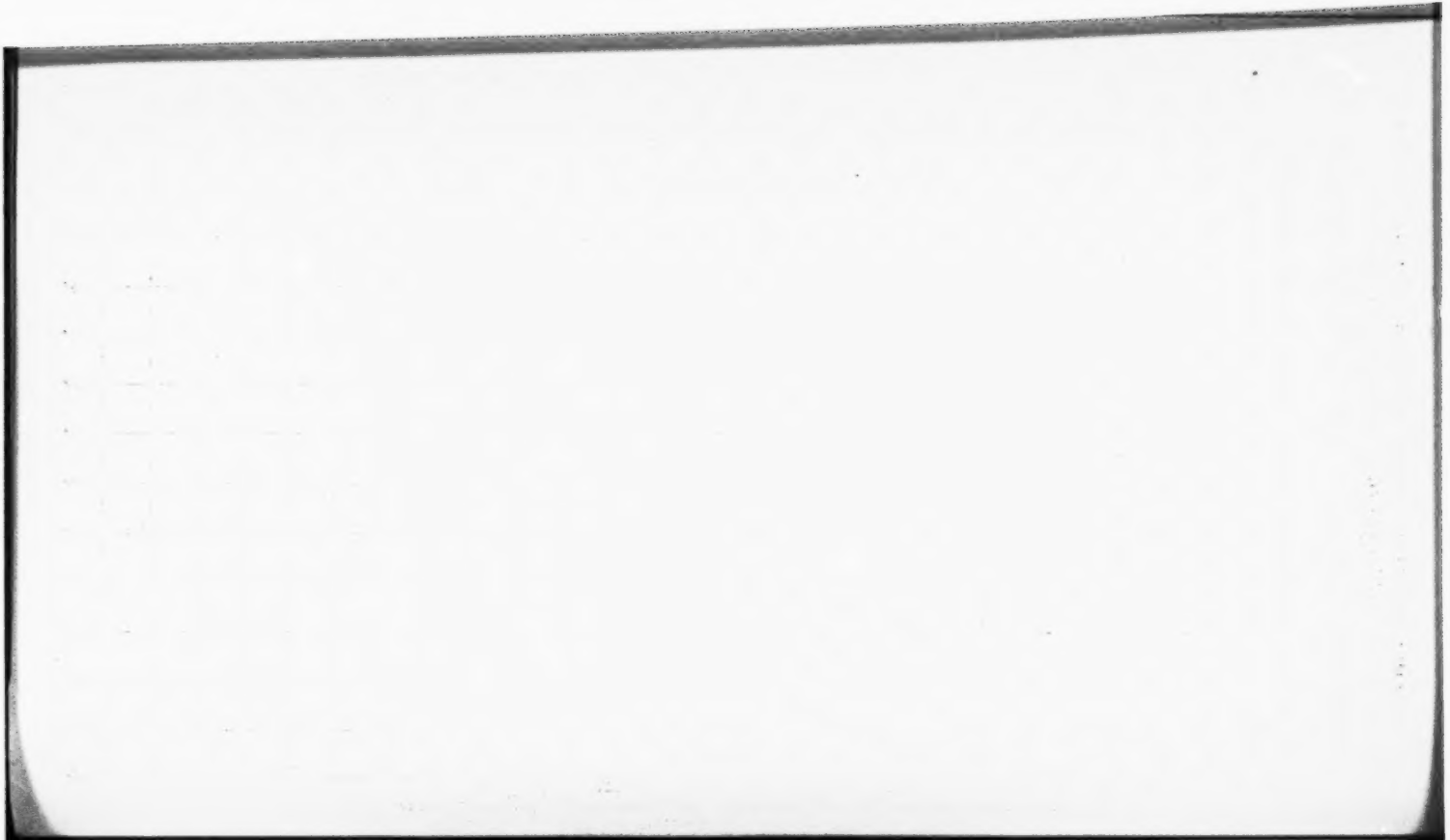


INDUSTRIAL NATURAL GAS CONSUMED ANNUALLY PER DOMESTIC CONSUMER IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

Based on data compiled by the United States Geological Survey



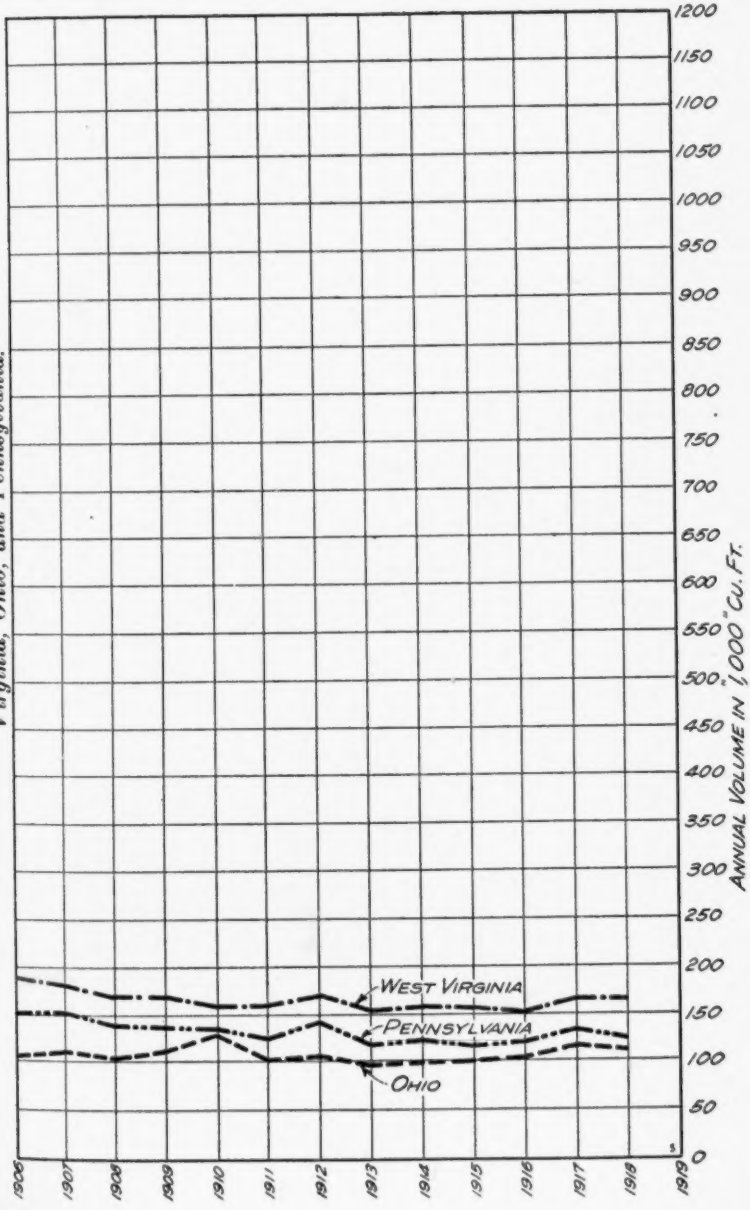
Offered at p. 897 of Printed Record by Witness Wyer.
Industrial Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio, and Pennsylvania.



Offered at p. 898 of Printed Record by Witness Wyer.

DOMESTIC NATURAL GAS CONSUMED ANNUALLY PER DOMESTIC CONSUMER IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

Based on data compiled by the United States Geological Survey.



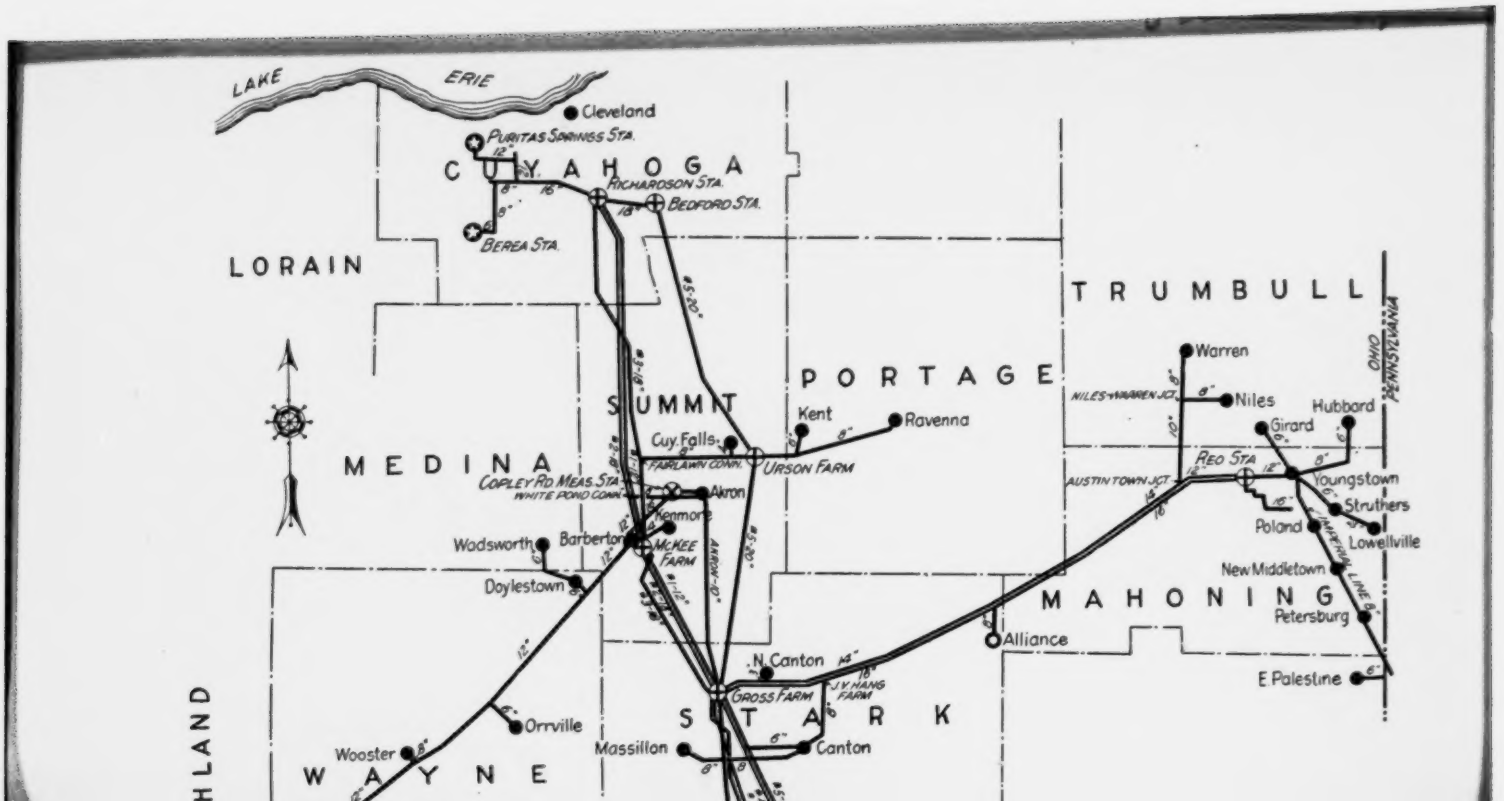
Virginia, Ohio, and Pennsylvania.

174 PENNSYLVANIA EXHIBIT 46.

Offered at p. 904 of Printed Record by Witness Wyer.

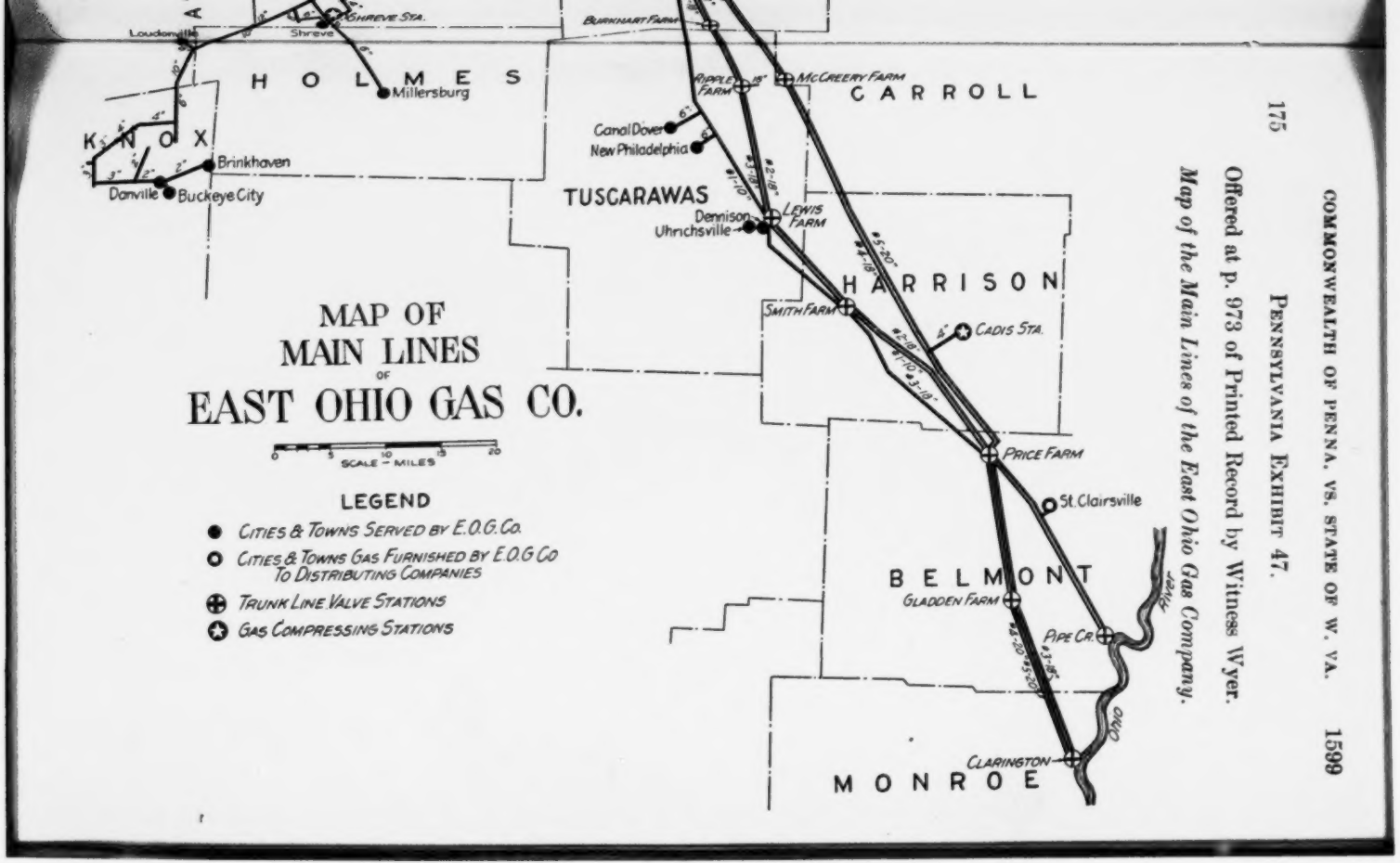
Map Showing Principal Towns Outside of West Virginia Dependin on West Virginia for Natural Gas Service.

LAKE ERIE
PENNSYLVANIA
WEST VIRGINIA
MARYLAND
OHIO
Cleveland
Akron
Canton
Alliance
Wooster
Massillon
Orrville
Mansfield
Youngstown
Warren
Niles
Girard
Struthers
Poland
Lowellville
New Middletown
Petersburg
E. Palestine
New Castle
Ellwood City
Volant
Slippery Rock
E. Liverpool
Wellsville
Steubenville
Follansbee
Toronto
Weirton
Wheeling
Bellaire
Martins Ferry
Barnesville
Cambridge
Zanesville
Newark
Coshocton
Dresden
Uhrichsville
New Philadelphia
Dover
Sandusky
Fremont
Bucyrus
Marion
Delaware
Columbus
Springfield
Dayton
Hamilton
Middletown
Cincinnati
Portsmouth
Ironton
Huntington
Parkersburg
Clarksburg
Fairmont
Morgantown
Grafton
Kingwood
Terra Alta
Oakland
Cumberland
Frostburg
Meyersdale
Somerset
Johnstown
Altoona
Tyrone
Clearfield
Du Bois
Kane
Oil City
Franklin
Titusville
Meadville
Erie
Corry
Warren
Kinzua
Bradford
Olean
Salamanca
Jamestown
Dunkirk
Buffalo
Lockport
Niagara Falls
Lewiston
Rochester
Batavia
Geneva
Auburn
Syracuse
Oswego
Utica
Rome
Oneida
Binghamton
Elmira
Corning
Hornell
Olean
Wellsville
Scranton
Wilkes-Barre
Hazleton
Pottsville
Reading
Lebanon
Harrisburg
Carlisle
Chambersburg
Hagerstown
Frederick
Baltimore
Washington
Annapolis
Easton
Cambridge
Salisbury
Ocean City
Atlantic City
Camden
Trenton
Princeton
New Brunswick
Perth Amboy
Elizabeth
Newark
Jersey City
Paterson
Passaic
Hackensack
Rutherford
Nyack
Suffern
Middletown
Port Jervis
Monticello
Kingston
Albany
Troy
Schenectady
Amsterdam
Gloversville
Johnstown
Saratoga
Glens Falls
Plattsburg
Burlington
Rutland
Bennington
Brattleboro
Springfield
Keene
Nashua
Manchester
Concord
Portsmouth
Dover
Rochester
Laconia
Berlin
Lancaster
Littleton
Woodsville
Claremont
Windsor
Bellows Falls
Brattleboro
Greenfield
Pittsfield
North Adams
Williamstown
Bennington
Rutland
Burlington
Montpelier
Barre
St. Johnsbury
Newport
Derby Line
Rouses Point
Malone
Ogdensburg
Massena
Watertown
Oswego
Fulton
Syracuse
Auburn
Geneva
Canandaigua
Rochester
Batavia
Buffalo
Niagara Falls
Lockport
Medina
Albion
Brockport
Fairport
Penn Yan
Hammondsport
Corning
Elmira
Watkins Glen
Ithaca
Cortland
Norwich
Oneonta
Cooperstown
Schenectady
Troy
Albany
Hudson
Kingston
Poughkeepsie
Newburgh
Middletown
Port Jervis
Monticello
Liberty
Hancock
Delhi
Walton
Oneonta
Sidney
Norwich
Binghamton
Endicott
Johnson City
Owego
Waverly
Elmira
Corning
Hornell
Olean
Bradford
Kane
Ridgway
St. Marys
Kinzua
Warren
Titusville
Oil City
Franklin
Meadville
Erie
Corry
Conneaut
Ashtabula
Geneva
Painesville
Mentor
Willoughby
Lakewood
Cleveland
Akron
Canton
Massillon
Alliance
Orrville
Wooster
Mansfield
Ashland
Norwalk


LAKE ERIE
Cleveland
PURITAS SPRINGS STA.
CUYAHOGA
RICHARDSON STA.
BEDFORD STA.
BEREA STA.
LORAIN
TRUMBULL
PENNSYLVANIA
OHIO
Warren
NILES-WARREN JCT.
Niles
Hubbard
Girard
REO STA.
AUSTIN TOWN JCT.
Youngstown
Struthers
Poland
Lowellville
New Middletown
PORTAGE
SUMMIT
Kent
Ravenna
Cuy. Falls
FAIRLAWN CONN.
URSON FARM
MEDINA
COPLEY RD MEAS. STA.
WHITE POND CONN.
Akron
Kenmore
Wadsworth
Barberton
McKEE FARM
Doylestown
MAHONING
Petersburg
Alliance
N. Canton
J.V. HANG FARM
GROSS FARM
E. Palestine
STARK
Orrville
Wooster
Massillon
Canton
WAYNE

Offered at p. 973 of Printed Record by Witness Wyer.

Map of the Main Lines of the East Ohio Gas Company.



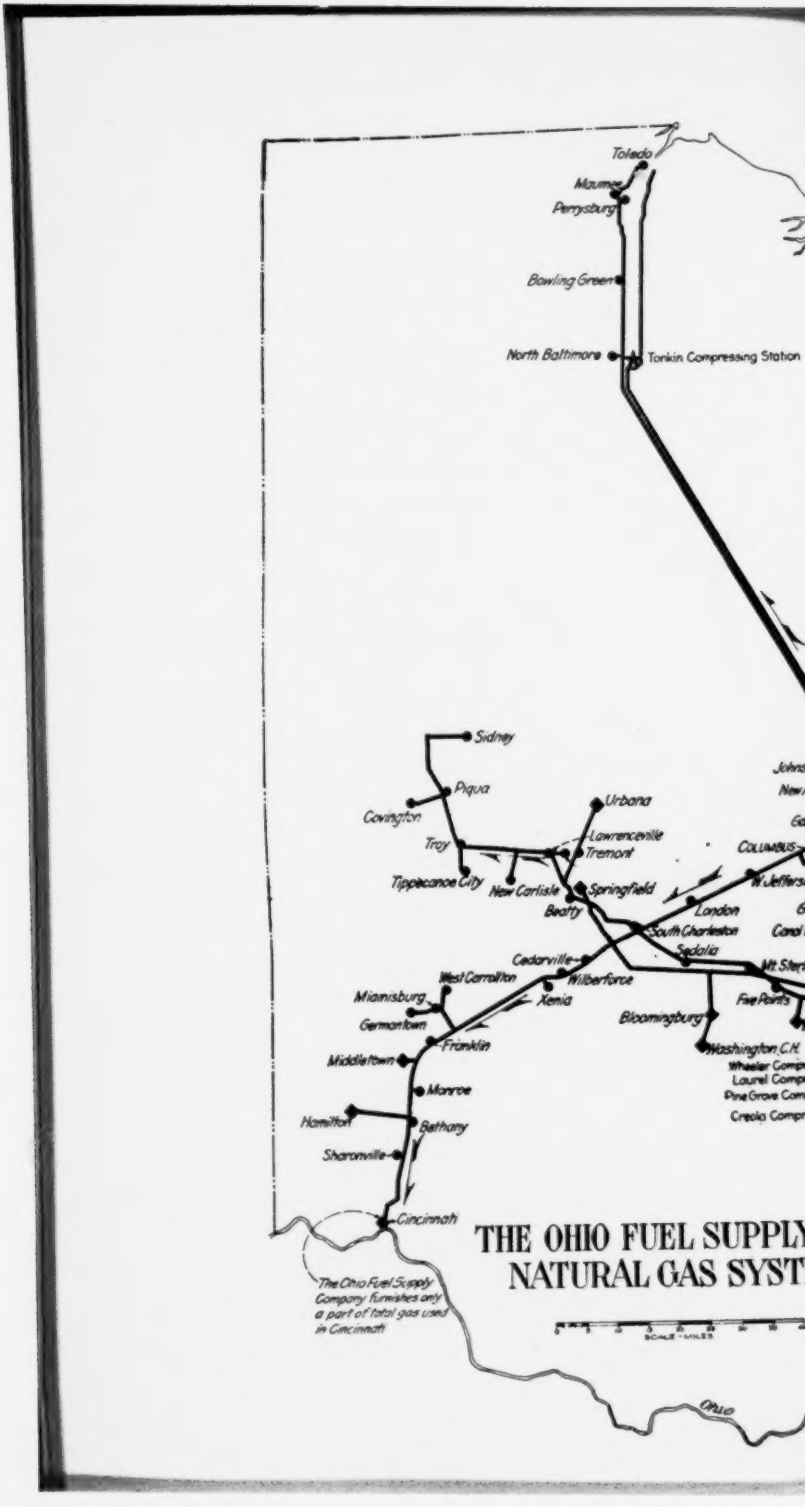
PENNSYLVANIA EXHIBIT 48.

Offered at p. 974 of Printed Record by Witness Wyer.

Map of the Main Lines of the Hope Natural Gas Company, [illegible] Natural Gas Company, and the Peoples Natural Gas Comp[illegible]

MAP OF
MAIN LINES
OF
HOPE NATURAL GAS CO.
AND
RESERVE GAS CO.
IN
WEST VIRGINIA
AND OF
THE PEOPLES NATURAL GAS CO.
IN
PENNSYLVANIA

DEC. 31, 1917


Toledo
Maumee
Perrysburg
Bowling Green
North Baltimore
Tonkin Compressing Station
Sidney
Piqua
Covington
Urbana
Troy
Lawrenceville
Tremont
Tippecanoe City
New Carlisle
Springfield
Beatty
London
South Charleston
Sedalia
Cedarville
Wilberforce
West Carrollton
Miamisburg
Xenia
Germantown
Franklin
Middletown
Monroe
Hamilton
Bethany
Sharonville
Cincinnati
Bloomingburg
Fee Points
Washington C.H.
Wheeler Compr
Laurel Compr
Pine Grove Com
Creola Compr
COLUMBUS
W. Jeffers
Mt. Sterl
THE OHIO FUEL SUPPLY
NATURAL GAS SYST
The Ohio Fuel Supply Company furnishes only a part of total gas used in Cincinnati
SCALE - MILES
Ohio

177

PENNSYLVANIA EXHIBIT 49.

Offered at p. 974 of Printed Record by Witness Wyer.

Map of the Ohio Fuel Supply Company's System.

178 PA. EXHIBIT No. 50. J. R. S.

3/22/1921.

Natural Gas Statistics—State of West Virginia.

The total production of natural gas, within the State of West Virginia, for the year ended December 31, 1919, was approximately 220 billion cubic feet. Approximately 80 billion cubic feet of the State's production (or the equivalent thereof) and 4 billion cubic feet of imported gas was consumed within West Virginia and approximately 140 billion cubic feet piped to other States.

The production of natural gas within West Virginia for the years 1908 to 1919, both years inclusive, was as follows:

Year.	Cubic feet.
1908	112,181,278,000
1909	166,435,092,000
1910	190,705,869,000
1911	206,890,576,000
1912	239,006,682,000
1913	245,453,985,000
1914	236,489,175,000
1915	244,004,159,000
1916	299,318,907,000
1917	289,898,967,000
1918	280,289,044,000
1919	219,886,837,000

The statement following shows the quantity of natural gas exported from the State.

Year.	Exported from State (cubic feet).	Percentage of State's total production.
1908	61,644,618,000	55%
1909	96,074,387,000	58%
1910	120,508,811,000	63%
1911	132,867,059,000	64%
1912	151,144,250,000	63%
1913	155,501,876,000	63%
1914	150,161,936,000	63%
1915	154,630,164,000	63%
1916	200,004,740,000	67%
1917	196,679,263,000	68%
1918	174,664,650,000	62%
1919	139,939,062,000	64%

The consumption of gas within the State was as follows:

Year.	Consumption within State (cubic feet).	Percen of Sta tot produc
1908	50,536,660,000	45%
1909	70,360,705,000	42%
179		
1910	70,197,058,000	37%
1911	74,023,517,000	36%
1912	87,862,432,000	37%
1913	89,952,109,000	37%
1914	86,327,239,000	37%
1915	89,373,995,000	37%
1916	99,314,167,000	33%
1917	93,220,204,000	32%
1918	105,624,394,000	38%
1919	83,769,937,000	36%

These figures include gas imported from other States. The portations for 1919 were 382,162,100 cubic feet.

Following are statements showing the consumption of natural within West Virginia by different classes of consumers.

Domestic Consumers.

Year.	Number consumers.	Gas consumed (cubic feet).	Percent of Stat total product
1909	57,208	9,907,023,000	5.6%
1910	71,900	11,173,508,000	5.9%
1911	70,880	11,311,715,000	5.5%
1912	74,985	13,288,159,000	5.6%
1913	82,139	12,961,799,000	5.3%
1914	88,344	14,265,209,000	6.0%
1915	94,098	15,220,207,000	6.3%
1916	109,216	15,237,221,000	5.1%
1917	122,329	16,404,234,000	5.5%
1918	125,341	19,618,873,000	6.9%
1919	130,780	18,753,986,000	8.5%

CHARTS

TOO

LARGE

FOR

FILMING

Industrial Consumers.

ear.	Gas consumed (cubic feet).	Percentage of State's total production.
909	60,453,682,000	36.4%
910	59,023,550,000	31.1%
911	62,711,802,000	30.5%
912	74,574,273,000	31.4%
913	76,990,310,000	31.7%
914	72,062,030,000	31.0%
915	74,153,788,000	30.7%
916	83,767,519,000	27.9%
917	76,816,465,000	26.5%
918	86,005,521,000	31.1%
919	65,015,951,000	27.5%

Large quantities of natural gas are used within the State in the anufacture of carbon black. The average yearly consumption r the last ten years for this purpose was approximately 23 billion bic feet per year. During the year 1919, approximately 21 bil- on cubic feet was used for this purpose. The figures for "In- ustrial Consumption" include this gas.

Prepared by H. E. Nease, Statistician, Public Service Commission W. Va.

Here follow Pennsylvania Exhibits 51 and 52, marked pages 179*a*-181, inclusive.

181*a* PENNSYLVANIA EXHIBIT 53.

Offered at p. 1383 in Printed Record by Witness Robinson.

Ebert's Statement on West Virginia Natural Gas Production, Importation, Sales, and Exportation for Year 1920.

PA. EXHIBIT No. 53. 3-21-1921. J. R. S.

182 Inspection Department, Gas Utilities.

Summary of the Natural Gas Production, Importation, Sales, and Exportation for the Fiscal Year Ending June 30, 1920.

I.	Sold in cities and towns in W. Va.	51,525,765	Mcf.		
J.	" " field and main lines "	35,883,029	"		
K.	Total sales in W. Va.	87,408,794	"	87,408,794	Mcf.
L.	Sold to W. Va. utilities			48,806,800	"
M.	Exported from W. Va.			142,519,562	"
N.	Line loss, etc.			66,357	"
O.	Credit total			278,801,513	Mcf.
C.	Purchased from W. Va. producers	34,932,777	Mcf.	from 1,074–2/12 wells.*	
E.	" " " utilities	49,012,245	"		
F.	Imported to W. Va.	5,435,663	"		

G.	Error in reporting	326	"	
	Total purchases and imports	89,381,011	"	89,381,011 Mcf.
B.	Produced by utilities from 7,709–5/12 wells*			189,420,502 "
H.	Debit total			278,801,513 "

In item F, 755,666,000 cubic feet of the 5,435,663,000, was "forced importation" through a main trunk line, from the McKeesport, Pa., gas field, while the latter was in its prime. While the utility exports gas to Pennsylvania regularly and imports none from Pennsylvania, it was compelled to take the quantity named above during one month.

CHAS. B. EBERT,
Acting Chief Inspector.

*Monthly average of wells.

182*a* PENNSYLVANIA EXHIBIT 54.

Offered at p. 1391 of Printed Record by Witness Robinson.

Statement Showing Approximate Acreage Held by Certain Companies and Individuals in West Virginia.

183 PA. EX. No. 54. J. R. S. 3/21/1921.

Statement Showing Approximate Acreage Held by Certain Companies and Individuals Operating for Oil and Gas in West Virginia at Approximately Present Time.

(1)

	Developed.	Undeveloped.	Total.
Anchor Oil Co.	380	64	444
Anderson & Co.	77	.....	77
Aizpuru Oil & Gas Co.	308	.....	308
Armstrong, F. W.	110	.....	110
Armstrong, F. W. & Sons	246	.....	246
Allegheny Oil & Gas Co.	198	306	504
Arkansas Natural Gas Co. (or J. R. Munce)	.....	3,094	3,094
Anderson Oil & Gas Co.	50	.....	50
Ahouse, George	29	160	189
Ahner, W. H.	20	990	1,010
Bartlett, Fred	350	.....	350
Blair & Butler	5	2,767	2,772
Betts, Chas. H.	600	400	1,000
Brast, E. A.	125	815	940
Beren & Wright	100	300	400
Brown, C. L.	.....	150	150
Bowser, Park	1,383	2,197	3,580
Beacon Oil & Gas Co.	2,000	.....	2,000
Bishop & Co.	142	.....	142
Barnhart & Elder	.....	325	325
Barnhart & Moore	25	.....	25
Beeghley, Lloyd et al	.....	33	33
Benson Oil Co.	.....	80	80
Burnsville Oil & Gas Co.	100	.....	100
Buckhannon Chemical Co.	.....	4,000	4,000
Boggess, Lee	40	.....	40
Boone Oil & Gas Co.	10	.....	10
Beer, B. F. & Co.	65	.....	65
Bradley & Moon Oil & Gas Co.	241	.....	241
Bennett Farm Oil Co.	130	.....	130
Bunnell Oil & Gas Co., et al.	45	.....	45
Bridgeport Natural Gas & Oil Co.	518	65	583

	Developed.	Undeveloped.	Total.
Blue Flame Oil & Gas Co.	512	200	712
Berkley Oil Co.	40	300	340
Bumpus, John I.	90	.....	90
Bray, Edward M.	90	.....	90
Blacksville Oil & Gas Co.	192	.....	192
Beren & Co.	1,150	.....	1,150
Bennett, Ahner & Thompson	237	237	474
Charlton, Jim, Oil Co.	40	.....	40
Cincinnati Oil & Gas Co. et al	368	28	396
Cabin Creek Gas Co.	8,005	.....	8,005
Cabin Creek Oil Development Co.	200	5,544	5,744
Charleston-Dunbar Natural Gas Co.	1,650	25,899	27,549
Continental Oil & Gas Co.	1,425	1,140	2,565
Colonial Oil Co.	1,298	.....	1,298
Champion Oil & Gas Co.	1,505	.....	1,505
Craig Oil Co.	70	.....	70
Chalmers Oil & Gas Co.	750	.....	750
Center Fuel Co.	100	1,050	1,150
Cornwallis Oil & Gas Co.	625	100	725
Coltrane, J. N., et al	64	.....	64
Clay District Oil & Gas Co.	.....	44	44
Cummings Oil & Gas Co.	50	.....	50
Carnahan, J. E. & Co.	275	.....	275
Cowl, R. M. & Kate S.	400	.....	400
Chapman, Wm. J.	327	30	357
Chambers Oil Co.	100	.....	100
Carmichael, Floyd et al	.....	114	114
	26,860	50,432	77,292
(2)			
84 Coogle & Allen	25	.....	25
County Farm Oil Co.	200	.....	200
Crystal Petroleum Co.	117	.....	117
Corpening, Geo. B.	122	.....	122
Craig-Gerber Oil & Gas Co.	64	800	864
Crowley, Thomas & Co.	243	.....	243
Carter & Engle	642	.....	642
Capital City Oil Co.	370	126	496
Crawford Oil & Gas Co.	400	.....	400
Commonwealth Petroleum Co.	959	17,641	18,600
Cotherman, F. A.	41	.....	41
Clear Water Oil & Gas Co.	180	.....	180
Crago, James	62	.....	62
Carter, D. J., et al	850	3,950	4,800
Crowley, M. F. & Co.	351	662	1,013
Cochran & Funk	888	.....	888
Conings Oil & Gas Co.	1,000	.....	1,000

	Developed.	Undeveloped.	Total.
Dental Oil Co.	738	.....	738
Del Rio Petroleum Co.	1,765	150	1,915
Dotson, M. C. & Co.	300	75	375
Delvatex Petroleum Corporation	288	.....	288
Despard, C. S.	.....	100	100
Delta Oil & Gas Co.	65	.....	65
Dotson, C. D., et al	462	.....	462
Dinsmoor Companies	10,000	400	10,400
Deaton, Harry	171	122	293
Dellenboch Oil & Gas Co.	235	.....	235
Dudeon Oil Co.	.....	600	600
Daugherty & Fuccy	110	.....	110
Dakon Coal & Oil Co.	135	450	585
Delmar Oil Co.	2,318	260	2,578
Eastern Petroleum Co.	5,673	5,776	11,449
Empire Petroleum Co.	3,910	1,186	5,096
Eastern Producing & Refining Co.	1,229	570	1,799
Engle & McElwain	.....	1,000	1,000
Eagle District Gas Co.	160	.....	160
Economy Oil Co.	167	.....	167
Easton & Hickman Oil Co.	260	.....	260
Eddystone Oil Corporation	4,788	7,665	12,453
Eureka Oil Co.	10	.....	10
Freehold Oil & Gas Co.	818	41	859
Fisher Oil Co.	3,709	49,029	52,727
Freshwater, F. L.	257	.....	257
Funk & Null	60	170	230
Fink, H. B., Estate	250	.....	250
Figley, F. S. & Co.	31	.....	31
Gurmer Oil Co.	94	92	186
Greenleaf & Starcher	13	.....	13
Goshorn Oil Co.	200	.....	200
Gas Products Co.	470	.....	470
	45,200	90,865	136,065

(3)

185	Grant Oil Co.	217	.....	217
	Grasselli Chemical Co.	1,958	50	2,008
	Gay Gas Co.	277	1,100	1,377
	Goettman, C. E.	573	2,471	3,044
	Gambrill, Mary S.	563	.....	563
	Gribble, Jno. M. & W. D.	715	110	825
	Gibs, D. M.	.....	500	500
	Grass Run Oil & Gas Co.	68	.....	68

	Developed.	Undeveloped.	Total.
Gem Oil & Gas Co.	32	.....	32
Greater Pittsburg Oil & Gas Co.	950	.....	950
Hamkins Oil & Gas Co.	159	.....	159
Huntington Development Co.	23,000	120,000	143,000
Hart Farm Oil Co.	90	.....	90
Hudson Oil Co.	943	100	1,043
Hiteshew & Walker	3,100	.....	3,100
Hays, S. A., et al	400	.....	400
Hosey Oil & Gas Co.	.....	205	205
Harmony Oil Co.	18	.....	18
Hornor Gas Supply Co.	72	.....	72
Hornor, V. L., et al	48	58	106
Hoke Bros.	100	.....	100
Hahn, Chas. F.	210	100	310
Hornor, Boyd E.	165	10	175
Hornor, J. Lee	477	.....	477
Hornor, L. S., Trustees &c.	300	4,000	4,000
Hudson, W. J.	250	.....	250
Hardly Able Gas Co.	230	770	1,000
Haskill & Hopkins	601	.....	601
Hornor, Boyd E., Special	.....	7,450	7,450
Harshbarger Oil & Gas Co.	2,500	500	3,000
Hatzel & Wilson	145	.....	145
Henderson, L. A.	.....	42	42
Imperial Oil & Gas Co.	3,200	6,800	10,000
Ingrim, J. T.	136	.....	136
Irvin, C. M. & Co.	160	230	390
Inter-State Gasoline & Oil Co.	280	410	690
Jennings Oil Co.	3,365	662	4,027
Jarvis Oil Co.	148	100	248
Jackson, J. O.	50	1,150	1,200
Jarvis, U. W.	50	.....	50
Johnson, J. W. & Sons	277	120	397
Johns-Van Vorhis	1,000	.....	1,000
Jonas Oil Co.	97	.....	97
Jennings, J. B.	100	.....	100
Koon, Hayes et al	450	.....	450
Knight Farm Oil Co.	130	.....	130
Koontz & Osborne	215	250	465
Kanawha Gas Co.	90	.....	90
Kanawha City Oil & Gas Co.	3,046	.....	3,046
Kings Creek Oil & Gas Co.	45	.....	45
Kanawha Valley Products Co.	2,200	.....	2,200
	53,200	147,188	200,388

(4)

	Developed.	Undeveloped.	Tota
186 Lewis Oil & Gas Co.	203	.....	20
Larimer Oil Co.	340	.....	34
Langley Oil Co.	44	73	11
Locke, J. T. & Co.	343	285	62
Lockhart, E. H.	516	680	1,19
Lumberport Gas Co.	37	43	8
Laurel Development Co.	650	350	1,00
Lemley Oil Co.	98	.....	9
Luton, H. L. & C.	200	64	26
Leonard Petroleum Co.	103	.....	10
La Belle Iron Works	592	.....	59
Little Sycamore Oil & Gas Co.	1,400	.....	1,40
Loughner, E. E.	200	.....	20
Linduff, John	119	.....	11
Lawrence Oil & Gas Co.	5	.....	
Montgomery Gas Co.	1,142	.....	1,14
Miller, Geo. E.	.....	829	82
Marshall Oil Co.	518	1,923	2,44
Mabel Oil Co.	19	.....	1
Midwood Oil & Gas Co.	4,200	.....	4,20
Marne Oil & Gas Co.	711	.....	71
Means, W. A.	.....	215	21
Moon Oil & Gas Co.	455	.....	45
Marsh Bros. & Co.	75	.....	7
M. C. & S. Oil & Gas Co.	180	.....	18
Murphy, Michael estate	1,400	.....	1,40
Maxton Oil & Gas Co.	279	208	48
Martin, Mahlon	300	.....	30
Moore-Tex Oil Co.	267	20	28
Murray & Miller	100	.....	10
Mildren, John & Sons	138	.....	13
Mill Fork Oil & Gas Co.	800	1,200	2,00
Murray, James	350	1,654	2,00
Manufacturers Gas & Electric Co.	297	13	31
M. Edward Hersman Oil Co.	.....	1,767	1,76
Mills, J. L. & B. H.	87	.....	8
Mallory & Stewart	957	.....	95
Munce, J. R.	.....	3,124	3,12
Maxwell, W. Brent	1,300	.....	1,30
Murphy, Joseph L., Trustees et al.	1,782	.....	1,78
McBride, R. C., Inc.	41	.....	4
McMahon & Brafford	245	.....	24
McBride, W. H.	84	.....	8
McGinnis, J. W. & Co.	60	403	46
McDermott, J. H., Oil Co.	1,656	25	1,68

	Developed.	Undeveloped.	Total.
McCullough Oil Co.	50	300	350
McBride & Norris	200	.....	200
McKelvy Oil & Gas Co.	908	419	1,327
National Compressing Co.	38	.....	38
New York Petroleum Co.	1,013	.....	1,013
New Wilmington Oil & Gas Corp.	277	280	557
New Martinsville Oil Co.	214	.....	214
Netser, J. D.	25	300	315
Norwood Gas Co.	757	.....	757
	25,775	14,175	39,950
(5)			
187 Ohio Fuel Oil Co.	2,785	83,658	86,443
Oil Creek Gas Co.	45	.....	45
Ohio Valley Trust Co.	526	.....	526
O'Connor, Martin	80	.....	80
Payn, Louis F. Oil Co.	2,783	.....	2,783
Power Oil Co.	601	200	801
Pope Bros. Oil Co.	1,142	2,016	3,158
Peaney, C. A., Oil Co.	137	.....	137
Patterson, W. C., Jr.,	2,170	.....	2,170
Pine Run Oil & Gas Co.	75	.....	75
Pugh & Cunningham	.....	200	200
Pentz, W. J.	.....	132	132
Patterson, Guy B. & Geo. B.	175	.....	175
Penn-Kentucky Oil Gasoline Refining Co.	1,749	.....	1,749
Peerless Carbon Black Co.	1,175	.....	1,175
Peach Oil Co.	25	50	75
Producers Development Co.	242	.....	242
Randolph & Lowther	145	394	539
Reed, E. R.	.....	1,785	1,785
Reno Oil Co.	3,675	.....	3,675
Roberts Brothers	436	800	1,236
Richwood Oil Co.	712	.....	712
Rouser Oil Co.	12	.....	12
Risk Oil & Gas Co.	200	1,000	1,200
Ramage, S. Y.	651	.....	651
Rock Bottom Oil & Gas Co.	78	.....	78
Randall Gas Co.	1,577	4,800	6,377
Rock Gas Products Co.	400	.....	400
Rockledge Oil Co.	2,100	718	2,818
Rose, J. B.	.....	121	121
Ripley Oil & Gas Co.	128	1,000	1,128

	Developed.	Undeveloped.	Total.
Riggs, S. V. & Co.	5	.....	5
Riggs-Hood Oil Co.	25	125	150
Ruth & Strong	350	50	400
Resolute Oil & Gas Co.	20	.....	20
Rogers & Fox	.....	2,000	2,000
Ring Oil Co.	5	.....	5
States Fork Oil Co.	438	500	938
Sayre, Ira G.	1,640	7,600	9,240
Sure Oil & Gas Co.	225	40	265
Stewart, Jas. D. & Chas. M.	454	.....	454
Silver Hill Oil Co.	800	300	1,100
Snider-Underwood & Co.	255	380	635
Samples Oil & Gas Co.	222	.....	222
Stathers, B. S., et al	.....	22	22
Smith Brothers	.....	54	54
Salem Fork Oil & Gas Co.	100	.....	100
Strother, Walton	42	.....	42
	28,405	107,945	136,350
(6)			
188 Schoffner Brothers	598	.....	598
Shinns Run Oil & Gas Co.	10	.....	10
Shinnston Gas Co.	5	.....	5
Shaffer-Smathers Oil Co.	16	.....	16
Sutton, W. L. & Son	108	.....	108
Shuman Oil & Gas Co.	.....	31	31
Simpson, B. M.	650	.....	650
Schultz Oil Co.	450	.....	450
Shady Glenn Oil Co.	350	.....	350
Stout & Maxwell	400	.....	400
Sutton Brothers, Inc.	739	.....	739
Snaith & Wilson	1,641	.....	1,641
Sandyville Oil & Gas Co.	184	2,000	2,184
Saba Oil Co.	150	.....	150
Sanders, D. E.	250	.....	250
Smith & McCullough	75	225	300
Sahley-Skoff Co.	7	.....	7
Silmon Oil Co.	75	.....	75
Shields Oil & Gas Co.	2,000	.....	2,000
Sleppy Oil Co.	300	.....	300
Shalto, B. D., et al	.....	1,000	1,000
Sovereign Gas Co.	2,250	2,150	4,400
Sago Oil & Gas Co.	.....	300	300
The Kanawha Oil Co.	6,337	.....	6,337
The Pure Oil Co.	16,393	139,594	155,987
The Buckeye Supply Co.	70	.....	70

	Developed.	Undeveloped.	Total.
Tenant Oil Co.	.....	660	660
The Heck Oil Co.	500	14,500	15,000
The Federal Oil & Gas Co.	1,190	4,800	5,990
Tuel & Thonen	60	464	524
Townsell, Bosquett & Co.	.....	1,030	1,030
Townsell, P. J., Oil & Gas Co.	.....	111	111
The Cameron Heat & Light Co.	221	.....	221
Transcontinental Oil Co.	500	.....	500
The Comet Oil & Gas Co.	1,500	5,000	6,500
Three Drillers Oil Co., et al	123	.....	123
Trainer & Travis	300	1,200	1,500
Tait Brothers & Co.	1,060	.....	1,060
Trainer, J. E.	15	2,000	2,015
Triangle Oil Co.	85	.....	85
The American Oil Development Co.	7,865	.....	7,865
The D. C. Davis Oil Co.	648	.....	648
Trimble Oil & Gas Co.	125	.....	125
Tyler Oil Co.	1,055	.....	1,055
Thomas, Geo. E.	195	393	588
The Prospect Oil & Gas Co.	.....	6,700	6,700
Taylor & Dye Oil Co.	2	.....	2
Treat, E. M., Oil & Gas Co.	578	141	719
The Crude Oil Co.	1,902	2,126	4,028
The Wiser Oil Co.	867	8,805	9,672
The Jackson Oil & Gas Co.	40	139	179
	51,889	193,369	245,258

(7)

189 Uniontown & McKeesport Oil Co.	40	40	80
Union Central Oil Co.	767	1,600	2,367
United Oil Co.	290	.....	290
United Oil & Gas Co.	200	3,300	3,500
Umpleby Oil Co.	117	.....	117
Umpleby Brothers	3	.....	3
University Oil Co.	300	.....	300
Valley Oil Co.	85	.....	85
Vesper Oil & Gas Co.	976	1,475	2,451
Valley Mills Oil Co.	150	150	300
Vickers Oil & Gas Co.	65	.....	65
Wright & Loper Oil Co.	900	.....	900
Williams & Cayton	185	845	1,030
Wilson Oil Co., et al	23	150	173
Weston Carbon Co.	420	.....	420
Wilson, J. F.	.....	432	432
Weir, J. B.	3,080	.....	3,080

	Developed.	Undeveloped.	To
West Virginia Consolidated Oil Co.	530	.....	
Wood Oil Co.	250	.....	
Wabash Oil Co.	101	.....	
Wilson & Swiger	.....	218	
West Virginia Utilities Co.	6,490	4,705	11,
Wickwire Oil & Gas Co.	.....	5,548	5,
White Sand Oil Co.	377	23,175	23,
White Top Oil Co.	190	.....	
Washington Gas Co.	1,500	.....	1,
Wyeth-Elson Oil Co.	200	.....	
Washington Oil & Gas Co.	95	.....	
Wasmuth Brothers	284	405	
Wetzel, C. H.	.....	130	
Walnut Run Oil Co.	175	400	
Wallace Oil Co.	141	.....	
Wait Oil Co.	455	.....	
Whalen, Ahner & Alford	40	.....	
Wetzel Natural Gas Co.	65	68	
	18,494	42,641	61,
(8)			
190 Columbian Carbon Black Co.	5,246	.....	5,
Castlebrook Carbon Black Co.	563	45	
Eastern Carbon Black Co.	1,988	.....	1,
Johnston, J. E.	364	.....	
McCutchen, G. E.	700	.....	
Raccoon Gas Co.	437	938	1,
Southern Oil Co.	22,486	10,778	33,
Black & Walker	236	.....	
Victoria Oil Co.	705	500	1,
Grove & Parrish	397	.....	
Allen, Virgil I. (Estate)	64	.....	
Bailey Gas Co.	135	1,500	1,
Berea Heat & Light Co.	6	.....	
Bristol Oil & Gas Co.	227	.....	
Buckhannon Fuel Co.	239	.....	
Cather Gas Co., J. B.	150	350	
City & Suburban Gas Co.	1,761	207	1,
Clarksburg Light & Heat Co.	8,405	8,081	16,
Fay Company	.....	450	
Home Petroleum & Natural Gas Co.	251	.....	
Jane Lew Light & Heat Co., The	40	2	
Monongahela Valley Traction Co.	5,047	14,620	19,
Moore, Herman	35	.....	
Natural Gas Company of West Virginia	.....	12,407	12,
Salem Natural Gas Co.	386	.....	

	Developed.	Undeveloped.	Total.
Southern West Va. Oil & Gas Corporation	1,035	11,187	12,222
Troy Oil & Gas Co.	66	.....	66
West Union Gas Co.	155	212	367
Glenville Natural Gas Co.	200	.....	200
Travis, G. B.	8	460	468
West Va. Central Gas Co.	9,364	24,703	34,067
West Va. Heat & Light Co.	436	218	654
W. Va. Traction & Electric Co.	6,117	6,770	12,887
Carter Oil Co.	51,924	145,566	197,490
Philadelphia Oil Co.	.....	855	855
Hope Construction & Ref-ing Co.	.....	43	43
South Penn Oil Co.	136,497	466,629	603,126
Bennedum & Trees	530	.....	530
Alleen Oil & Gas Co.	1,800	.....	1,800
McIntyre Oil & Gas Co.	5,000	.....	5,000
Floyd & Bramer	600	7,400	8,000
Atlas Gas Corporation	600	.....	600
McKim Oil Co.	50	.....	50
Williams & Co.	108	.....	108
Gillespie, R. G.	4,619	1,113	5,732
Latty Oil & Gas Co.	207	.....	207
Libby-Owens Glass Co.	5,000	55,000	60,000
	274,184	770,044	1,044,228

Recapitulation.

Page 1	26,860	50,432	77,292
2	45,200	90,865	136,065
3	53,200	147,188	200,388
4	25,775	14,175	39,950
5	28,405	107,945	136,350
6	51,889	193,369	245,258
7	18,494	42,641	61,135
8	274,184	770,044	1,044,228
Grand totals	524,007	1,416,659	1,940,666

191 & 192 *General Summary of Acreage Held by Operators in West Virginia as Compared with Testimony of Mr. Nease.*

	Developed.	Undeveloped.	Total.
Testified by Nease as held by seven companies	689,305	1,866,720	2,556,025
Ascertained as held by other operators	524,007	1,416,659	1,940,666
Estimated held by operators not included in above	100,000	300,000	400,000
	1,313,312	3,583,379	4,896,691

Percentage Held by Operators Other Than the Seven Companies Without the Estimate of Those Unascertained.

Developed.	Undeveloped.	Total.
43.2	43.1	43.2

Percentage With the Estimate of Those Unascertained.

Developed.	Undeveloped.	Total.
47.5	47.9	47.9

193 PENNSYLVANIA EXHIBIT 55.

Offered at p. 1442 of Printed Record by Witness Wyer.

Smithsonian Institution Bulletin on "Natural Gas Production, Service, and Conservation."

1620

GAS WASTE IN KELLY'S CREEK FIELD NEAR CHARLESTON, W. VA.

Over a mile three on hillside, blowing at least 5,000,000 cubic feet of natural gas into the air in order to get oil. This is due to competitive conditions, each operator getting all he can from each tract regardless of the fact that gas is not worth saving.

1621

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
Bulletin 102, Part 7

THE MINERAL INDUSTRIES OF
THE UNITED STATES

NATURAL GAS:
ITS PRODUCTION, SERVICE, AND CONSERVATION

BY

SAMUEL S. WYER
Of Columbus, Ohio

WASHINGTON
GOVERNMENT PRINTING OFFICE
1918

FOREWORD.

ıral gas is the least appreciated, consequently the most abused, mineral resources in popular use. The issues involved are ect concern to some ten millions of the inhabitants of the States, and their range of influence does not stop even here; ey form a prominent feature in the nation-wide problem of ıpply which may be solved effectually only through coor- l attention to the component parts. This problem science and ogy, working together, can take the initiative in simplifying, ıting the way and devising means for its solution, but of their itiative, they are powerless to go further. The responsibility ative in carrying forward the actual process of solution rests e public, and resting with the public is contingent, as a first e, upon public opinion genuinely alive to the situation. This on of affairs, naturally, is most pronounced in industrial con- s of the public service order to which the activities comprising ural gas industry belong; and this particular situation, bad from environment, is further aggravated by characteristics t in the resource.

public must look to remedying the situation or within a very ars lose the services of the resource already seriously im- The stimulus to action contributed in the form of technical ons is inadequate and equally so that afforded in appeals iment and sensationalism. The United States National ı has undertaken the preparation of an exhibit designed to e the situation in its true bearing, and the normal order of nce would be to follow this with publications drawing upon ibit. In view of the present emergency, however, with its n the question of fuel supply, it is deemed best not to wait remony but to publish the present paper by Mr. S. S. Wyer, the delay which would otherwise occur.

situation is too complex for any simple formula of remedy. t only complex but acutely critical as well, and needs all the at can be thrown on it from all sides. This particular discus- s forth the technical issues as viewed by a practical engineer one is responsible for it in a concise, readable presentation nakes it a distinct contribution toward clarifying the situation.

C. G. GILBERT,
Curator, Division of Mineral Technology,
United States National Museum.

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TABLE OF CONTENTS.

	Page.
ental principles of natural gas production	7
natural gas is mined and served to the consumer	7
ition of lease	8
rve acreage	8
nction between acreage lease rentals and gas well royalties	9
damental conception of gas	9
e of gas pressure	10
makes gas flow	10
ition of natural gas	10
ition of "mechanical mixture"	11
ition of term "vapor"	11
and vapors distinguished	11
ral gas may be wet or dry	12
g impression of word "natural"	12
ral gas a mineral	13
n or formation of natural gas	13
ng point of gas activity	13
netric pressure	14
pressure	14
ute pressure	14
ential pressure	15
of pressure on gas volume, known as Boyle's Law	15
of temperature on gas volume, known as Charles' Law	16
nd or gas rock	16
tion of rock pressure	16
ock pressure and volume must decline	17
eration	18
e of natural gas	19
of geology	19
of underground reservoirs	19
or natural flow	19
ding well capacity	20
ory and fugitive nature of natural gas	20
t of natural gas underground drainage	21
y and quantity of natural gas fixed by nature	21
y of natural gas	21
l gas service is based on a noncreatable and nonregenerative mineral	23
l gas service and oil business distinguished	24
natural gas	25
of natural gas transmission	27
ission is more than mere transportation	27
atural gas is compressed	28
atural gas is compressed	28
of gas compressor art	29
ompressing" and "gas pumping"	29
ressure decline lowers compressor capacity	29
d cost of lines necessary without compressors	29
t loss in natural gas compression	30
sible to make natural gas main lines common carriers	30
distribution	34
l gas is a service, not a commodity	34
s consumers use more natural gas than manufactured gas	34

Page.
Natural gas distribution—Continued.
Peak load service 35
Peak loads increase cost of service 36
Basic reasons for large sales of industrial gas 37
Peak load conditions analogous to strap hanger problem 38
Use of auxiliary heating appliances 40
Few improvements in art of using natural gas 40
Cooking and heating distinguished 40
What is usable natural gas pressure 41
Accuracy of meter registration at low and various gas pressures 42
Effect of gas pressure on gas leakage 42
Gas meter facts 42
Distinction between luxury and necessity in natural gas service 43
Consumer is responsible for economic use of gas 43
Barometric changes make more difference on total pressure than gage pressure variation 44
Atmospheric temperature changes heating value of gas more than changes in gage pressure 44
Effect of pressure or temperature changes on heating value of gas 44
Combustion of natural gas 46
Effect of atmospheric temperature on demands for gas 47
Daily demands for gas heating service 47
Monthly demands for gas heating service 48
Why standards for natural gas service must be lower than for manufactured gas 48
Discount for lower pressures stimulates waste 49
Extension of service 50
Waste and conservation of natural gas 51
Definition of conservation 51
Extent of waste 51
Specific forms of waste 52
Drilling wastes 53
Well operation wastes 53
Transmission wastes 54
Utilization wastes 54
Definition of "offset well" 55
Drilling offset wells may make existing wells commercially worthless 55
Why offset wells are frequently dry 56
Why offset wells are frequently of low capacity 56
When is the drilling of offset wells justifiable? 57
Public pays for wasteful operation 57
Gas leakage 58
Definition of carbon black 58
Waste in carbon black manufacture 58
Why carbon black manufacture may be more attractive than public utility service 59
Small capital in carbon black plant as compared to public utility plant 59
Competition always economic waste 60
Ease in drilling invites competition 60
Critical need of the natural gas industry 61
Effect of governmental opposition to unified control 61
Pooling of field operations mandatory if waste is to be reduced 62
Provincial thinking cause of most natural gas waste 62
Characteristics of natural gas prospectors and new gas supplies 63
Conservation of natural gas possible only with profitable operation 63
When is it commercially feasible to conserve gas or develop new supplies? 64

NATURAL GAS: ITS PRODUCTION, SERVICE, AND CONSERVATION.

By SAMUEL S. WYER.
Of Columbus, Ohio.

FUNDAMENTAL PRINCIPLES OF NATURAL GAS PRODUCTION.

HOW NATURAL GAS IS MINED AND SERVED TO THE CONSUMER.

The first step is the securing of the lease or right to prospect for, reduce to possession, remove and market natural gas. This lease must usually be secured, held, and paid for, for a number of years—on the optimistic but unproven faith that it may contain gas—prior to beginning actual development work.

The unknown underground supplies of natural gas are found and reduced to possession by drilling down from the earth's surface. To protect the hole, an iron pipe—called a "casing"—is driven down into the rock formation always found above the gas-bearing sand rock. A plugging device known as a "packer" is fastened in the casing or hole in the rock, immediately above the gas formation, and the gas by virtue of its inherent expansive tendency then comes to the surface—usually about one-half mile above—through tubing, as shown on page 8, and forces itself into the transmission lines, when it then may continue by its own expansive force to travel on toward the consumer.

As the gas travels the pressure must drop, for the reasons given on page 10, and this necessitates the installation of gas compressors, whose function is to recompress the gas, increasing thereby its pressure, so that it will continue to travel through the transmission lines. From the compressing station the gas then goes to the consumer. When the gas reaches the distributing plant it passes into the medium pressure lines in the city and the pressure is then in turn reduced to the low-pressure lines, where it travels through the mains at probably 5-ounce pressure to the square inch—this, of course, constantly decreasing as the consumer's fixtures are approached—through the service cock, service line, consumer's meter, consumer's piping, and ultimately is burned at the consumer's fixtures.

These steps present an unbroken chain of service features, from the reserve acreage in the field—that must be carried and paid for in order to permit of future drilling operations, and, therefore, future service—to the consumer's fixtures, with this additional feature, that when the gas passes the consumer's meter it is reduced to possession

by him, becomes his personal property, under his absolute control, and he can do with it what he pleases.

DEFINITION OF LEASE.

A natural gas lease is a contract for a consideration establishing a vested right to enter upon a definitely described parcel of land, for a determined period, to prospect for, reduce to possession, remove and market natural gas. The vested right is the crux of the whole matter, and it is immaterial whether the instrument creating it is called a "lease," "contract," "grant," or "deed of conveyance."

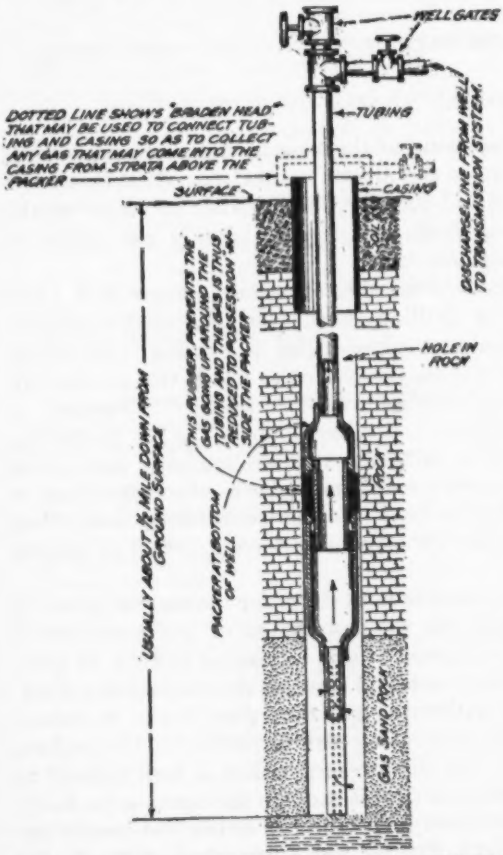

FIG. 1.—DIAGRAM SHOWING HOW NATURAL GAS IS REDUCED TO POSSESSION.

In a given tract of land it is always a matter of doubt to what extent, if any, mineral may exist in paying quantities, until very considerable development work has been performed, which requires in most instances large expenditure of capital. For this and other reasons, a custom long ago arose for the owner of supposed mineral land to grant to a mine operator the right to enter upon the land and search for and extract mineral, and the form which the contracting parties pretty generally adopted to express their agreement was a "lease," which purported to entitle the "lessee" to occupy such part of the premises as was necessary to carry on his mining operations, and to use, mine, and extract the minerals therefrom. (Lindley on Mines, ed. 3, p. 2134.)

RESERVE ACREAGE.

Based on the United States Geological Survey statistics for 1916 natural gas producers in this country carry an average of 313 acre

for each producing well, in their attempt to provide as far as possible continuity of service to their customers. However, this average of 313 acres will vary with different fields and localities. In West Virginia the United Fuel Gas Co. in 1917 carried 1,252 acres to the producing well, as shown on page 24. From this it is evident that not every farmer—that is, landowner—can have a producing well, even though his farm may be located in the center of producing territory. While natural gas wells are frequently drilled on tracts of less than an acre in area, by small producers intent only on getting the gas out in the fastest possible manner, without any regard to future service, the future continuity of service to the gas-using public is possible only by the carrying of reserve acreage for future drilling operations.

DISTINCTION BETWEEN ACREAGE LEASE RENTALS AND GAS WELL ROYALTIES.

The general custom of the natural gas business is to pay a lease rental based either directly on indirectly on the acreage of the tract that is controlled. The natural gas acreage statistics of the United States Geological Survey for 1916 show that—

5 per cent of acreage is owned in fee.

8 per cent of gas rights are owned in fee.

87 per cent of gas rights are merely under lease.

This acreage rental covers a twofold object—

1. Gives the gas company the right to enter the particular tract of land for exploration purposes.

2. Pays the farmer—that is, landowner—for any gas that might be found on such tract, even though such gas would be removed by drainage through to wells located on adjacent tracts.

Well royalty is merely compensation for particular wells drilled, and replaces the acreage rental that prevailed prior to the drilling of the wells. The well royalty for a particular tract is usually larger than the aggregate of the acreage rental because of the damages and inconvenience to the farmer in having wells and their appurtenances located in his fields.

It is not ordinarily appreciated that the total amount of money paid for "acreage rental" is larger than for "well royalties." Thus, the acreage rental of the United Fuel Gas Co. for the year 1917 was 80 per cent of the total annual sum spent for gas rights.

FUNDAMENTAL CONCEPTION OF GAS.

Gas is a fluid composed of a large number of molecules which are vehicles of energy continually in motion and having an inherent tendency to get farther and farther apart. The range of motion

of the molecules is limited only by the volume of the closed containing vessel in which they constantly move to and fro. Every molecule possesses the inherent power of energy and is eternally energetic within itself. That is, the molecules are in a state of constant bombardment against each other and against the sides of the containing vessel. The most distinguishing characteristic of gas is its universal property of completely filling an inclosed space.

CAUSE OF GAS PRESSURE.

Gas pressure is the result of the combined efforts of all the moving molecules in the gas trying to get farther and farther apart; that is, a mass of gas inclosed in a vessel expands and fills it, and, being restrained from further expansion, it exercises a pressure against the walls of the vessel. This pressure is the same in all directions on equal areas of surface. Not only is every gas molecule eternally energetic but its energy may be augumented or retarded by external conditions. Contracting the volume of gas increases the intensity of its internal molecular motion and therefore increases its pressure. Conversely, expanding the volume of a given mass of gas decreases the intensity of its internal molecular motion and therefore decreases its pressure. That is, with a given mass of gas any increase in volume of containing vessel will give the molecules more range of motion and thereby lower the pressure. Thus, if a part of a given mass of gas is removed from a closed vessel or reservoir the remaining mass of gas will expand instanter and keep the vessel or reservoir filled, but at a lower pressure.

WHAT MAKES GAS FLOW.

The inherent tendency of gas to expand is the basic cause of gas flow. Gas flow in pipes or underground reservoirs can not take place except between openings of higher, to openings of lower pressure; that is, flow can be obtained only by sacrificing pressure. This is in accordance with the universal natural law that as long as energy of any form undergoes no transformation it tends to gravitate to a lower degree of intensity—that is, becomes more stable and approaches a universal level of stable equilibrium. Thus, water always seeks the lowest level, and confined gas always tends to expand to lower pressures. Even where gas compressors are used to increase the pressure by contracing the volume, the gas is not pushed through the pipe like a plug of incompressible fluid, like oil or water, but goes through by virtue of the increased expansive force resulting from the higher pressure.

DEFINITION OF NATURAL GAS.

Natural gas is a highly combustible gas made by a secret process of nature. It is not a chemical compound—as popularly supposed—

but a mechanical mixture of several combustible and diluent gases and vapors thoroughly diffused through each other, the number and exact proportion of the various crude natural constituents varying for the different localities and somewhat during the working lives of individual wells.

The term "casing-head gas" is applied to a natural gas that flows from oil wells, coming out between the casing and tubing. It is collected by means of a metal head—called "braden-head"[1]—connecting the casing with the tubing, as shown by the dotted lines at the top of fig. 1. The term "braden-head gas" is sometimes used synonymously for casing-head gas.

DEFINITION OF "MECHANICAL MIXTURE."

This is a mixture where two or more substances are brought together in a thoroughly commingled state, without, however, any of the constituent substances losing their individual identity. The various vapors and gases going to make up natural gas are merely intermingled as mechanical mixtures. Another very common illustration is atmospheric air, where water vapor and the gases oxygen and nitrogen are merely mixed in the form of a mechanical mixture; that is, the water vapor has undergone no chemical change and the oxygen and nitrogen have undergone no chemical change by the mixture.

DEFINITION OF TERM "VAPOR."

This word literally means a warm exhalation. A vapor is the gaseous state of a substance which at ordinary temperature exists as a solid or liquid; that is, the vapor is the result of the action of heat on a solid or liquid. On removal of the heat the vapor will return to its former solid or liquid state. When a liquid, by the action of heat, goes into a vapor or gaseous form it is said to vaporize or evaporate, the meaning of these two terms being the same. The most common form of vapor is the moisture always present in greater or less degree in the atmospheric air.

GASES AND VAPORS DISTINGUISHED.

A vapor is an aeriform substance in the gaseous state at any temperature below the critical point, the critical point being the line of demarcation between a vapor and a gas. The temperature of fluid at the critical point is the critical temperature, and the pressure which at this critical temperature just suffices to condense the gas to the liquid form is called the critical pressure. A vapor can be reduced to a liquid by pressure alone, and may exist as a saturated

[1] Named after its designer Mr. Glenn T. Braden.

vapor in the presence of its own liquid. A gas is the form which any liquid assumes above its critical temperature, and it can not be liquefied by pressure alone, but only by its combined pressure and cooling. All vapors are gases, but not all gases are vapors. The difference between vapors and gases may be summarized as follows:

Aeriform fluids.

Vapor.	Gas.
Below its critical temperature and pressure.	Above its critical temperature.
Can be condensed by pressure alone.	Can be condensed only by both pressure and cold.

Gasoline found in natural gas always exists there in the form of a vapor, while methane, for instance, in natural gas exists only as a gas.

NATURAL GAS MAY BE WET OR DRY.

Natural gases coming from the ground may be classed—according to their gasoline vapor content—into two main groups, namely:

1. *Wet gas.*—This is gas intimately associated with oil, usually produced with oil, and is ordinarily known as casing head natural gas.

2. *Dry gas.*—This is gas not intimately associated with oil, but may nevertheless contain gasoline vapors. The term "dry" does not refer to water vapor that may be carried by the gas, but rather to the gasoline vapor, and, furthermore, this is a relative term since a strictly dry gas would be one containing no gasoline vapors.[1]

WRONG IMPRESSION OF WORD "NATURAL."

While natural gas is a natural product made by nature, it is no more natural than other minerals, like coal, oil, or iron ore. The word "natural" came into common use probably as contrasted with manufactured gas, and the use of the word appears to have given a fallacious impression that natural gas was a free and unlimited resource. Merely being made by nature does not mean that a substance is cheap and of low value. Natural gas is a natural resource, which men have learned to use for the satisfaction of their wants. The misconception regarding the position of natural gas has arisen from failing to appreciate that man creates no new matter and can merely get the materials of nature ready for consumption. Food, clothing, wealth in all its forms, are derived originally from nature. The forces of nature, working through the ages, have created things which mankind needs. Human effort expended on these products of nature, converts them into forms which are usable.[2]

[1] For further discussion, see Bureau of Mines Bulletins No. 88 and No. 120.
[2] Suggested by Ely's Outlines of Economics.

NATURAL GAS A MINERAL.

Broadly, the word mineral means the inorganic materials of which e earth consists. "The word minerals in the popular sense means ose inorganic constituents of the earth's crust which are commonly tained by mining or other process for bringing them to the surface profit." That is, the term "mineral" is not, *per se*, a term of or trade, but of general language, and in addition to its broad entific meaning is also used in a commercial sense where it may lude any inorganic substances found in nature, having sufficient ue, separated from its condition as a part of the earth, to be mined. Natural gas is now universally classed as a mineral. However, on ount of its adventitious origin, migratory habits, and fugitive dencies, it is regarded as a mineral with special attributes. Since s a mineral, it is, therefore, a crude product. As so aptly stated the United States Supreme Court, "Natural gas is a crude mineral, advanced in value or condition by refining or grinding or by any er process of manufacture."[1]

ORIGIN OR FORMATION OF NATURAL GAS.

How, when, and where the constituents of natural gas were formed ot definitely known. For our purpose we need not bother about various theories that have been propounded regarding the origin formation of petroleum generally or natural gas constituents in ticular. That is, whether these constituents originated from nic, organic, inorganic, animal, vegetable, volcanic, animal bac- al, plant bacterial, diatomic, or fatty algal sources is not germane. ther is the matter of adventitious and migratory or indigenous accumulative relationship with regard to any geological forma- of vital importance.

The incontrovertible facts are that we have in natural gas a crude ural substance made up of mixtures of widely varying constit- ts—even though we may not know how these mixtures were own together—for different natural gas fields in the United States. ne of these natural gases are wet, while others are dry; some are h in heating value, while others are low, and some are heavy, le others are light in weight.

STARTING POINT OF GAS ACTIVITY.

s far as temperature is concerned, gas activity begins at a point below zero on the Fahrenheit scale, and as far as pressure is con- ed, it begins at the point of absolute vacuum, or 14.7 pounds w atmospheric pressure at sea level. Neither point has ever

[1] United States *versus* Buffalo Natural Gas Fuel Co., 172 U. S., p. 339.

been reached by man's physical senses, but both form the bases from which all gas volume calculations must be made as shown on pages 15 and 16.

BAROMETRIC PRESSURE.

Atmospheric pressure is measured by a barometer—usually in inches of mercury, 1 inch of mercury equaling 0.49 pound to the square inch pressure—and is synonymous with barometric pressure.

Sea level is the basis from which atmospheric pressures are reckoned. At that point dry air at 32° Fahrenheit exerts a pressure of 14.7 pounds to the square inch.

This pressure varies with altitude and temperature, the pressure decreasing with an increase in altitude or temperature. 14.4 pounds represents a fair average barometric pressure for most natural gas using communities.

GAGE PRESSURE.

This is simply the pressure indicated by a pressure gage. Two general classes of gages are used for measuring gas pressure:

1. *Spring gages.*—Where the effect of the pressure exerted against some form of spring is made to move a pointer over a graduated dial or scale.

2. *Fluid gages.*—Where the effect of the pressure is indicated by the height of the column of fluid in a U-shaped tube. One side of the U-shaped tube is open to the atmosphere and the other is attached to the pipe where the pressure is to be measured. The gas pressure in this pipe then lowers the fluid in one side of the tube and raises it in the other. The total difference in the heights of the fluid on the two sides represents the total fluid pressures. When no pressure is applied to such a U tube gage other than the prevailing atmospheric pressure, the liquid will stand at the same level in both tubes.

The pressures in natural gas distributing plants are almost universally measured in ounces to the square inch, while the pressures in manufactured gas distributing plants are measured in inches of water, 1 ounce equaling 1.73 inches of water.

Where the word pressure occurs in ordinances or rules it invariably means gage pressure.

ABSOLUTE PRESSURE.

This is the sum of the gage pressure and the barometric pressure. Thus, if the gage pressure is 4 ounces—equaling 0.25 pound—and the atmospheric pressure 14.4 pounds to the square inch, the absolute pressure will be 14.65 pounds to the square inch, as shown on p. 15. This must be used in all gas calculations dealing with change of volume due to effect of pressure.

Failure to appreciate that the absolute pressure, rather than merely the gage pressure, must be used when computing the effect of pressure on gas volume, or heating value content, has been responsible for most of the misunderstanding regarding the effect of variation in gage pressure on gas quality and gas service.

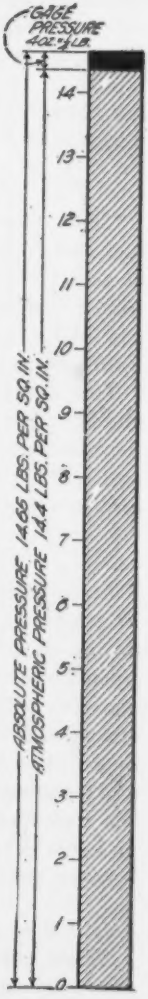

FIG. 2. — DIAGRAM SHOWING RELATION OF ATMOSPHERIC AND GAGE PRESSURE.

DIFFERENTIAL PRESSURE.

This is simply the difference between the pressure at the inlet and outlet of a gas line. Thus, if the inlet gage pressure of a gas line were 50 pounds and the outlet gage pressure 10 pounds the differential pressure would be 40 pounds. In gas transmission it is necessary to have a differential pressure in order to secure driving power to force the gas through the line. That is, the differential pressure is the pressure that is lost in overcoming the friction of the gas moving through the line.

EFFECT OF PRESSURE ON GAS VOLUME, KNOWN AS BOYLE'S LAW.

There is a definite relationship existing between the volume and pressure of natural gas. That is, when the gas is compressed or allowed to expand, it approximately follows Boyle's law. This law may be stated as follows: "The volume of a gas at constant temperature varies inversely as the absolute pressure to which the gas is subjected; or, what is the same thing, the product of the absolute pressure and the volume of a given quantity of gas remains constant."

Thus, if the volume is doubled, or one-half of the gas is removed from a fixed reservoir, the absolute pressure will be reduced one-half. Conversely, if the absolute rock pressure in a fixed reservoir is reduced to one-half, the volume of gas remaining compressed in that reservoir will be reduced to one-half.

It has been the universal custom of the natural gas industry to disregard the small deviation of natural gas from Boyle's law and in measuring computations to assume that the gas follows the law exactly. Tests made on the West Virginia gas indicate that the per cent of deviation increases with the pressure. That is, while there is no perceptible deviation at pressures under 15 pounds, at 150 pounds the deviation would be about 6 per cent. That is, the

actual expansion of gas in lowering the pressure from 150 pounds down to less than 10 pounds would be about 6 per cent greater than that given by literal application of the law. This has the practical effect of making leakage in main lines and natural gas distributing plants sometimes seem considerably less than it actually is, due to failure to recognize that in expanding from high pressure to low the gas actually increases in volume more than the exact literal application of the law would give.[1]

EFFECT OF TEMPERATURE ON GAS VOLUME, KNOWN AS CHARLES' LAW.

"The volume of a given mass of any gas under constant pressure increases from the freezing point by a constant fraction of its volume at zero." This starts from the absolute zero of the gas, which is 492° F. below freezing, as shown at the right. In other words, the gas will expand 1/492 of its volume at 32° F. for each degree Fahrenheit rise of temperature.

This makes the change in volume directly proportional to the absolute temperature and means that approximately each 5° F. increase in temperatures makes an increase of 1 per cent in volume and each 5° F. decrease in temperature makes a decrease of 1 per cent in volume. For specific application of this see page 471.

GAS SAND OR GAS ROCK.

In no case is the gas found in rooms, caverns, or large crevices, as popularly supposed. "The oil and gas sands are simply very porous rocks which contain not only one great cavity, but millions upon millions of small or microscopic cavities, so that the oil, gas, water, or all three together, it may be, occupy these numerous little spaces, and thus saturate the rock just as water does a piece of cloth or a sponge when dipped into the same. The larger these pores are, and the greater the volume they occupy in proportion to the volume of the rock mass, the greater will be the contained oil or gas supply, and this proportion in fairly good producing sands, usually varies between one-fifth and one-tenth."[2]

DEFINITION OF ROCK PRESSURE.

When nature generated or deposited the natural gas in the rock reservoir—made up of the microscopic cavities between the sand grains—a fixed amount of gas was placed in a fixed inclosed space. The pressure in the rock—called "rock pressure"—was the result of the pressing into this fixed rock space of a larger volume of gas than the mere free air capacity of this rock reservoir. The degree of compression employed by nature in the formation process deter-

[1] Deviation of Natural Gas from Boyle's Law, by Robert F. Earhart and Samuel S. Wyer. Transactions American Society Mechanical Engineers, vol. 38, p. 285.
[2] I. C. White, West Virginia Geological Survey, vol. 1, p. 155.

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mined the intensity of the resulting pressure in the reservoir; that is, a high degree of compression produced a high rock pressure, and a low degree of compression produced a low rock pressure. Typical rock pressure decline curves are shown in figures 3 and 4.

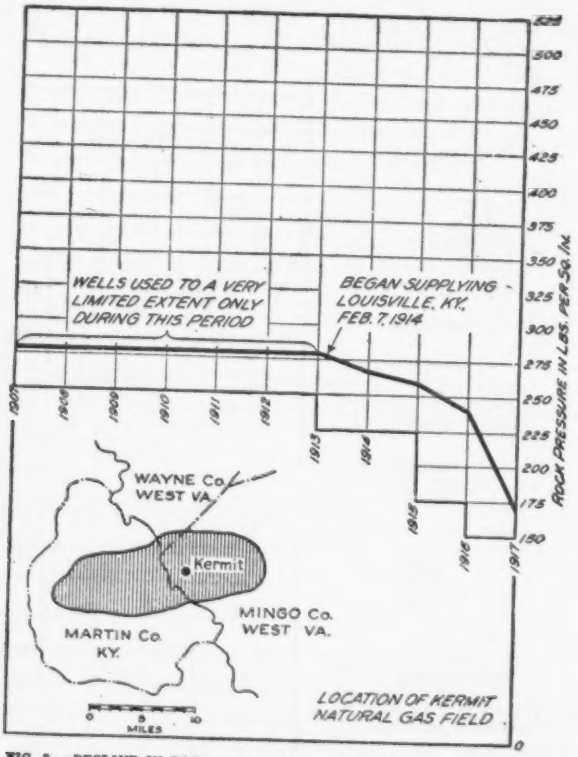

FIG. 3.—DECLINE IN ROCK PRESSURE OF NATURAL GAS WELLS OF THE UNITED FUEL GAS CO. IN KERMIT FIELD IN KENTUCKY AND WEST VIRGINIA.

WHY ROCK PRESSURE AND VOLUME MUST DECLINE.

The rock pressure and volume must decline as gas is removed, ecause in the removal of the deposit of gas we are confronted with he following:

1.—A fixed volume of the reservoir.

2.—A fixed amount of gas inclosed in this fixed reservoir.

3.—A certain rock pressure resulting from the contraction of the as volume into the fixed reservoir.

Now, if a part of this fixed volume of gas is removed by tapping he reservoir from the surface of the earth, the remaining gas volume

expands and keeps the reservoir completely filled, but at a lower pressure. Rock pressure decline is therefore inevitable whenever any gas is removed.

REGENERATION.

Food and trees can be grown. Water supplies are constantly replenished by nature, but there is no regeneration in natural gas; and

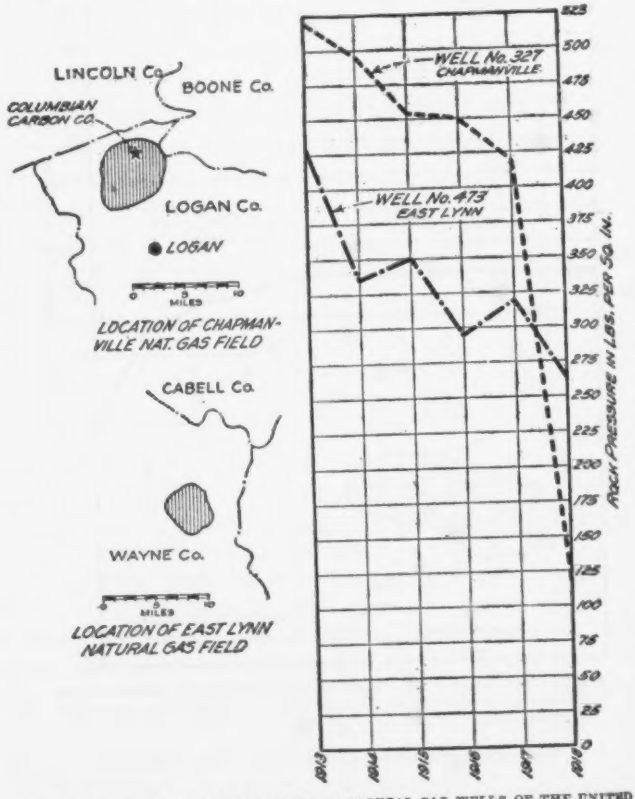

FIG. 4.—DECLINE IN ROCK PRESSURE OF NATURAL GAS WELLS OF THE UNITED FUEL GAS CO. IN EAST LYNN AND CHAPMANVILLE FIELDS, W. VA.

when the gas is once used it is gone forever. While no one knows exactly how the natural gas is formed, yet enough facts are known about it to indicate that nature's process was a very slow one. It has taken millions of years to make the present concentrated supplies, and even though gas should now be formed in some parts of the earth's crust, the rate of formation will be so slow as to make such new gas pools of no interest or economic value for centuries, if ever.

STORAGE OF NATURAL GAS.

Storage facilities for natural gas are not commercially feasible in the field nor at the delivering end of the transmission line, except the very limited use of existing gas holders in distributing plants. The large variation in service demands must therefore be met by the wells and reserve acreage. That is, the entire field operations must be subordinated to the peculiar service demands made on the natural gas company. An interesting contrast with these stringent operating conditions is the large storage equipment in acres of tank farms that may be used to equalize the load in the oil industry.

LIMITS OF GEOLOGY.

While earth structure is the essential element in the accumulation of large quantities of natural gas or oil, geological science is a directional indicator and hazard reducer only, and not a guarantor of commercial results.

Geology answers that by careful attention to her precepts, much of the waste that characterized the first three decades of the search for petroleum can be avoided, but that it is beyond her powers to foretell absolutely as to whether any particular boring will yield either oil or gas in commercial quantity. The careful geologist can eliminate many of the factors of uncertainty, and thus limit the search to regions having a peculiar geological structure where experience has shown that the occurrence of oil and gas is most probable, but further than this geology can not go, and no skillful geologist has ever claimed otherwise.[1]

LIMITS OF UNDERGROUND RESERVOIRS.

There is absolutely nothing fixed from the surface, and while surface conditions may be indicative, the question of underground location can be established by the drill alone. Even the presence of gas sand is not necessarily an indication of the presence of gas, as many dry holes show the full sand formation, without any gas in the sand. The dry holes shown in the map of the Triple State Field on plate 7 indicate a typical field situation, emphasizing the inability to determine underground limits except by drilling a hole.

OPEN OR NATURAL FLOW.

The courts have used the term "natural flow" synonomously for the engineering term "open flow," both, however, meaning exactly the same thing.

The term "natural flow" necessarily means the entire volume of gas that will issue from the mouth of a gas well when retarded only by the atmospheric pressure. (Appellate Court of Indiana, 66 N. E., p. 782. Richmond Natural Gas Co. *versus* Enterprise Natural Gas Co.)

[1] I. C. White, West Virginia Geological Survey, vol. 1, p. 158.

The marked difference between the open flow of a gas well and the actual flow that may be obtained under routine operating conditions is emphasized in the next section.

MISLEADING WELL CAPACITY.

The natural gas well capacities that are given to the public are always the open flow capacity; that is, the capacity of the well in 24 hours when discharging freely into the atmosphere with no back pressure at all. This is misleading, and comes far from representing the true service capacity or true gas delivery capacity under routine operating conditions, of any gas well, because:

1. The first open flow measurements, which are usually the ones advertised in the newspapers, are nearly always made by the drillers, who do not have the facilities or skill to make an accurate test, and the errors are invariably on the side of a capacity larger than the actual facts. The volume is determined immediately after the well comes in, and is therefore larger than it would be several days afterward, on account of the fact that the well has not been drawn upon.

2. In routine operations of natural gas wells it is not possible to keep a well in service 24 hours, day in and day out. For various operating reasons, such as repairs, salt-water troubles, etc., it is necessary to rest wells at intervals. For this reason, the actual operating period of a well will be, on an average, very much less than 24 hours a day.

3. It is not feasible to maintain atmospheric pressure conditions in the pipes into which the wells discharge, but, on the contrary, the pressures are very much higher than atmospheric pressure. For this reason, the wells must discharge against considerable back pressure, thus retarding the amount of gas that will go out.

4. Based on actual operating tests, it has been determined that 25 per cent of the open flow capacity is about all that can be delivered from the average natural gas well. It must also be borne in mind that the open flow capacity will constantly decrease, with the removal of gas from the well.

5. As the rock pressure declines it will be necessary to install compressing stations in order to transmit the gas into and through the main transmission line.

6. After the compression station has been installed, the further inevitable decline in rock pressure will lower the capacity of such station, as shown on page 29.

MIGRATORY AND FUGITIVE NATURE OF NATURAL GAS.

Natural gas has no fixed position under any particular portion of the earth's surface. On account of its inherent tendency to expand it has the power, as it were, of self transmission and is capable of flow

ing from place to place in the underground reservoir, or of being drawn off by wells penetrating the natural reservoir at any point. Therefore, when one owner of the surface overlying the common reservoir exercises his right to remove natural gas, the supply in the reservoir will be decreased and the amount available to other owners of the surface in contiguous territory must inevitably diminish.

EXTENT OF NATURAL GAS UNDERGROUND DRAINAGE.

Gas is the most uncertain, fluctuating, volatile, and fugitive of all mining properties. It lies far below the surface, beyond the control of human will and beyond the reach of any legal process. On account of the characteristics just mentioned it is impossible to know at what distances drainage takes place. This depends on the unknown character of the sand and whether a well 500 feet or 1,000 feet distant would drain natural gas from an adjacent tract is largely a matter of conjecture and surmise.[1]

QUALITY AND QUANTITY OF NATURAL GAS FIXED BY NATURE.

The quantity is always uncertain and the quality may vary through a small range for the different fields. However, it is not commercially feasible to attempt to correct variation in quality by any artificial means and furnish a gas that is uniform, as may be done in an artificial gas plant, for the simple reason that the cost of doing this would be much more than the additional worth of the service under such conditions.

SCARCITY OF NATURAL GAS.

Natural gas is an exhaustible resource that when once used is gone forever. Every time a natural gas company sells 1,000 cubic feet of gas it is selling a part of its property. Furthermore, the number of natural gas consumers is increasing faster than the number of producing wells, thus placing an additional burden on each well, and the wells that are being drilled at the present time have a lower average capacity than wells that were drilled several years ago, in this way making less gas available.

The decline in average acres land held per natural gas well and average delivering capacity per natural gas well for the entire State of West Virginia is shown on page 22.

The decline in number of acres for a natural gas well of the United States Steel Corporation, operating under the name of the Carnegie Natural Gas Co., in West Virginia, is shown on page 23.

The decline in number of acres natural gas land for each well of the United Fuel Gas Co. is shown on page 24.

[1] Paraphrased from Huggins *versus* Daley, 99 F. R., p. 606, and Hall *versus* South Penn Oil Co., 71 W. Va., p. 82.

For another operating company representing nearly 40 per cent of the State's production we have the following:

1. Number of acres natural gas land owned to a domestic consumer decreased from 3 acres in 1910 to 2 acres in 1917.

2. The average open flow capacity of new wells drilled declined from 1,200 M[1] in 1913 to 700 M in 1917.

3. The average annual production to a well declined from 3,600 M in 1910 to 2,200 M in 1917.

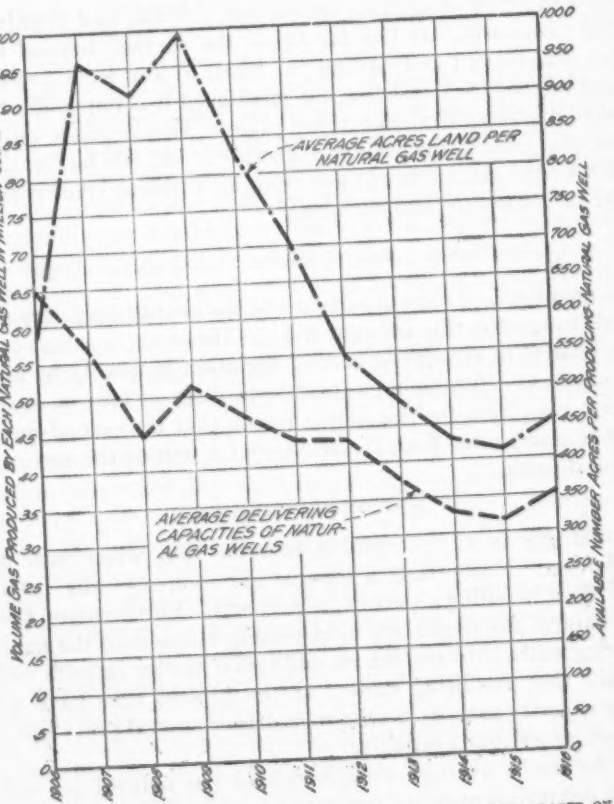

FIG. 5.—DECLINE IN WEST VIRGINIA NATURAL GAS RESOURCES, BASED ON DATA COMPILED BY THE UNITED STATES GEOLOGICAL SURVEY.

4. The number of domestic consumers that could be served by each producing well declined from 250 in 1910 to 170 in 1917.

5. Simultaneously with the above decline, the average annual gas service demands to the domestic consumer increased from 110 M

[1] The letter "M" represents "1,000 cubic feet," the unit of gas measurement.

cubic feet each year in 1910 to 153 M cubic feet each year in 1917. The demands for West Virginia natural gas are emphasized elsewhere.

NATURAL GAS SERVICE IS BASED ON A NONCREATABLE AND NONREGENERATIVE MINERAL.

The natural gas business is unique in that it is the only public utility service that does not, and in fact can not, create the basis feature of the service that it renders to the public. Manufactured

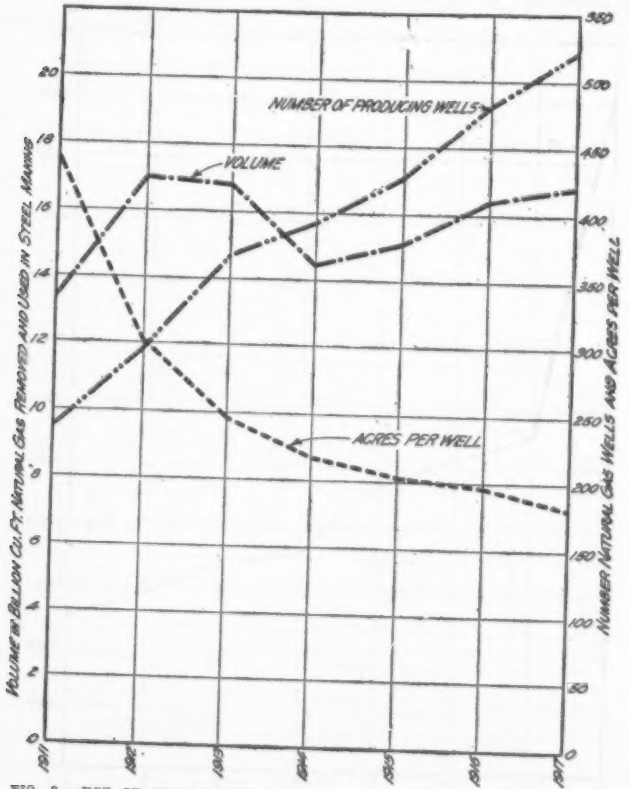

FIG. 6.—USE OF WEST VIRGINIA NATURAL GAS FOR STEEL MAKING, BY UNITED STATES STEEL CORPORATION.

gas companies merely produce their gas from the raw fuel that they can buy in the open market; transportation agencies, like railroads or street railways, can easily create the motive source of their service; water utilities have their water supply constantly replenished by nature; intelligence transmission utilities, like the telephone and telegraph, can easily create the primary source of their service. However, the natural gas industry is alone in depending entirely on

the caprice of nature for first the finding, and secondly the continuity of the supply of its primary source of public utility service.

NATURAL GAS SERVICE AND OIL BUSINESS DISTINGUISHED.

Gas can not be gathered, stored, or transported in the same manner as oil. If found in sufficient quantity, it is turned from the well into the line and the pressure at the mouth of the well is the motive power by which it is driven through the line to the consumer miles away. If the pressure at a given well is much below that in the line with which it is connected, the gas from that

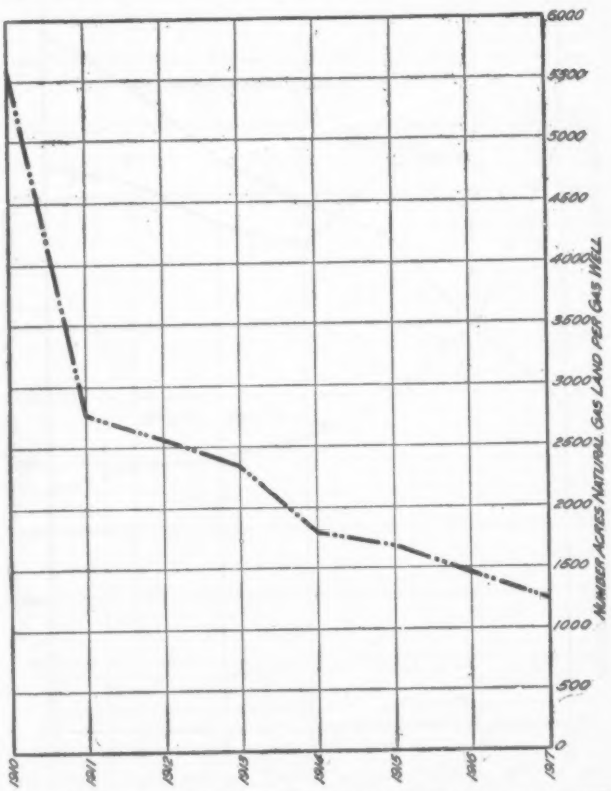

FIG. 7.—DECLINE IN NUMBER ACRES AVAILABLE NATURAL GAS LAND RESERVED FOR EACH NATURAL GAS WELL OF THE UNITED FUEL GAS CO.

well can not enter the line, but will be driven back by the superior force it encounters at the point of connection. For this reason, a well, producing gas in sufficient quantity to be profitably utilized, if there was a market for it near at hand, may be entirely valueless if its product must find a market at a distance too great to justify its transportation by a line of its own. In an oil district each well, no matter how large or how small its product may be, is separately operated, and a well may be profitably operated so long as its yield

pays more than the cost of producing the oil. In a gas district this is impracticable. The product of many wells is gathered into one line, so long as the pressure is sufficient. When the pressure in any one falls below the standard necessary for purposes of transportation, that well must be turned off. Its product can not be transported separately,[1] and unless it can be used near by, it is valueless. (Pennsylvania Supreme Court: McKnight *versus* Manufacturers Natural Gas Co., 146 Pa. St., p. 185.)

DRYING NATURAL GAS.

Natural gas as defined on page 10 is made up of a mechanical mixture of condensible vapors and permanent gases; the condensible

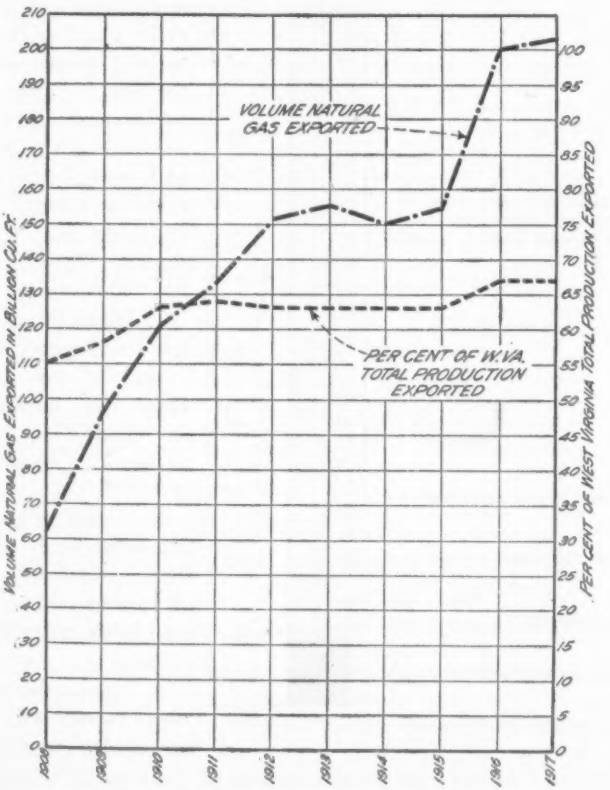

FIG. 8.—NATURAL GAS EXPORTED FROM WEST VIRGINIA.

constituents consist of gasoline vapor and water vapor. In the transmission of the gas, due to changing temperature and pressure

[1] Gas compressors can, of course, be installed so as to increase the pressure of the gas to permit its delivery into a line. The operating cost of this, however, may be much more than the market value of the gas. This, of course, is a very pointed illustration of the fundamental fact that in order to make gas conservation possible it must be made worth saving.

conditions, part of these vapors are condensed and then precipitated in the form of a liquid, and will give trouble in choking up the line, and the water may freeze, closing the line entirely.

The gasoline will soften and decompose the rubbers in the couplers. This is due to the solvent action of the gasoline on the rubber, and the immediate effect will be to cause the joints to leak, thereby greatly increasing the leakage loss.

The general tendency of natural gas is to become wetter as the well becomes older, and, therefore, natural gas from a new well that may be so dry as not to yield any gasoline at all, may yield gasoline in commercial quantities after the well has been in use for several years. The removal of the gasoline and water vapor carried by natural gas is desirable from the consumers' viewpoint for the following reasons:

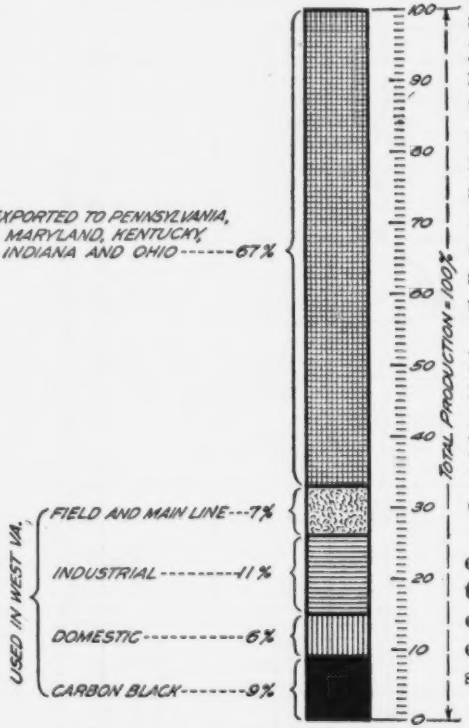

FIG. 9.—USES OF WEST VIRGINIA NATURAL GAS IN 1917.

1. Heating value is little disturbed, the removal of the gasoline from dry natural gas lowering the heating value only about 2 per cent.

2. Gasoline vapor exists in such a form that practically none of it ever can be delivered to the ultimate consumer.

3. The condensed gasoline vapors will injure the rubber in the couplers and in this way increase the leakage of the transmission line.

4. The condensed water vapor will freeze, causing interruption of service, or disturbed and fluctuating pressure conditions.

5. The removal of water and gasoline by blowing the drips results in a large waste of natural gas.

6. The drying of the gas tends to stabilize the gas service by decreasing line troubles.

Similar conclusions have been presented by the United States Geological Survey, on pages 645 and 646, in Natural Gas Statistics for 1916, and in Bulletin No. 120, page 11, of the United States Bureau of Mines.

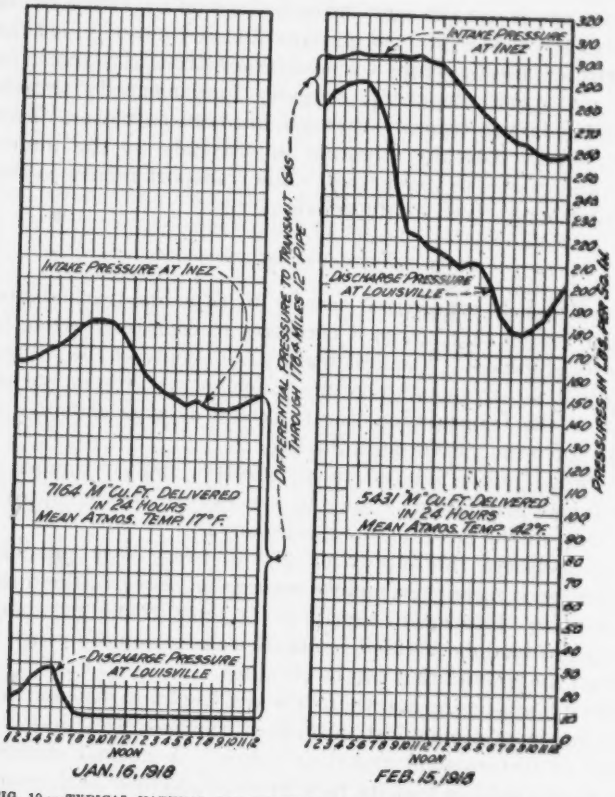

FIG. 10.—TYPICAL NATURAL GAS TRANSMISSION LINE PRESSURE CONDITIONS.

PRINCIPLES OF NATURAL GAS TRANSMISSION.

TRANSMISSION IS MORE THAN MERE TRANSPORTATION.

ontinuity of service from the gas sand—usually one-half mile or e below the earth's surface—through the gas main as a continuous duit connecting the gas sand and the consumer's fixtures, many s away, is a cardinal feature of the delivery of natural gas. The ral custom of the natural gas business has been to refer to the ng of natural gas from the gas sand to the consumer as transation. However, the word transmission more correctly expresses actual operation.

Transmission from the roots, *trans*=across, and *mitto*=to send, emphasizes the fundamental ideas of "to send through" and "to send" and where interstate lines are involved, to "send across" such lines. The fundamental idea "to send" is especially relevant, because the gas is always sent through the line by virtue of its own expansive force, as explained on page 101, and never pulled through by anything ahead, while transportation from the roots, *trans*= across, and *porto*=to carry, suggests fundamentally transference only. That is, you transmit through, but transport over. Transmit, for "to send," fixes the attention immediately on the intervening agency and relates to the service, while transport relates to the commodity, although both imply delivery.

WHY NATURAL GAS IS COMPRESSED.

Natural gas is compressed merely to expedite transmission—for the same reason that makes it necessary to compress cotton, hay, or straw, for shipment. The first feature is to contract the volume, and secondly, to secure enough pressure range between the intake and discharge of the transmission line to secure a large enough pressure drop to force the gas through the line.

The broad public interest in an effective and continuous service and a future generation's equity in a conserved future supply makes it the duty of the gas-producing company:

1. To conserve the supply of gas in every way possible. By conservation is meant not merely saving, but using in the most effective manner. This means that it is the duty of the gas company—when it can be done without financial loss—to remove every foot of gas from the ground that can be obtained.

2. Every appliance known to the art ought to be used to bring about the most economical mining of the gas, and most effective method of transmission and distribution. A normal characteristic of every gas field is that its rock pressure declines each year as the gas is removed from the ground, as shown in graphical form in figures 3 and 4. This means that as the fields grow older it is necessary for the gas company to increase the rapidly declining pressure by mechanical means.

HOW NATURAL GAS IS COMPRESSED.

This is accomplished by a compressor which is merely a mechanical device to squeeze the gas together into a small volume, thereby increasing its pressure. The specific effect of gas compression is evident from the following: If we take 1,000 cubic feet of gas at 4 ounces gage pressure and increase the gage pressure to 300 pounds, the volume will be contracted to 46 cubic feet.

STATUS OF GAS COMPRESSOR ART.

The art of natural gas compression is now over 29 years old and has grown at practically the same rate as the increase in domestic natural gas consumers. There are now over 220 natural gas compressor stations in North America, aggregating approximately 350,000 horse power of compressor capacity and compressing about 10 per cent of all the natural gas used. The age and magnitude of the art make it evident that the use of gas compressors is a recognized integral part and universal custom of the natural gas business.

"GAS COMPRESSING" AND "GAS PUMPING."

These terms, unfortunately, are almost universally used synonymously to describe the contraction of volume of gas by compressing with a machine known as a gas compressor.

Much misunderstanding has arisen because the term pumping tion has come into general use in speaking of gas compressor tions. This is wrong, for the reason that the term pumping signi- the action of lifting alone, or lifting combined with force. In the e of natural gas transmission the work is one of pure compression, e the gas is delivered to the gas compressors under an initial pres- considerably higher than the atmospheric pressure, on account he natural rock pressure forcing the gas out from the wells into through the intake lines to the compressors.

ROCK PRESSURE DECLINE LOWERS COMPRESSOR CAPACITY.

s the rock pressures of the gas wells decline, the pressures that been maintained on the intake side of the gas compressors are lowered. This has the immediate effect of lowering the capacity e compressing station.

e output of a typical compressor operating against a discharge ure of 300 pounds gage is as follows, for the respective intake ures:

Intake pressure above atmosphere.	Capacity in million cubic feet free gas each 24 hours, based on 14.4 pounds atmospheric pressure.
150 pounds	30
100 pounds	20
75 pounds	15
50 pounds	10
30 pounds	6
20 pounds	4

SIZE AND COST OF LINES NECESSARY WITHOUT COMPRESSORS.

n an engineering viewpoint it would be possible to take the market without compressors, by simply building a great number large size lines. However, the number and cost of lines neces-

sary to do this would be so great as to make the plan prohibitive from a financial viewpoint. That is, the gas compression method is the economical way of handling the problem. The natural gas compressor performs a similar function to the step-up transformer for an electrical transmission line.

NO HEAT LOSS IN NATURAL GAS COMPRESSION.

Contrary to a widespread popular opinion, the compression of natural gas does not decrease its heating value. While a certain amount of gas is used to drive the compressors, this does not in any way affect the heating value of the gas passing through the compressors. On account of the mechanical work performed on the gas as it flows through the compressors the gas becomes quite warm, and to protect the rubbers in the main lines, is cooled just beyond the compressor discharge before it goes into the main line transmission system. This, however, pertains merely to the temperature of the gas itself, and in no way affects its heating value.

NOT FEASIBLE TO MAKE NATURAL GAS MAIN LINES COMMON CARRIERS.

The natural gas main lines form the connecting link between the mining operations in the natural gas field and the public utility service in the city distributing plants. A number of attempts have been made by large consumers, owning natural gas in the field, to have the main transmission lines made common carriers so that they could be compelled to haul the large consumer's gas to market. The converting of main lines into common carriers is not only not feasible from an operating viewpoint, but the idea could be based only on distinctly local and selfish interests, and would ignore entirely the domestic consumers' interest. That is, this plan would greatly injure service to the over 2,000,000 domestic natural gas consumers in the United States, because it is not generally appreciated that:

1. There is a clear distinction between the duties of a common carrier or railroad, and the duties of a public utility.

(*a*) The terms "railroad," "common carrier," and "public utility" are frequently confused. A railroad is a common carrier that undertakes for hire to transport persons or goods, or both, from place to place, for all persons indifferently. The fundamental duty of a railroad or common carrier being indifference as to who shall be served, and an equal readiness to serve all who apply in the order of their application. On the other hand a property becomes a public utility only when dedicated to a public use.

(*b*) Even though legislative enactments would be passed declaring natural gas lines public transportation agencies—that is, common carriers—they could not be enforced because such legislation would be in direct conflict with well-known economic and engineering

facts. The entire natural gas transportation problem is controlled by economic and engineering laws. These laws can neither be abrogated nor altered by company policy, contractual relations, public opinion, legislative enactment, or judicial decree. They are entirely independent of human opinion, and as certain in their operations as the law of gravitation. Therefore, no mere statement of any governing body can make a public transportation agency of a natural gas line.

(*c*) The fundamental requirement of a common carrier agency like a railroad is nondiscrimination, and this can in no way be applied to the duties of a natural gas company. A natural gas company operating a natural gas transmission line and supplying domestic consumers, from the very nature of things, has its own consumers at a difference on account of public policy and the contractual relations existing between such consumers and the gas company.

The consumers' interests and rights extend clear to and depend on the gas wells and reserve acreage the producing company maintains to insure adequate present and continuous future service. The common carrier obligation for the transmission would:

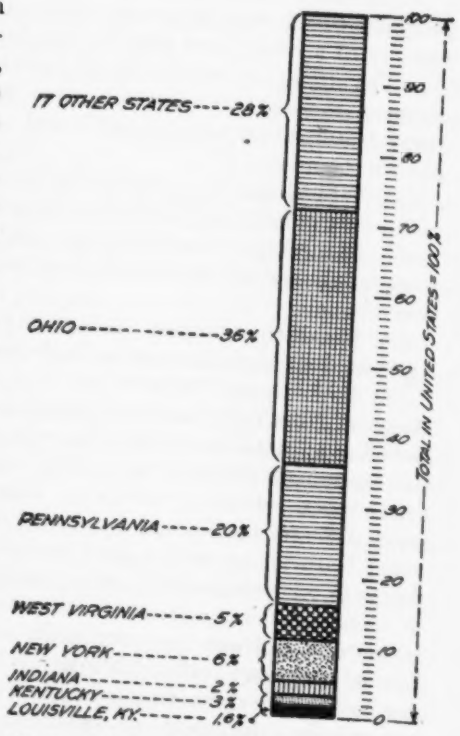

FIG. 11.—GEOGRAPHICAL DISTRIBUTION OF DOMESTIC NATURAL GAS CONSUMERS BY STATES.

Tend to soon exhaust the available supply and leave the holders with large investments of appliances and pipes which are useless, owing to the permanent failure of gas.

So disorganize the existing business as to make it impossible to render satisfactory continuous service to either domestic or industrial consumers. This would be true regardless of what might be done.

(*c*) Make the consumers—especially the domestic—subordinate to occasional producers; that is, to men who have no intention of following the business of hunting for gas for future service, but would be interested only in finding a good market, at the expense of others, for such gas as might be found as a result of an occasional accidental venture.

(*d*) In all cases, where tried, impair and usually destroy the cooking, heating, and lighting service of the domestic consumer.

(*e*) Greatly increase the amount of gas used for manufacturing purposes, thus hastening the day when natural gas will be merely the memory of a wasted and unappreciated resource.

3. The attempt to convert natural gas transmission lines into mere common carrier transportation agencies, like railroads, presents many features that are impossible and none that are feasible or expedient, because:

(*a*) Natural gas companies in general are not chartered to act, and do not offer to act merely as transportation agencies.

(*b*) Natural gas service to the public is so unlike the service rendered the public by railroads that no comparison can be made between them.

(*c*) The distinction between handling a commodity and rendering a service is an important one, as explained on page 34.

(*d*) Even though natural gas is a mineral it requires constant attention from the time it is reduced to possession at the well, and embodies an unbroken chain of service features until it is burned at the consumer's fixtures. A railroad may operate its line in many small units, rendering service to many different localities and to many different people with unrelated, isolated service units.

(*e*) Natural gas service must be instantaneous. There can be no delays in rendering service, as is possible (and universally practiced) in transportation agencies such as railroads and traction lines. For instance, a railroad can very easily start service one hour late in case of congested traffic, but a natural gas service that delivers gas for cooking breakfast one hour after the consumer needed it would not only be valueless to the consumer, but would not be tolerated in any community. This instantaneous feature differentiates natural gas service from all transportation agencies.

(*f*) The gas is never at rest, but is a constantly seething, moving mass between the gas in the field and the consumers' fixtures in the cities. The gas travels at enormous velocities in the mains at a speed many times exceeding that of the fastest trains.

(*g*) The gas can go in only one direction.

(*h*) Storage facilities are not feasible for the gas either in the field or in transit.

(*i*) The gas pressures must be varied to suit the operating conditions of the line; that is, at the intake of the line the pressure must be large and at the discharge end of the line the pressure must be relatively low as shown on page 27.

(*j*) There is no delivery until the gas has not only passed through the consumer's meter, but is burned at the consumer's fixtures.

(*k*) In considering the gas that goes through the line there can be no "identity of property," no "segregation of ownership," and no "original package containers," but all of the gas obtained from various sources passes through the line thoroughly intermixed with absolutely no possibility for identification.

(*l*) The capacity of the transmission lines is rigidly fixed and will not stand any overload. This has a marked effect in taking care of peak loads, in contradistinction to railroads, which may run extra trains to carry extra traffic.

(*m*) A natural gas line can handle only one commodity, whereas railroads can handle every known commodity.

(*n*) Railroads have vehicles of transportation. Natural gas lines have none. The pipe line is merely a continuous conduit between the field and the consumer's fixtures.

(*o*) A natural gas line can not have extensive interconnecting service with other lines, whereas every railroad can handle commodities from every other railroad.

(*p*) The transmission of natural gas is naturally centralized relatively near the fields of production, the deliveries being made near the fields, and not throughout the whole United States, as are commodities handled by railroads.

(*q*) The domestic gas consumers will not contract for, or agree to use, a fixed amount of gas each day, but take gas as they need it, in all cases insisting and requiring that the service be made and maintained continuous.

(*r*) The company can not create the commodity upon which it is performing its service as is possible with manufactured gas, electricity, or any of the transportation agencies; neither is there the constant replacement by nature of the commodity it is serving, as is the case in waterworks plants.

(*s*) The system must be operated as one unit, without regard to state lines.

4. Gas companies discharging their legal duty to their domestic consumers can not depend upon the initiative of the occasional producer for a supply of gas, but must depend upon their own initiative in order to maintain proper field operating conditions and an adequate reserve acreage for future development to insure a good serv-

ice to their patrons. In West Virginia the total production is delivered as follows:

	Per cent.
Utilities	82
Small producers, with no public utility duties	13
Carbon black manufacturers	5
	100

Experience has many times shown that satisfactory continuous service to the consumer can be rendered only when the production, transmission, and distributing features are properly coordinated. To subordinate the transmission side of the business to either the producer's or the larger industrial consumer's interest is indefensible.

NATURAL GAS DISTRIBUTION.

NATURAL GAS IS A SERVICE, NOT A COMMODITY.

The furnishing of a service, rather than the delivering of a commodity or product, is the dominating feature of the natural gas business. To consider the gas merely as a commodity is fundamentally wrong. When a natural gas utility prospects for, finds, and reduces the fugitive, wandering and uncontrolled natural gas to possession, and then converts this crude natural gas—made up of a mechanical mixture of permanent gases and condensible vapors—into a controlled and usable service delivered to the consumer's fixtures, usually many miles from the gas field, the service features pertaining to the method and manner of delivery, and standing ready to serve are of much more importance than the product or commodity.

The difference between rendering a service and marketing a commodity is an important one. The commodity may be manufactured at a uniform rate of production and then placed in storage until it can be sold to advantage, while a service must be used at the moment it is offered or it will become forever useless. The load factor data on page 35 emphasized, first, the erratic nature of natural gas loads and, secondly, the potential opportunities for rendering service that can never be used.

WHY GAS CONSUMERS USE MORE NATURAL GAS THAN MANUFACTURED GAS.

The average consumption in M cubic feet of natural gas for all the domestic natural gas consumers in the United States is 100 M cubic feet by each domestic consumer annually. The consumption data for Charleston, Huntington, and Louisville, Kentucky, is shown in graphical form on pages 35 and 36.

The average of 682 manufactured gas companies, as reported in Brown's Gas Directory, was 22 M cubic feet of manufactured gas to each domestic consumer a year. The actual average annual con-

sumption of manufactured gas at Louisville, Kentucky, prior to the introduction of natural gas was 24 M cubic feet.

The reasons for this large increase in domestic natural gas consumption are as follows:

1. Natural gas prices have been so low as not to make the gas worth saving.

2. The efficiencies of most natural gas using appliances are generally less than for manufactured gas using appliances. See page 40.

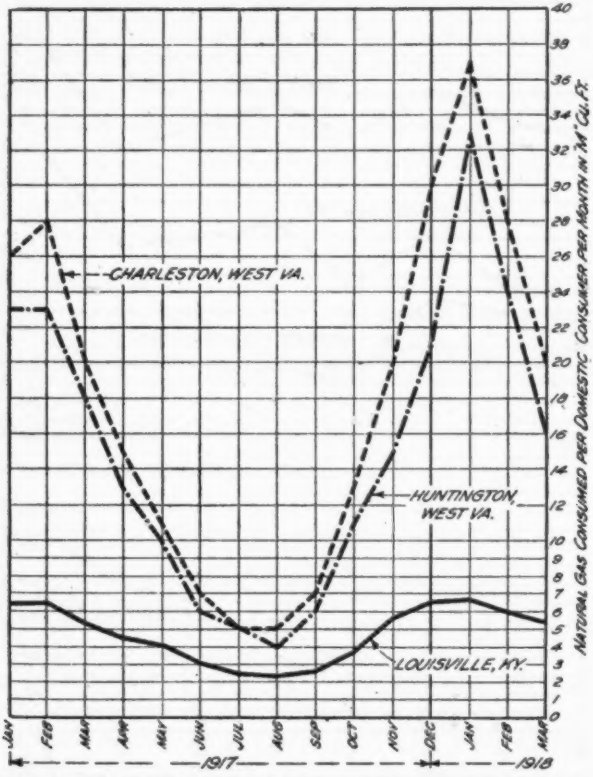

FIG. 12.—MONTHLY AVERAGE NATURAL GAS CONSUMPTION PER DOMESTIC CONSUMER.

3. Manufactured gas is used primarily for cooking, hot water heating, and lighting only. The largest part of the natural gas business results from its extensive use for house-heating services, where the volume required is very much greater.

PEAK LOAD SERVICE.

Abnormal peaks of very short duration are characteristic of all natural gas loads for domestic consumers. This necessitates a large

property value for equipment that is actually used only a very short period out of each year. Every natural gas company must have considerable equipment that will be used not over four hours daily during say 30 of the coldest days of a year of normal temperature. The smallness of this is evident from the following:

Total number hours in the year..... 24 × 365 = 8,760 = 100 per cent.
Hours peak load equipment is actually used ..... 4 × 30 = 120 = 1.4 per cent.

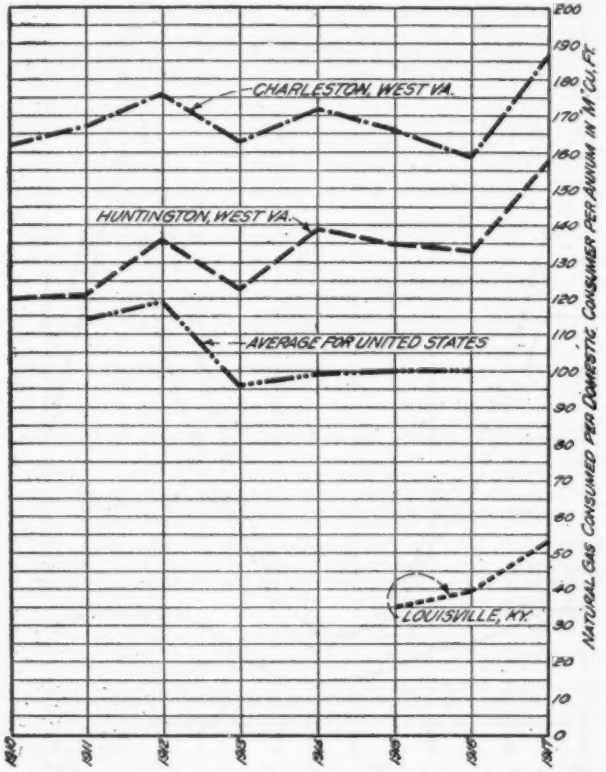

FIG. 13.—ANNUAL AVERAGE NATURAL GAS CONSUMPTION PER DOMESTIC CONSUMER.

Industrial loads ordinarily are very much more uniform than domestic loads. This is especially true of the carbon black industry in the field, where the load can be made uniform every day of the year. The relationship between maximum, minimum, and average load conditions is shown on page 37.

PEAK LOADS INCREASE COST OF SERVICE.

An increase of volume of business can decrease the cost of production only when the increment of increase is distributed so as to make

possible the more efficient use of existing equipment. When the increment of increase is concentrated so as to require more equipment, as is the case in all peak loads, the cost of production to the unit of service is increased. Therefore, the cost of peak load natural gas service is greater than the cost of normal service. A rate schedule, to be equitable to all consumers of natural gas, must make the consumers who need and create the peak load service, pay a price that will be commensurate with the extra cost of the service they are receiving.

House heating furnace services not only produce marked peaks each day, but the consumption is limited to relatively a short period out of each year. For this reason house heating furnace service costs more than ordinary gas service. This emphasizes the desirability of the use of auxiliary heating equipment, as outlined on page 38.

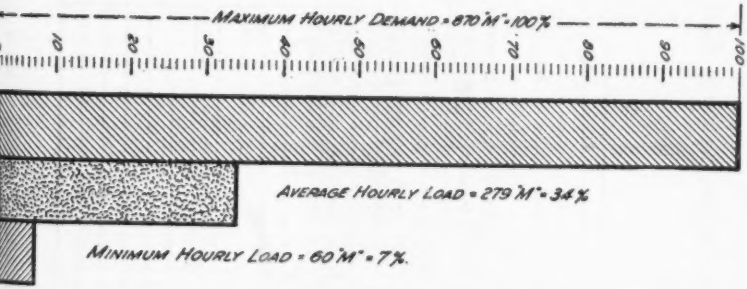

FIG. 14.—RELATION OF MAXIMUM, AVERAGE, AND MINIMUM HOURLY NATURAL GAS LOADS.

BASIC REASONS FOR LARGE SALES OF INDUSTRIAL GAS.

These have been inadequate domestic price and policy of Government in fostering competition in the gas field.

During the domestic off-peak period—usually nine months of the year—about 60 per cent of the equipment of a gas company is not needed for domestic natural gas service. Under competitive conditions in the field the gas can not be conserved for future use, except by unity of action of all producing companies. As the Government has always fostered competition, and therefore waste, the inevitable result has been to stimulate low-priced industrial gas sales, because:

1. The companies needed the revenue to make up the deficit from their too low priced domestic gas service.

2. As no one company could save its gas, except by the prohibitive "unity of action of all producers," each took all the gas it could get, as fast as it could get it out, thereby greatly depleting the supply for future service.

At the present time of all the gas produced in the United States, practically two-thirds is used in industrial service. The percentage of total State consumption that is used for industrial service, for several States, is shown on page 39.

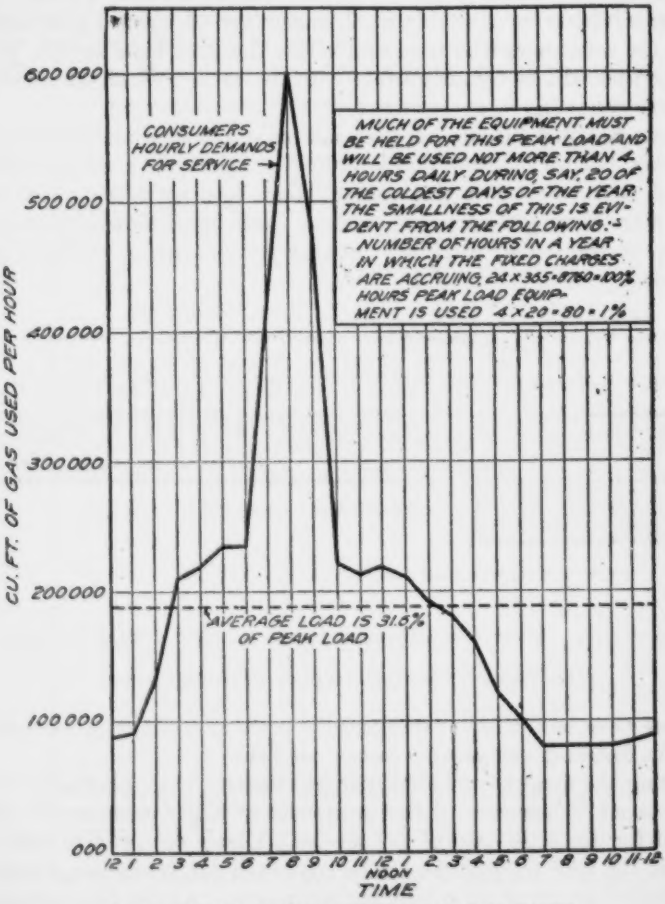

FIG. 15.—TYPICAL HOURLY NATURAL GAS LOAD IN WINTER.

The pooling operating conditions referred to on pages 62 and 63 would greatly curtail this misuse of gas for industrial purposes.

PEAK LOAD CONDITIONS ANALOGOUS TO STRAP HANGER PROBLEM.

While it would be possible for a street car company to install and operate enough cars during the peak-load period to give everyone

eat, yet the cost of so doing would make the general service cost ch more than the additional advantages would be worth. Since demand for seats may be four or five times as great during the h hours as it is in the middle of the day, the only feasible way to l with this situation is to admit the necessity of a different stand- l of service for rush and nonrush periods. Since the fare remains stant, it becomes necessary to provide relatively fewer cars, and refore fewer available seats, for the rush period than for the nrush travel.

But for the uni- mity of street rail- y rates, the rush ur passenger ght justifiably be rged more than nonrush passen- . Conversely, it is unreasonable that should, paying the e fare, expect to e to put up with mewhat less com- table ride at that e. There is cer- ly little economic und for an espe- ly reduced fare this service.[1] This is precisely situation with ard to natural pressures during peak load period, h this further ure, that the ural gas peak l periods cover tively only a few days of the year, as against the everyday situ- n on street car traffic. As long as natural gas prices for the her costing peak load service remain the same, the consumer must refore expect a lower standard of service during that period.

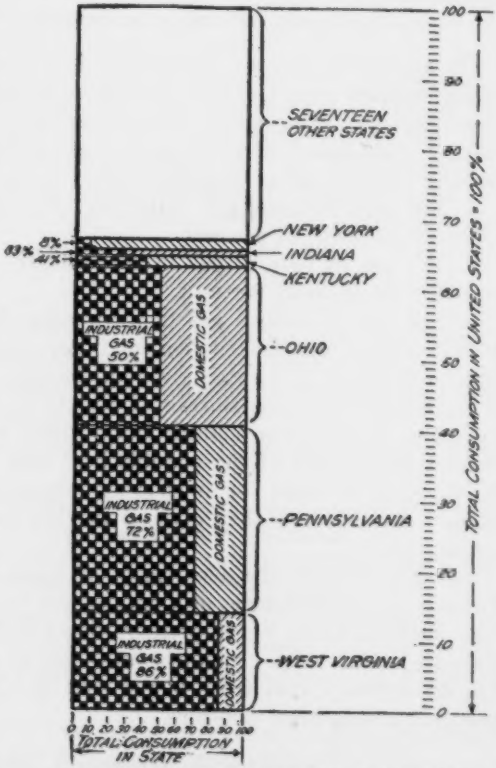

FIG. 16.—RELATION OF INDUSTRIAL AND DOMESTIC NATURAL GAS CONSUMPTION.

[1] Quarterly Journal of Economics, August, 1911, p. 623.

USE OF AUXILIARY HEATING APPLIANCES.

It is desirable in all cases where possible to have auxiliary heating equipment available for supplementing or entirely replacing for a short period natural gas for house-heating service, during the peak period of the load. Where gas furnaces are used, auxiliary oil burners can be installed in such fire pots, or auxiliary coal furnaces can be installed alongside the gas furnaces, where the coal furnace would discharge its heated air into the gas furnace shell.

FEW IMPROVEMENTS IN ART OF USING NATURAL GAS.

On account of the low prices that have prevailed, gas-appliance manufacturers have not been stimulated to the development of efficient gas-using equipment. There have been few improvements resulting in increased efficiency in the last 15 years. In testing house-heating furnaces it has been found that:

1. The use of natural gas in the fire pot of a coal furnace gives an efficiency of about 25 per cent.

2. The use of natural gas in the ordinary gas furnace gives an efficiency of about 35 per cent.

3. The use of natural gas in a correctly designed and built gas furnace, where the construction conditions permit the fullest utilization of the heat in the gas, gives an efficiency of about 75 per cent.

In tests made by the Bureau of Standards, it was found that the ordinary incandescent mantle lamp where used with natural gas wasted nearly half of the possible heat that could be used if such lamps were designed for as efficient operation on the high heating value natural gas as they give on the low heating value manufactured gas.

In tests made by the department of home economics, Ohio State University, the efficiencies of a natural gas range varied from 37 per cent with 0.2 of an ounce pressure down to 13 per cent at 4-ounce pressure,[1] while with a manufactured gas range, using natural gas, the efficiencies varied from 43 per cent at 0.2 ounce pressure to 23 per cent at one-ounce pressure.

COOKING AND HEATING DISTINGUISHED.

In a heating operation it is merely necessary to secure perfect combustion in the heating device, because in so doing all of the available heat in the gas can be utilized. In cooking it is not only desirable to secure a perfect combustion, but absolutely necessary to direct the heat to a particular place, in a particular manner, and sometimes at a particular time. It is for this reason that gas-cooking operations are

[1] Ohio State University Bulletin, vol. 22, No. 28, May, 1918: Effect of Gas Pressure on Natural Gas Cooking Operations in the Home.

16597

ore susceptible to changed pressure conditions than heating oper-ions.

It may not be amiss to emphasize that the time element in many oking operations is of much more importance than intensity.

WHAT IS USABLE NATURAL GAS PRESSURE.

The pressures carried by most natural gas companies have been too gh for efficient service. This has had the further undesirable fea-re of teaching the consumer to believe that he was not receiving rvice unless the gas could be heard hissing through the orifice in e gas mixer. It has been demonstrated that [1]—

1. Satisfactory cooking operations in frying potatoes, boiling pota-es, frying beefsteak, and pan-broiling beefsteak can be carried on th 0.2 ounce natural gas pressure. This merely requires that the ort flame and cooking vessel be brought together. The changes in ssel position necessary to permit satisfactory operation at pres-es as low as 0.2 ounce are easy to make, require no special changes existing stoves, and consist merely, with drilled burners, in placing ee nails in three of the drilled holes, and, with slotted burners, of cing three small pieces of tin in three of the slots, in order to pport the cooking vessel at the proper distance from the burner, d close enough so that the short flame can do effective work.

2. Better results are obtained with pressures in the neighborhood 2 ounces than at 4 ounces.

3. Less gas is used at pressures in the neighborhood of 2 ounces n at 4 or 5 ounces.

4. Manufactured gas range gives better results than natural gas ge because the former is designed for low pressures.

5. There is very little difference in the time required to carry on king operations with pressures of from 1 to 5 ounces.

Therefore, if the consumer will use proper appliances, satisfactory king operations can be carried on with pressures as low as 0.2 ce and the gas passing through the meter will perform a usable vice.

With heating appliances, if the mixer is properly adjusted the com-tion at low pressures can be made substantially as thorough as at h pressures, and the consumer can have the benefit of all the heat erated by the burning gas, although if the pressure is low he will ariably not have nearly as much as he would like to have or as he ds. However, all of the gas measured by the meter and burned in heating appliance is used for a useful service, so far as it goes, hough under extreme low pressure conditions there is not enough give all consumers all they want.

[1] Ohio State University Bulletin, vol. 22, No. 28, May, 1918: Effect of Gas Pressure Natural Gas Cooking Operations in the Home.

ACCURACY OF METER REGISTRATION AT LOW AND VARIOUS GAS PRESSURES.

The popular belief is that meters run faster when the pressure is low than when the pressure is high. This is contrary to the facts. Variation in pressure makes no appreciable difference in the registration of the meter, the meter merely registering, within a reasonable limit of tolerance, the amount of gas that passes, and this is neither increased nor decreased by changes in pressure.[1]

EFFECT OF GAS PRESSURE ON GAS LEAKAGE.

A summary of gas leakage laws is given on page 58. From these it will be seen that the leakage at 4-ounce pressure is twice as great as at 1-ounce. For this reason the leakage in the city distributing plant and on the consumer's premises, which is paid for by the consumer because the gas must pass through the consumer's meter in order to leak away on his premises, will be substantially less if the distributing plant and consumer's fixtures are adjusted for low pressures rather than high pressures.

GAS METER FACTS.

The following features regarding gas meters should be borne in mind:

1. Gas meters have no power within themselves to register. The only way they can be made to register is by the passage of gas through the meter. The gas company has absolutely nothing to do with the operation, nor can it in any way control the registration of the meter. However, many times gas meters register when gas is not being used, due to leakage in house fixtures.

2. The gas consumption will not be increased by the use of a large meter.

3. The gas consumption will not be decreased by the use of a small meter. In fact, if the meter is too small the gas service will be unsatisfactory.

4. Gas bills are not made out regardless of gas consumption. While it is possible for the meter reader to make an error for one month, this will be automatically rectified in the reading of the following month.

5. High gas pressure does not increase or decrease the rate of registration of meter.

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[1] The same conclusion was reached in: Engineering Bulletin No. 2 of the University of Kansas, on Natural Gas: Its Properties, Its Domestic Use, and Its Measurement by Meters, under date of July 1, 1912. Paper on Value of Gas Delivered at Varying Pressures, by Charles V. Critchfield, of the Ohio Public Utilities Commission, read at the Pittsburgh meeting of the Natural Gas Association of America, May, 1918. Ohio State University Bulletin, vol. 22, No. 28, May, 1918: Effect of Gas Pressure on Natural Gas Cooking Operations in the Home.

6. Low gas pressure does not increase or decrease the rate of regis-ation of the gas meter.

7. It is impossible for a gas meter to register twice. When the gas as passed through the meter it can not pass through the second time.

8. Meters do not always register fast. There are just as many times hen they register slow, and this is to the detriment of the gas mpany.

DISTINCTION BETWEEN LUXURY AND NECESSITY IN NATURAL GAS SERVICE.

To the average family for cooking, hot water boiler heating, light-g, and incidental house heating service, natural gas is a necessity, t when used in larger quantities or for house-heating furnace work becomes a luxury. Furthermore, the peak load characteristics of use heating furnace service make this service cost more to the tural gas company. An equitable schedule of rates ought, there-re, to provide for a fixed net price per thousand cubic feet for a ge enough monthly consumption to permit of the cooking, hot ter boiler heating, lighting, and incidental house heating service essary in the average family. If this fixed consumption is ex-ded, then the price of a thousand cubic feet for such excess con-nption ought to be increased so as to make the consumer pay for higher priced service he is receiving.

It is a trite observation that the luxuries of one day tend to become necessities of the next. Most complaints for inadequate service ring the few peak load hours, usually less than 1 per cent of the al 8,760 hours in the year,[1] are based on the fallacy that a service t is purely a privilege has become a prerogative; that is, natural consumers as compared with other fuel users who have to use d fuel or manufactured gas are a privileged class enjoying a ury that is seldom appreciated until it becomes difficult to obtain, on account of the limitations fixed by nature they do not possess can not ask any inalienable rights of service, under conditions t are physically impossible to meet.

CONSUMER IS RESPONSIBLE FOR ECONOMIC USE OF GAS.

The consumer's use of gas has an important bearing on the effi-ncy of results that may be obtained, as discussed on page 40. Few. ple appreciate that even in an ordinary frying operation effective lts can not be obtained unless the vessel position is close enough he flame so that the tip of the flame can deliver the heat generated an effective manner. Even with high pressure and long flames, strong draft should deflect the flame the cooking service will be atisfactory.

[1] Few people appreciate that even if the service averages below normal 5 hours a day 7 days, the total period of normal service is still more than 99 per cent.

When mantle burners are opened so as to admit more gas than is necessary, the familiar "hissing" or blowing sound is produced. This has, first, a tendency to break the mantle and chimney; second, waste the gas; and, third, lowers the candlepower of the lamp. The majority of natural gas consumers do not appreciate that gas burners need care and attention and that periodic cleaning is absolutely essential if satisfactory results are to be obtained.

The data given on page 40 show the marked differences in results that may be obtained in using natural gas in the fire pot of an ordinary coal furnace, as against a specially built natural gas furnace.

BAROMETRIC CHANGES MAKE MORE DIFFERENCE ON TOTAL PRESSURE THAN GAGE PRESSURE VARIATION.

On account of the changing atmospheric conditions, the barometric pressure varies from day to day and from hour to hour on the same day. Thus, the atmospheric pressure at Louisville, Ky., on January 21, 1918, was 30.47, and on January 11 was 29.19 inches, this difference of 1.28 inches of mercury being the equivalent of 0.627 pound to the square inch, or 10 ounces to the square inch, or considerably more than the entire range of variation in gage pressure.

ATMOSPHERIC TEMPERATURE CHANGES HEATING VALUE OF GAS MORE THAN CHANGES IN GAGE PRESSURE.

The variation in mean monthly temperature of natural gas at Louisville, Ky., is shown on page 45.

The variation in temperature of natural gas in the underground mains makes more difference in the heating value than the variation in gage pressure. The maximum fluctuation in temperature produces a difference in heating value of about 5 per cent, while the maximum fluctuation in pressure produces a difference in heating value of less than 4 per cent. Furthermore, these variations work in opposite directions; that is, in winter time when the pressure is low, therefore tending to decrease the heating value, the temperature is low, tending to increase the heating value. This increase due to low temperature will always be more than the decrease due to low pressure.

EFFECT OF PRESSURE OR TEMPERATURE CHANGES ON HEATING VALUE OF GAS.

These will produce changes in volume, but will neither destroy nor create any heat units, and hence will neither increase nor decrease the total number of heat units contained in the gas. However, the volumetric changes will always alter the distribution of the total number of heat units, as follows:

Gage pressure above atmosphere.	Relative British thermal unit.	Relative per cent.	Gage pressure above atmosphere.	Relative British thermal unit.	Relative per cent.
Ounces.			*Ounces.*		
8	1,034	103.4	3	1,013	101.3
7	1,030	103	2	1,009	100.9
6	1,026	102.6	1	1,005	100.5
5	1,022	102.2	0	1,000	100
4	1,017	101.7			

Gas temperature.	Relative British thermal unit.	Relative per cent.	Gas temperature.	Relative British thermal unit.	Relative per cent.
° *F.*					
70	960	96	50	1,000	100
65	970	97	45	1,010	101
60	980	98	40	1,020	102
55	990	99	35	1,030	103

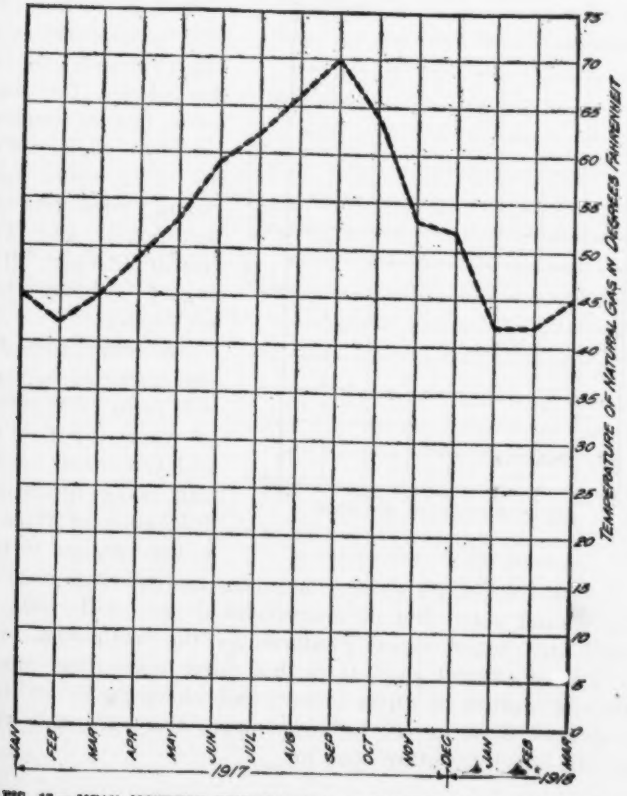

FIG. 17.—MEAN MONTHLY TEMPERATURES OF NATURAL GAS IN GAS MAINS.

COMBUSTION OF NATURAL GAS.

The combustible constituents of natural gas are made up of combinations of the elements carbon and hydrogen. When natural gas is burned so as to secure perfect combustion, only carbon dioxide and water vapor are formed. That is, the carbon of the gas unites with the oxygen of the air forming carbon dioxide, and the hydrogen of the gas unites with the oxygen of the air forming water vapor. The water vapor, of course, will condense when cooled. This water vapor does not come from the gas, but is created and formed by the chemical action of the hydrogen in the gas and the oxygen in the air.

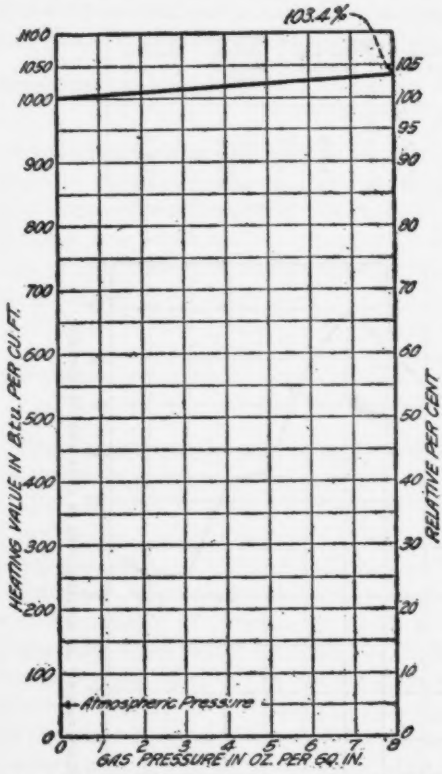

FIG. 18.—CURVE SHOWING EFFECT OF GAS PRESSURE ON GAS VOLUME AND GAS HEATING VALUE.

Each cubic foot of natural gas burned requires approximately 9½ cubic feet of air, forming 10½ cubic feet of combustion products, which are made up of 2 cubic feet of steam, 1 cubic foot of carbon dioxide, and 7½ cubic feet of nitrogen, all thoroughly diffused through each other.

The combustion of 1,000 cubic feet of natural gas will form 2,000 cubic feet of water vapor or steam, and this when condensed will make approximately 10½ gallons of water. This is not peculiar to natural gas, but is true of all gases containing hydrocarbon compounds. One thousand cubic feet of manufactured gas will form about one-half the water vapor produced by the combustion of 1,000 cubic feet of natural gas. It is this water vapor that causes the bakers and broilers of stoves to rust, and where gas is used in open fires without flues, or for lighting, makes the walls and windows sweat and glued furniture open up.

If the combustion is not perfect, then carbon monoxide, which is a deadly poison, may be formed. The toxic action of this is so marked that one-tenth of 1 per cent is enough to produce fatal results. This is especially likely to be formed when a flame is suddenly impinged on a cold surface, as, for instance, the first few seconds' operation of an instantaneous hot water heater.

EFFECT OF ATMOSPHERIC TEMPERATURE ON DEMANDS FOR GAS.

The temperature of the atmosphere has a direct bearing on the demands for natural gas for heating service. However, the quantity of cooking, incidental hot water heating, and lighting is independent of the temperature of the atmosphere and would be practically constant for the year. The humidity of the atmosphere, direction and velocity of wind, and hours of sunshine, also affect gas consumption, as far as heating service is concerned. In general a high wind causes more of an increase than merely a low temperature. The mean monthly temperature curve plotted upside down will always show a close relationship between volume of gas used and temperature of atmosphere.

DAILY DEMANDS FOR GAS HEATING SERVICE.

The daily gas heating consumption to each degree of temperature below 70° F., at Louisville, Ky., from mean temperatures ranging from 2° on February 2 to 58° on January 29, is shown below.

It will be noted that the heating service for each degree is larger at the warmer temperatures. This is because the general tendency is to keep most houses at a higher temperature than necessary, and for this reason on account of the cheapness of the gas, and the general absence of thermostat control devices, the gas is not used as efficiently.

Daily gas heating consumption for each degree of temperature below 70° F.

Date.	Mean temperature of atmosphere, degrees F. (A)	Difference between mean temperature and 70°, 70-A. (B)	M cubic feet natural gas a day. Delivered to Louisville. (C)	Service independent of atmospheric temperature. (D)	Heating service. (E)	Heating service per degree below 70° F. (E÷B). (F)
1917.						
Feb. 2	2	68	13,209	4,500	8,709	128
Jan. 14	10	60	12,193	4,500	7,693	128
Jan. 11	20	50	11,370	4,500	6,870	137
Jan. 26	30	40	10,869	4,500	6,369	159
Jan. 6	39	31	9,142	4,500	4,642	149
Jan. 3	48	22	7,852	4,500	3,352	152
Jan. 29	58	12	6,830	4,600	2,330	194
Average						150

MONTHLY DEMANDS FOR GAS HEATING SERVICE.

When the atmospheric temperature drops below 70° F. demands for heating service are created which are practically proportional to the number of degrees that the atmospheric temperature is below 70. The variation in monthly demands for each degree of atmospheric temperature below 70° F. is shown in the following table.

The data in column D is the estimated gas consumption for cooking, incidental hot water heating, and lighting, which is entirely independent of the atmospheric temperature, and the estimated figure is taken approximately as the total amounts delivered during the months of June, July, August, and September, when there are practically no demands for heating service.

The average of the demands for heating service at Louisville, Ky., for each degree below 70° F., for the months of January, March, April, May, October, and November, 1917, and March 1918, when enough gas was available to meet the demands, was 5,500,000 cubic feet for each month for each degree below 70° F.

Monthly gas heating consumption for each degree below 70° F.

Date.	Mean monthly temperature of atmosphere, in degrees F.	Difference between mean temperature and 70° F., 70-A.	Million cubic feet natural gas a month.			
			Delivered to Louisville.	Service independent of atmospheric temperature.	Heating service (C–D).	Demands for heating service per degree below 70° F. (E÷B).
	(A)	(B)	(C)	(D)	(E)	(F)
1917.						
January	36	34	302	140	162	4.8
February	32	38	260	140	120	3.2
March	46	24	260	140	120	5
April	55	15	232	140	92	6.1
May	60	10	204	140	64	6.4
June	72		140			
July	76		131			
August	76		134			
September	69		149			
October	51	19	243	140	103	5
November	45	25	270	140	130	5.2
December	26	44	269	140	129	2.9
1918.						
January	20	50	263	140	123	2.4
February	38	32	223	140	83	2.5
March	51	19	232	140	92	4.9
Average of normal months						5.5

[1] Not enough gas available to meet demands.

WHY STANDARDS FOR NATURAL GAS SERVICE MUST BE LOWER THAN FOR MANUFACTURED GAS.

The operating conditions in a natural gas plant are so different from those prevailing in a manufactured gas plant that the standards of service that would reasonably be applicable to the latter would not be feasible or expedient with natural gas, because:

1. The volume of natural gas business for each domestic consumer is generally about five times as large as for manufactured gas.

2. The peak load difficulties in a natural gas load are much more troublesome than in manufactured gas, due primarily to the heating load, which fluctuates with the atmospheric temperature.

3. The service standards can not be limited to merely the distributing plant limits, but would be closely related to the main pipe lines, back into the field to the compressing stations, and general field operating conditions.

4. The natural gas company can not create the basic feature of the service it is selling to the public, but must depend entirely on the caprice of nature for this.

5. Every foot of gas sold represents in effect the sale of a part of the company's property.

6. Since there is no regeneration, the supply can be kept continuous only by constant and persistent hunting for new supplies.

7. Although the distributing end is a public utility service, the field or producing end is a mining proposition, and the continuous connection of the two by the transmission line has the immediate effect of also connecting the mining hazards to the distributing end of the business.

8. The migratory tendencies and fugitive nature of natural gas under the ground make its reduction to possession much more difficult than for solid minerals.

9. In general, the prices for natural gas service have not been adequate, and have not been made on the basis of rendering as uniform a condition of service, especially with regard to pressure, as can be maintained in a manufactured gas plant.

10. Both the quality and quantity are entirely controlled by nature.

DISCOUNT FOR LOWER PRESSURES STIMULATES WASTE.

A penalty clause providing for a discount when pressures less than 4 ounces are maintained has been suggested as a means of guaranteeing good service. However, instead of guaranteeing service it stimulates waste for the reasons given on page 54. The penalty clause is inequitable and fails to recognize the well known operating characteristics of the mining, transmission, and distribution of natural gas, which, therefore, differentiate this from every other type of public utility service, more particularly by:

1. Failure to recognize that the heating value of the gas does not decrease proportionally with the decrease in gage pressure.

2. Failure to recognize that neither the efficiency nor the efficacy of gas decreases proportionally with the decrease in gage pressure.

3. Failure to recognize that higher efficiencies may be obtained at pressures below 4 ounces than at 4 ounces and above.

4. By ignoring rate of flow or volume of gas to be delivered and the close relationship that exists between volumetric demands and the constantly changing and uncertain and unpredeterminable atmospheric temperature changes.

5. General conservation methods in the field have not been followed in the past; gas has been produced, transmitted, and distributed in a most wasteful manner, which has, therefore, very greatly depleted available supplies, highly desirable for peak-load service.

6. The uncertain, migratory, and fugitive nature of the gas in the underground reservoirs, where it is entirely beyond the control of the human will, legal process, or contractual relationship, and yet where its expansive properties under the ground must be taken as the initial step for the delivering of service to consumers 200 miles away, obviously makes it evident that considerable leeway must be allowed in service standards.

EXTENSION OF SERVICE.

In considering the question of the desirability of making new extensions after a natural gas supply has become depleted, so as to make satisfactory service for all impossible, two distinct viewpoints have been developed, namely:

The Indiana Supreme Court in 1901 held that:

> A natural gas company * * * can not refuse to permit connections with its mains by unsupplied citizens because the gas pressure has fallen so low that existing customers can not be adequately supplied, and that the court should compel the company to permit participation in the supply of gas furnished by it, although it can not furnish enough to satisfy the needs of its existing customers. (State of Indiana ex. rel. Wood *versus* Consumers Gas Trust Co., 55 Lawyers Reports, 245.)

The New York Public Service Commission, second district, in 1915, held that:

> Consideration must be given to a safe and adequate service on the part of the company, within its means and facilities, and if service of this character is being given to a comparatively few customers in a certain locality, with the eliminated amount of gas available for such purpose, it is manifestly the duty of this commission to permit the continuance of such service rather than order the company to turn its gas into a larger field where a safe and adequate service could not be given. (New York Public Service Commission, second district, North Tonawanda case No. 4478, Feb. 25, 1915.)

The Indiana viewpoint is merely a blind following of obsolete precedent. Furthermore, it is based on the erroneous theory that it is a matter of no consequence whether adequate service can be given to any customers, so long as all of the customers stand on an exact equality, and fails to recognize that there is a clear distinction between equity and equality, and that the two are not synonymous.

The New York viewpoint is in accordance with the spirit and letter of up-to-date public utility regulation and recognizes the inherent characteristics and natural limitations of the natural gas industry, and that usable service to a limited number is better than poor or no service to a large number. This New York viewpoint is the just and equitable one to apply to all new service extension problems, as well as to the inevitable problem that will arise in the near future, of limiting or discontinuing the service entirely in certain localities, because the available supply as furnished by nature will not permit the continuance of a usable service to all.

WASTE AND CONSERVATION OF NATURAL GAS.

DEFINITION OF CONSERVATION.[1]

True conservation is not hoarding, but the wise use of natural resources, and it implies not merely the preserving in unimpaired efficiency, but also a wise and equitable exhaustion with a maximum efficiency and a minimum waste. The heart of the natural gas conservation problem is the conflict between the present and the future. The individual land owner is interested primarily only in immediate present personal returns. That is, he is thoughtless and indifferent with respect to the future. The public—at least the 2,000,000 domestic natural gas consumers and the 10,000,000 people dependent on natural gas for their cooking, heating, and lighting purposes—are interested in conserving the supply and bringing about a slow, wise, and economical exhaustion, so as to insure continuity of service for the future.

Conservation, therefore, demands intensive rather than extensive use, takes cognizance of equitable distribution, aims to bring about social justice, and means the greatest good to the greatest number—and that for the longest time.

EXTENT OF WASTE.

Most of the supply and service problems of to-day are the inevitable result of waste in producing and handling natural gas. The annual reports of the conservation committee of the Natural Gas Association of America are stinging indictments of a criminal system, fostered by both the gas companies and the public, that has resulted in wasting more gas than has ever been utilized. The following expert opinions further reflect this appalling situation:

> The history of the natural gas industry of the United States is an appalling record of incredible waste, but it must be told, in order to explain the need for the remedies proposed.[2]

[1] Phraseology suggested by Prof. C. R. Van Hise's The Conservation of Natural Resources in the United States, and Prof. Richard T. Ely's Conservation and Economic Theory. Trans. Amer. Inst. Min. Eng., vol. 54, p. 458.

[2] Technical Paper 38. United States Bureau of Mines, Waste in the Production and Utilization of Natural Gas and Means for their prevention.

In my own State of West Virginia only eight years ago not less than 500,000,000 cubic feet of this precious gas was daily escaping into the air from two counties alone, practically all of which was easily preventable by a moderate expenditure for additional casing.[1]

Of all the pieces of extravagance of which the American people have been guilty, perhaps their reckless and wasteful use of natural gas is the most striking—not the most important—but the most striking. This product, severely limited in quantity, which can last only a few years at most, has been handled by us as if it were illimitable.[2]

In reference to natural gas, the great and pressing necessity is to stop its appalling waste by enacting and enforcing proper legislation. This ideal fuel should be used with the severest economy in order to prolong its life, which will be brief at best.[3]

Had the pioneer far-reaching waste eliminating recommendations of Dr. Edward Orton, State geologist of Ohio, and Dr. I. C. White, State geologist of West Virginia, been heeded, most of the acute natural gas service problems of to-day would not exist.

SPECIFIC FORMS OF WASTE.

The various forms of waste may be grouped under drilling, well operation, transmission, and utilization operations.

DRILLING WASTES.

1. *Not closing wells promptly.*—Much gas is wasted on account of delay in closing wells, caused primarily by poor judgment and failure to supply material promptly. In many cases the rock pressure over quite a district has been materially lowered by the delay in closing promptly a single large well in that section.

2. *Improper casing.*—There is much underground waste by improper casing methods which allow gas or water to migrate from their original strata into other strata. This is an especially important feature in the West Virginia fields, where in many instances several gas-bearing formations are superimposed with intervening barren formations.

3. *Waste of gas to air.*—As a result of improper casing methods gas frequently works up around the packer or into the casing above the packer and is wasted in the air.

4. *Gas waste in well-drilling boilers.*—Most gas burning appliances used in well-drilling boilers are crude and inefficient, and the gas is handled as if it had practically no value and were of little use to other people.

5. *Waste of gas in torches.*—A large number of open flame (flambeaux) torches are still in use. Not only is this an inefficient and

[1] I. C. White, State geologist of West Virginia. Address at conference on conservation of natural resources, May 13, 1908.

[2] C. R. Van Hise's The Conservation of Natural Resources in the United States, p. 60.

[3] Idem, 360.

erefore wasteful method of securing illumination at night but in any instances the torches are not shut off during the day.

6. *Offset wells.*—The drilling of offset wells is not only frequently waste of capital, resulting from overdrilling, but very frequently sults in marked waste of gas. This is discussed in further detail pages 55–57.

7. *Improper plugging.*—Where a well is abandoned and the cas- g pulled, if the hole is not properly plugged, it may result in the ination of other gas bearing formations by the migrating of gas water from one to the other, or the very great waste of gas leak- g into coal veins or coming up and passing out into the air.

WELL OPERATION WASTES.

1. *Wasting gas to get oil.*—Where oil and gas are found in the same ld it is quite a general practice for oil operators to blow off the s, that is, waste it, in order to procure the oil. This is the prin- al cause of the depletion of many gas fields, and is responsible for greater volume of gas waste than probably all other causes put to- ther.

In tests on over 1,000 oil wells in West Virginia it was shown that e waste of natural gas of each well was at the rate of 12 M cubic t a day, or 4,380 M cubic feet of natural gas a well per annum. ere are at least 16,000 oil wells in West Virginia, and at this rate annual waste from this source would be at least 70,000,000 M cubic t of natural gas, equivalent to about one-third of all the natural s used for domestic consumption in the United States.

2. *Excessive blowing.*—Where wells are blown into the atmosphere water freeing purposes the gas must, of course, be wasted. How- r, in many cases the wells are blown longer than necessary, and in ers it would be feasible to install siphons for the removal of the ter so as to curtail this form of waste.

3. *Salt water troubles.*—In some instances salt water exists in the s-bearing formation and in others it works in from other strata, e primarily to improper drilling and casing methods. This results a large waste of gas when the wells must be watered to free them the salt formation below in the tubing.

4. *Too rapid lowering of the rock pressure.*—The irregular or too id lowering of the rock pressure by exceedingly rapid production l always produce undesirable operating conditions, and must ulti- tely result in a large waste of the total amount of gas that might ve been removed with more rational operating methods.

TRANSMISSION WASTES.

1. *Leakage.*—The structural conditions accounting for much of leakage along gas lines are discussed in detail on page 58. The

leakage in the consumer's house piping beyond the meter is very much larger than ordinarily appreciated. In a number of houses where the leakage has been checked it has been found that in their instances the leakage averaged 19 M cubic feet of gas a year for each house.

2. *Measuring devices curtail leakage.*—The leakage problem is very much greater than ordinarily appreciated, due to the fact that in so many instances measuring appliances are not used for measuring the gas either into the line or out of the line. The more extensive use of measuring devices, if properly installed and the results properly interpreted, would reveal an enormous waste in many lines that are now supposed to be tight.

3. *Blowing drips.*—If the gasoline vapors and water vapor are not removed by drying the gas, considerable gas must be wasted where these vapors, after they have been precipitated in liquid form, must be blown out along the transmission system. The installation of gas drying plants will therefore practically eliminate this form of waste in addition to conserving the gasoline.

UTILIZATION WASTES.

1. *Flat rate.*—Much natural gas is still sold at a flat rate of so much per consumer, or so much for each fire or other fixture. This puts a premium on waste and results in the destruction of an enormous amount of gas that might be conserved for more intelligent and appreciated future use.

2. *Cheap gas for manufacturing.*—When natural gas is sold at low prices for industrial use, there is no incentive to use the gas in an efficient manner, and it is therefore quite frequently used without regard to efficiency or conservation. This is probably the largest form of waste in connection with utilization of natural gas.

3. *Free gas.*—In many cases boom towns in the gas fields have held out the inducement of supplying either free gas or the gas has been sold at ridiculously low prices for industries that would locate there. This feature has been especially troublesome in West Virginia and has resulted in depriving many domestic consumers of an adequate supply of the best fuel available for household use.

In an extensive investigation the amount of gas consumed by domestic consumers in West Virginia having free gas service privileges, on account of having gas wells or gas lines on their farms, it was found that the average consumption per free consumer a year was 480 M cubic feet. This is a waste of at least 350 M cubic feet for each free consumer a year. There are at least 4,400 free consumers in West Virginia, and at this rate of waste this item alone amounts to 1,540,000 M cubic feet a year. This is more than half the amount of gas used in Louisville. The following further emphasizes this form of waste:

Average annual consumption for each free domestic natural gas consumer in est Virginia, 480 M.
Average annual consumption for each domestic natural gas consumer in the ited States, 100 M.
Average annual consumption for each domestic consumer at Louisville, 53 M.

4. *Carbon black.*—This is a form of improper use rather than abso-te waste. The carbon black industry in West Virginia uses 50 per nt more gas than is furnished to all of the domestic natural gas nsumers in that State. The economic reasons accounting for the e of natural gas for carbon black manufacture are discussed in tail on pages 60–62.

5. *Inefficient use.*—In many cases natural gas is used without mix-. The data given on page 40 show the marked difference between use of natural gas in the fire pot of an ordinary coal furnace and a rectly designed natural gas furnace, and the cooking stove and ating efficiencies emphasize the need of improvements in gas-ng appliances.

. *Thermostat control.*—Thermostats for controlling house-heating liances are out of the experimental stage, and the large number in demonstrates their reliability and usefulness. In addition to nistering to the comfort of the house occupants, they aid very erially in conserving the gas consumption by preventing overheat-

Where natural gas is sold at low prices the practice is still all common of lowering the temperature of an overheated room by ning a window rather than by lowering the gas fire.

Discount for low pressure stimulates waste.—In a number of ances consideration has been given to a penalty clause providing a discount when pressures lower than 4 ounces are maintained. s has the immediate practical effect of lowering the price of gas ng the peak load period and stimulates waste, for the well-wn human nature reason that what is made cheap will not be d. When the consumer believes that his bills will be lower he attempt to use more gas than he otherwise would, and in this the cumulative effect will be to still further lower the standard rvice to all, in addition to using the gas in a wasteful manner at ne when every thought should be for conservation of the highest r. Whatever may have been the motive for considering the pen-clause, there can be no doubt but that its effect is abortive.

DEFINITION OF "OFFSET WELL."

ter a well has been drilled on one farm, the term "offset well," narrow sense, means a well drilled on a contiguous farm, directly site from the first well and substantially the same distance across the farm line.

is not necessary in all cases that the offset well be either tly opposite to or the same distance from the property line as the

well that it is to offset. Thus one well may be an offset to two or more contiguous wells. In other cases the shape of the tract will determine the position of the offset well. The primary feature to be borne in mind is that the offset well is drilled for purposes of protection, and that this is more important than hard and fast rules regarding exact location. The adventitious origin, migratory habits, and fugitive tendencies of natural gas, as well as the nature of the sand and the topography of the country, are also factors that must be considered.

DRILLING OFFSET WELLS MAY MAKE EXISTING WELLS COMMERCIALLY WORTHLESS.

In gas territory the lessee may sink many wells and find gas in them all, but he can utilize only such of them as have a volume and pressure sufficient to enable him to transport the gas through his line and deliver it to the purchaser. If no one of them has the requisite pressure, then no one of them can be utilized; the gas must be wasted, the cost of the wells will be lost, and the lessor entitled to no royalty. What is the proper way to operate a gas lease is therefore a question beset with some difficulty. Its settlement requires some general knowledge of the business and some knowledge of the local field. The lessee may have a good well, from which he can utilize the gas with profit. He may put down another on the same farm and thereby so reduce the pressure in the first as wholly to destroy its value, without getting a sufficient pressure at the second to enable him to utilize that. The gas, if coming from one well, would be of great value. Divided in such manner that the whole volume and pressure at each is below the necessary standard, the whole is lost.[1]

WHY OFFSET WELLS ARE FREQUENTLY DRY.

It is a matter of common observation in natural gas mining that offset well locations are frequently dry holes. This is because most natural gas pools are not strictly continuous, but are made up of many small local pools, frequently surrounded in whole or in part by a gas rock of low porosity. For this reason, if a producing well has been drilled into one of these small local gas pools, there is a large chance that the offset well location may go beyond the limits of the pool and therefore be a dry hole.

WHY OFFSET WELLS ARE FREQUENTLY OF LOW CAPACITY.

The fact that offset natural gas wells are frequently of lower capacity than the wells that they offset may be accounted for as follows:

If the offset well is drilled at the extreme edge of a small local pool its capacity would naturally be smaller than the original well drilled more nearly in the center of the pool. Furthermore, when the first well is drilled into the pool the rush of gas from the then high rock

[1] Pennsylvania Supreme Court. McKnight *versus* Manufacturers Natural Gas Co. (146 Pa. St., p. 185).

pressure has a marked tendency to open up numerous channels of low resistance in the rock formation, so that the gas in the gas sand can get to the well opening with a minimum of friction. The high initial rock pressure aids substantially in first creating such lines of least resistance and then in freeing them of loose particles of sand which are blown out through the well. Even though an offset well is afterwards drilled in the same pool, the initial rock pressure will probably be lower than for the first well, and the lower gas pressure will not be near as likely to produce favorable conditions for flowing to the bottom of the offset well as were produced in the first well.

WHEN IS THE DRILLING OF OFFSET WELLS JUSTIFIABLE?

The crux of the entire "offset well-drilling question" is whether the decision to make the additional investment in drilling offset wells for natural gas, providing the increased annual operating cost for their care and maintenance and cutting down the reserve acreage necessary for future continuity of service, shall be made by the farmer—with no risks involved and no obligation to the public—or the party who must provide the money, assume the financial risk and operating duty to the public. The following correctly expresses the equities of the situation: The development and protection of lines which is implied is such as is usually found in the business of an ordinary prudent man. The operator, who has assumed the obligations, has put his money and labor into the undertaking, and is now called upon to determine whether it will pay to spend some thousands of dollars more in sinking another well to increase the production of the tract, is entitled to follow his own judgment, if that is exercised in good faith, in accordance with the doctrines laid down on page 65.

PUBLIC PAYS FOR WASTEFUL OPERATION.

While the production of natural gas is strictly a mining venture, its distribution to the ultimate consumer is distinctly a public utility service. Even under State regulation of public utilities, any marked increase in the cost of natural gas mining operations will soon be reflected in the price the ultimate consumer must pay for the natural gas service.

The acreage data given in figures 5, 6, and 7 show that not every landowner can have an offset well. The drilling and operation of unnecessary offset wells will represent a large increase in the capital investment and operation cost of natural gas companies. All of such increased burdens represent an unnecessary waste which will ultimately be paid for by the public.

The following analysis gives the reasons for the drilling by one company of 429 wells in West Virginia during 1916, and emphasizes

the offset well burden, as well as the large number that were drilled on the demands of the lessors.

Reason for drilling:	Number of wells.
To save lease	96
Offset	68
For oil	74
For gas	52
Wildcat	4
Requirements of lease	5
Demand of lessors	130
Total	429

GAS LEAKAGE.

The difficulty in keeping gas joints tight is not ordinarily appreciated and results in an enormous waste from defective joints and minute openings in gas-carrying equipment. The laws controlling gas leakage may be stated as follows:

1. The relative leakage tendencies of any two fluids under the same conditions are practically inversely proportional to the square roots of their respective densities. Natural gas has a density of practically 0.64. With regard to air, the relative leakage of air and natural gas will vary as the square root of 1 and square root of 0.8 or as 1 is to 0.8. That is, the leakage tendency of natural gas will be $1 \div 0.8 = 1.25$ times that of air under similar conditions. Water has a density 819.5 times heavier than that of air; hence leakage tendency of natural gas in comparison to that of water at the same pressure is much greater than that of water. This accounts for the universal difficulty in keeping gas confined without leakage.

2. The quantity of leakage through a given opening will vary directly as the square root of the differential pressure.

3. Amount of leakage is independent of the quantity or velocity of gas passing through the main. In other words, the pressure remaining the same, the leakage will be just as much during the period of low gas consumption as during the period of high gas consumption.

A typical gas main joint coupling, as shown on page 59, has four surfaces adjacent to the rubber and the metal where leakage may be possible. On a 16-inch main each coupler presents about 17 linear feet of such potential leakage surface. The magnitude of this in a large system is evident when we consider that about 270 couplers will be required to the mile, thus making $270 \times 17 = 4{,}590$ feet of possible leakage surface to the mile of a 16-inch gas main.

Welded gas mains are coming into use, but the welded process can not be used except on new work or in such main line installations where the entire line can be shut down and drained of all gas before the welding operation is attempted.

DEFINITION OF CARBON BLACK.

In the American trade the term "lamp black" is usually understood to be a ot deposited by the smudge process and made from oil, rosin, or some other id or liquid raw material, whereas "carbon black" is the term applied to a ck deposited by actual contact of a flame upon a metallic surface.[1]

WASTE IN CARBON BLACK MANUFACTURE.

Carbon black is now made by the wasteful process of incomplete mbustion of natural gas. That is, the gas is simply burned in the en and the flame impinging against a metal plate makes the black posit known as carbon black. From $1\frac{1}{8}$ to $1\frac{1}{2}$ pounds of carbon

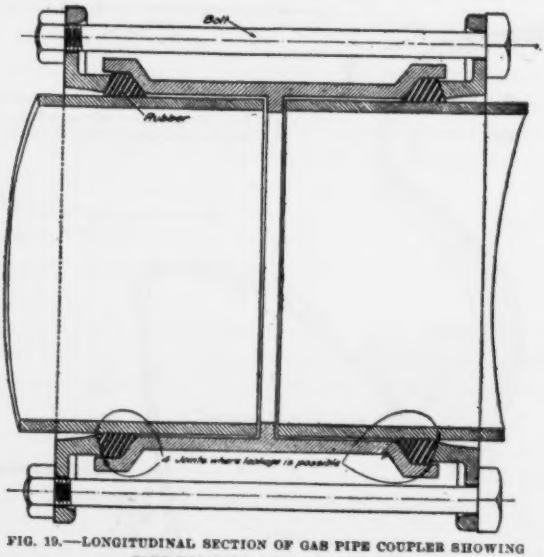

FIG. 19.—LONGITUDINAL SECTION OF GAS PIPE COUPLER SHOWING FOUR POSSIBLE LEAKAGE JOINTS.

ck are made to each M cubic feet of gas burned. The only duct obtained is the carbon black, and this utilizes only a very ll percentage of the total carbon content of the gas.

he total annual quantity of natural gas used for carbon black nufacture is more than 26,000,000 M cubic feet. This wastes at 10 times as much gas as was used in the city of Louisville, or equivalent of one-eighth of the domestic natural gas consump- in the United States.

r. J. B. Garner, of the Mellon Institute of Industrial Research, sburgh, Pa., has demonstrated that with correctly designed ap- nces the yield of carbon black can be made three times as high

[1] U. S. Geological Survey Statistics. Natural Gas in 1916, p. 662.

as that usually obtained by the wasteful process of incomplete com bustion, and in addition thereto save a usable commercial gas.[1]

WHY CARBON BLACK MANUFACTURE MAY BE MORE ATTRACTIVE THAN PUBL UTILITY SERVICE.

1. *No regulation.*—Not carrying with it any public duties, it not subject to the many phases of public regulation that control th marketing of natural gas as a public utility service.

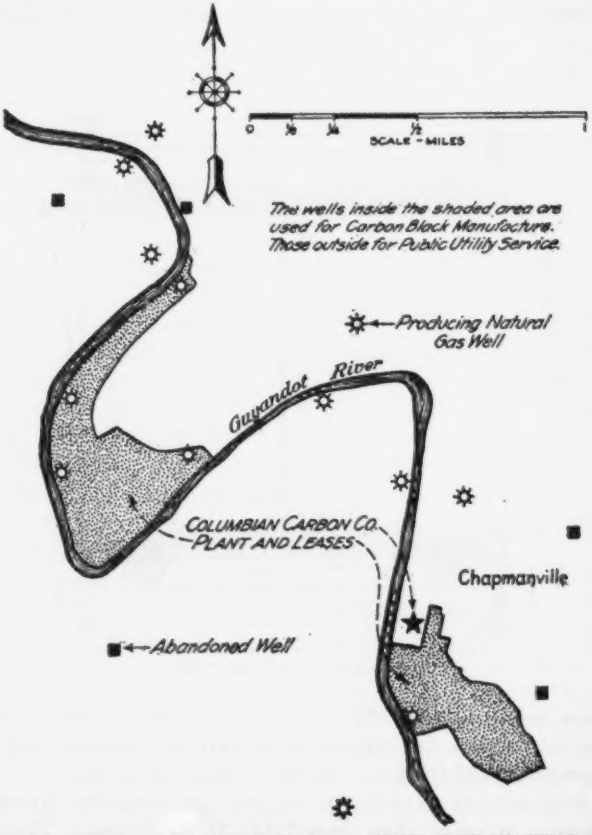

FIG. 20.—MAP SHOWING CO ITION FROM CARBON PLANT AT CHAPMANVILLE, W. VA.

2. *Price.*—This is not controlled by rate fixing bodies, but is lim ited solely by the ordinary laws of trade, and is, therefore, more at tractive from the investor's viewpoint than governmental price fixing

3. *No transmission lines necessary.*—The plants are located in th fields, as shown in figure 20, close to the leases, and sometimes o

[1] J. B. Garner The Chemical Possibilities of Natural Gas. Paper, Natural Gas Asso ciation of America, Pittsburg meeting, May 23, 1918.

the leases themselves, so that the ordinary gathering lines are the only transmission equipment necessary, and these are so short as to not even require the use of gas compressors. This, of course, makes a marked difference in leakage loss, due to short lines, as well as installation cost.

4. *Uniform load.*—A natural gas plant operating as a public utility, as shown in graphical form on page 37, can use its total equipment only about one-third of the time. That is, it has a load factor of only about 34 per cent. The carbon plant load is uniform every hour in the day and for every day in the year. With the same wells and gathering line equipment it can, therefore, handle approximately three times as much gas as it could if it were selling its gas to the public as a public utility service.

5. The proximity of the carbon plants to the wells, with the resulting short lines, makes it possible to carry lower well pressures than can ordinarily even be reached by contiguous public utility companies having their wells discharge into intake lines to compressor stations. This, in most cases, gives the carbon plant the advantage in pressure over the adjacent competing public utility plant.

6. In a number of instances carbon plants have been located where it would not be feasible, with present prices for natural gas, to lay lines in order to transmit the gas into the public utility transmission systems.

7. The carbon black plants do not carry reserve acreage, as a general rule, and this lowers the capital necessary for the enterprise.

8. The plant hazards are much less than those in a public utility plant.

9. The investment necessary for each 1,000 cubic feet of natural gas handled will be about 10 times larger in a public utility plant than in a carbon black plant, as explained in further detail in the next section.

SMALL CAPITAL IN CARBON BLACK PLANT AS COMPARED TO PUBLIC UTILITY PLANT.

It is not ordinarily appreciated that the investment necessary to render natural gas service is very much greater to each consumer than for any other utility service. That is, the investment to each consumer in natural gas properties, from gas leases to domestic meters, is—

1. Three hundred per cent more than in electric plants, thus requiring $4 investment in natural gas plants to $1 in electric plants for each consumer.

2. One hundred and fifty per cent more than in waterworks plants, thus requiring $2.50 investment in natural gas plants to $1 in waterworks plants for each consumer.

3. One hundred per cent more than all of the Bell Telephone toll lines and Bell exchanges in the United States, thus requiring $2 in-

vestment in natural gas plants to $1 in telephones for each consumer.

4. Fifty per cent more than in ordinary manufacturing gas plants, thus requiring $1.50 investment in natural gas plants to $1 in manufacturing plants for each consumer.

The investment from reserve acreage to domestic consumer's meters in a natural gas plant rendering public utility service and selling on an average of about 100 M cubic feet of natural gas to each domestic consumer a year will be about $220 to each consumer, or $2.20 for each M cubic feet of gas delivered a year.

The investment in a carbon black plant for each M cubic feet of natural gas that may be used a year, taking into account all of the favorable factors enumerated in the preceding section, will be only about 20 cents for each M cubic feet.

This is an unappreciated factor that must be reckoned with in future natural gas service standards.

COMPETITION ALWAYS ECONOMIC WASTE.

Competition in a gas field always results in a duplication of lines, unnecessary wells, enhanced operating cost, lack of proper coordination, failure to remove all the gas, and shortened life of the field, with the inevitable resulting injury to the domestic consumer.

Under competitive conditions, even where the underground gas reservoir is made up of many local pools, various operators will drill into the same local pool, and thus drain out the gas from under each other's leaseholds.[1]

EASE IN DRILLING INVITES COMPETITION.

The easier it is to drill a well in any given territory, the more wells will be drilled by small and inexperienced operators, and the greater will be the inefficient operation of the field. Furthermore, the indiscriminate drilling by inexperienced local operators always tends to increase the use of gas for manufacturing purposes, and takes the gas out at the fastest possible rate, thereby decreasing the effective life of the pool.

CRITICAL NEED OF THE NATURAL GAS INDUSTRY.

The natural gas industry is in a transition stage, going from the large volume and low-priced basis of the past to the small volume and inevitably higher price of the future. Strong individualism dominated the past. Public policy will ultimately require that legalized and regulated collective cooperation rather than cut throat competition, dominate the future. The greatest need of the industry

[1] For further discussion see United States National Museum Bulletin 102, Part 6, on Petroleum: A Resource Interpretation.

to-day is the adequate recognition of the dominating factors in the natural gas conservation problem, which are:

1. Mandatory pooling of field operations, coupled with an adequate market price.

2. Education of the natural gas producers, and of the public, coupled with national constructive legislation. Any legislation, of course, to be of value to the public must be so framed as to stimulate production and the constant search for new supplies.

EFFECT OF GOVERNMENTAL OPPOSITION TO UNIFIED CONTROL.

The present governmental attitude in preventing unity of action in the gas field causes a decrease in the life of the leaseholds, stimulates waste, and increases the cost of the gas to the public. Gas field operating conditions should be regarded as a natural monopoly, so that in the development of the field one company, or one "operating pool," could space the wells properly, and drain the field only at the rate of its safe working capacity, thereby greatly increasing and strengthening the life of the field.

POOLING OF FIELD OPERATIONS MANDATORY IF WASTE IS TO BE REDUCED.

The economic fallacy of competition between untilities is now thoroughly established. Competition, either as a guarantor of good service or regulator of rates, has failed. The doctrine that the public is served best by a legalized and regulated monopoly has become a fixed part of American public utility jurisprudence, and ought to be applied to the mining operations in the natural gas field.

The maximum usefulness could be derived from a pool of oil or gas by its being controlled by one competent management, as under such conditions it could be developed with the least waste and at the smallest cost. However, rarely is a pool under one control; ordinarily a pool is divided among many owners. To get the best results the operators should act in unison for the protection of their common sources of supply and for their mutual benefit. To make cooperation among the producers in a field effective it seems necessary for them to organize with some central authority that can furnish protection against carelessness, inefficient, or even deliberately negligent acts of individuals. The center of this organization should be supplied with all the data affecting the common interests, which could be kept confidential if necessary, and from this information concerning conditions in the field general policies for development and operation could be outlined. That would work to the best interests of all concerned.

There is no business to-day in which, by its very nature, there is more need for cooperation than among the oil and gas operators, yet they have been able to do practically nothing by themselves. Nearly all attempts at cooperation among oil and gas producers have failed, primarily because there was no authority to compel the observance of the will of the majority by individuals who did not choose to follow the policies laid down.[1]

[1] Underground Wastes in Oil and Gas Fields and Methods of Prevention. Technical Paper 130, U. S. Bureau of Mines, pp. 4, 5, by W. F. McMurray and J. O. Lewis.

PROVINCIAL THINKING CAUSE OF MOST NATURAL GAS WASTE.

The provincial habit of looking at natural gas from the dwarfed viewpoint of local use and immediate present is the primary cause of our acute natural gas service problems of to-day. The history of the industry has been one of unrestrained waste and profligate disregard for the public's interest, inevitably increasing demands and obvious physical limitations of supply. This wanton waste has been emphasized by creating and then emphasizing provincial aspects rather than recognizing the true national and interstate nature of the business. The selfish motive of trying to keep the natural resources of a State within the State boundaries, so as to make consumers locate within the State boundaries in order to enable them to use the resource, has been the dominating feature.

The following are three typical economic provincialisms that have been attempted. Although all of these have been unsuccessful, nevertheless they have stimulated the idea that natural gas was so cheap as not to be worth saving, and have therefore been provocative of much waste and misuse:

1. Attempting to prevent exporting gas beyond State limits.
2. Attempting to restrict the pressure which might be maintained in main lines, with the manifest object of preventing sufficient pressure to accomplish satisfactory interstate transmission.
3. Special tax upon the production and transmission of natural gas, and generally this has sought to discriminate in the tax as between gas consumption inside the State as against that transmitted for consumption outside the State.

The urgent present need is a clear appreciation and willing recognition that in the equitable administration of natural resources, like natural gas, there can be no State lines, and that a capital "The" belongs in front of United States in our national name. There is no more sense or justice in any other State either preventing or directly or indirectly burdening the exporting of natural gas, than there would be in applying the same provincial idea to the transportation of food. If it would be just for any State to say that you can not use "our" natural gas unless you locate within our State boundaries, it would be just as fair for the Minnesota farmer to say you can not eat my wheat unless you live within the State boundaries of Minnesota, or for the Louisiana sugar planter to say you can not use my sugar unless you come and live within the State boundaries of Louisiana. The last two viewpoints are so ridiculous that they would not receive serious consideration; yet they represent precisely what has been specifically attempted in the distribution of natural gas.

CHARACTERISTICS OF NATURAL GAS PROSPECTORS AND NEW GAS SUPPLIES.

Natural gas prospectors are optimists, with individualism as the dominating characteristic. They are oversanguine, but if it were not for this characteristic they would not be searching for new supplies of gas. They do things in a big way, take large risks, are good sportsmen, and, therefore, good losers. However, the gains must in the end be more than the losses or they will not continue in the hunt for natural gas supplies for future service.

CONSERVATION OF NATURAL GAS POSSIBLE ONLY WITH PROFITABLE OPERATION.

Natural gas can be found only by diligent prospecting. After it is found the service can be maintained continuously only by further continued development and persistent searching for new supplies. In this development the prospector must figure on many dry holes. The average for all drilling in the entire United States is that every fourth hole is dry. In opening up new fields this may be much higher, brought out elsewhere.

Since the hazards are greater than in any other mining enterprise, the profits ought to be correspondingly greater. This element of profit is the only incentive which impels men to engage in so speculative an enterprise. If, in the aggregate, this amount of profit does not measure up to the hazards in the business the men will cease their work of prospecting and put their capital in safer enterprises. Wherever a close connection exists between effort and profit a stronger resulting incentive is furnished for a further and continuous expenditure of effort. Therefore, a high rate of profit, which will induce men to prospect continuously for natural gas, brings about the condition that more people can use gas and represents a distinct saving to the community.

Natural gas has never been equaled by any man-made product. The worth of natural gas for most high-grade utility services is ahead of any competing commodity or utility service. The only thing that will effectively conserve the supply for future use and thereby insure continuity of future service is an adequate price commensurate with the worth or value of the service. Therefore, the public is served best when natural gas mining is made profitable.

WHEN IS IT COMMERCIALLY FEASIBLE TO CONSERVE GAS OR DEVELOP NEW SUPPLIES?

The feasibility of conserving wastes or developing new supplies and connecting these with a market depends on the coordination of the following factors:

1. A study of the open-flow data in accordance with the doctrines laid down on page 20.

2. Number of dry holes that have been drilled.

3. Probable rock pressure decline.

4. New drilling necessary to maintain production.

5. Total investment necessary in "conservation project" to save the gas.

6. Total investment in leases, wells, compressing stations, and transmission lines necessary to connect the gas with a market.

7. Operating cost of all the preceding factors.

8. In no case would it be prudent business or good judgment to attempt to conserve a waste of gas or develop a new supply that would not take care of the fixed charges on the investment and the operating cost during the life of the gas that is saved or developed on the basis of the volume of gas that can be obtained from such an enterprise and manufactured through the ultimate consumer's meter at the present market prices. An adequate price is therefore the crux of the natural gas conservation question. Unless it is made worth saving by the public it will not be good business judgment to attempt to save it.

PUBLICATIONS OF THE DIVISION OF MINERAL TECHNOLOGY, UNITED STATES NATIONAL MUSEUM.

Publication 2421. Sources of nitrogen compounds in the United States, by Chester G. Gilbert. Issued June 30, 1916, Smithsonian Institution, 12 pp.

Bulletin 102, part 1. Coal products: An object lesson in resource administration, by Chester G. Gilbert. Issued Nov. 17, 1917. 16 pp., 11 pls.

Bulletin 102, part 2. Fertilizers: An interpretation of the situation in the United States, by Joseph E. Pogue. Issued Oct. 10, 1917. 22 pp., 1 pl.

Bulletin 102, part 3. Sulphur: An example of industrial independence, by Joseph E. Pogue. Issued Nov. 7, 1917. 10 pp., 1 fig., 3 pls.

Bulletin 102, part 4. Coal: The resource and its full utilization, by Chester G. Gilbert and Joseph E. Pogue. Issued Feb. 21, 1918. 26 pp.

Bulletin 102, part 5. Power: Its significance and needs, by Chester G. Gilbert and Joseph E. Pogue. Issued Sept. 21, 1918. 50 pp., 2 figs.

Bulletin 102, part 6. Petroleum: A resource interpretation, by Chester G. Gilbert and Joseph E. Pogue. Issued Aug. 1, 1918. 76 pp., 12 figs., 3 pls.

Bulletin 102, part 7. Natural gas: Its production, service, and conservation, by Samuel S. Wyer. Issued ———, 1918.

Bulletin 102, vol. 1. The energy resources of the United States: A plan for reconstruction, by Chester G. Gilbert and Joseph E. Pogue. (In press.)

NOTE.—The papers listed above as parts of Bulletin 102 are members of a series entitled "The mineral industries of the United States."

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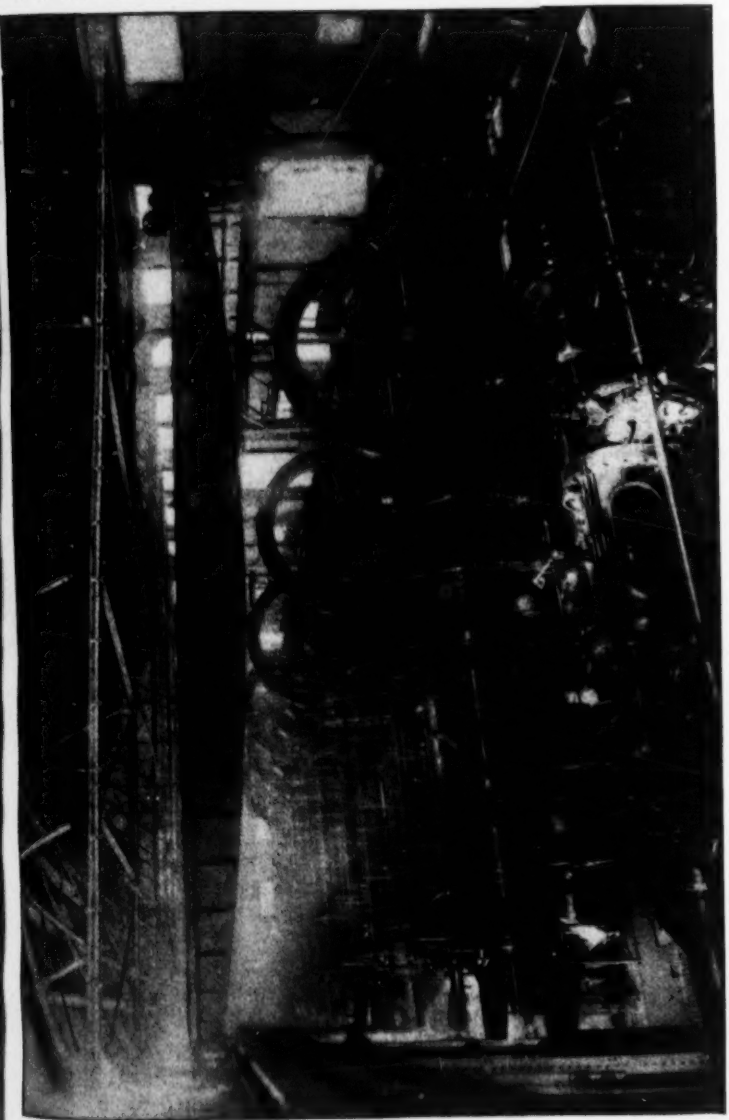
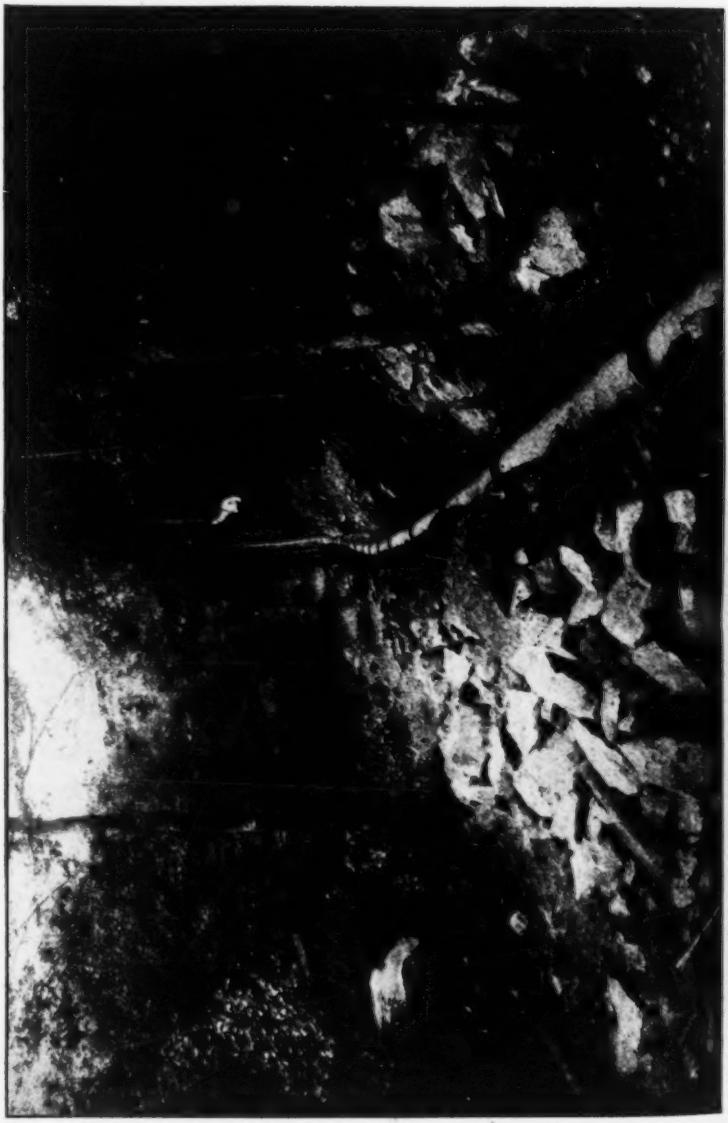
1686



INTERIOR OF NATURAL GAS COMPRESSING STATION.

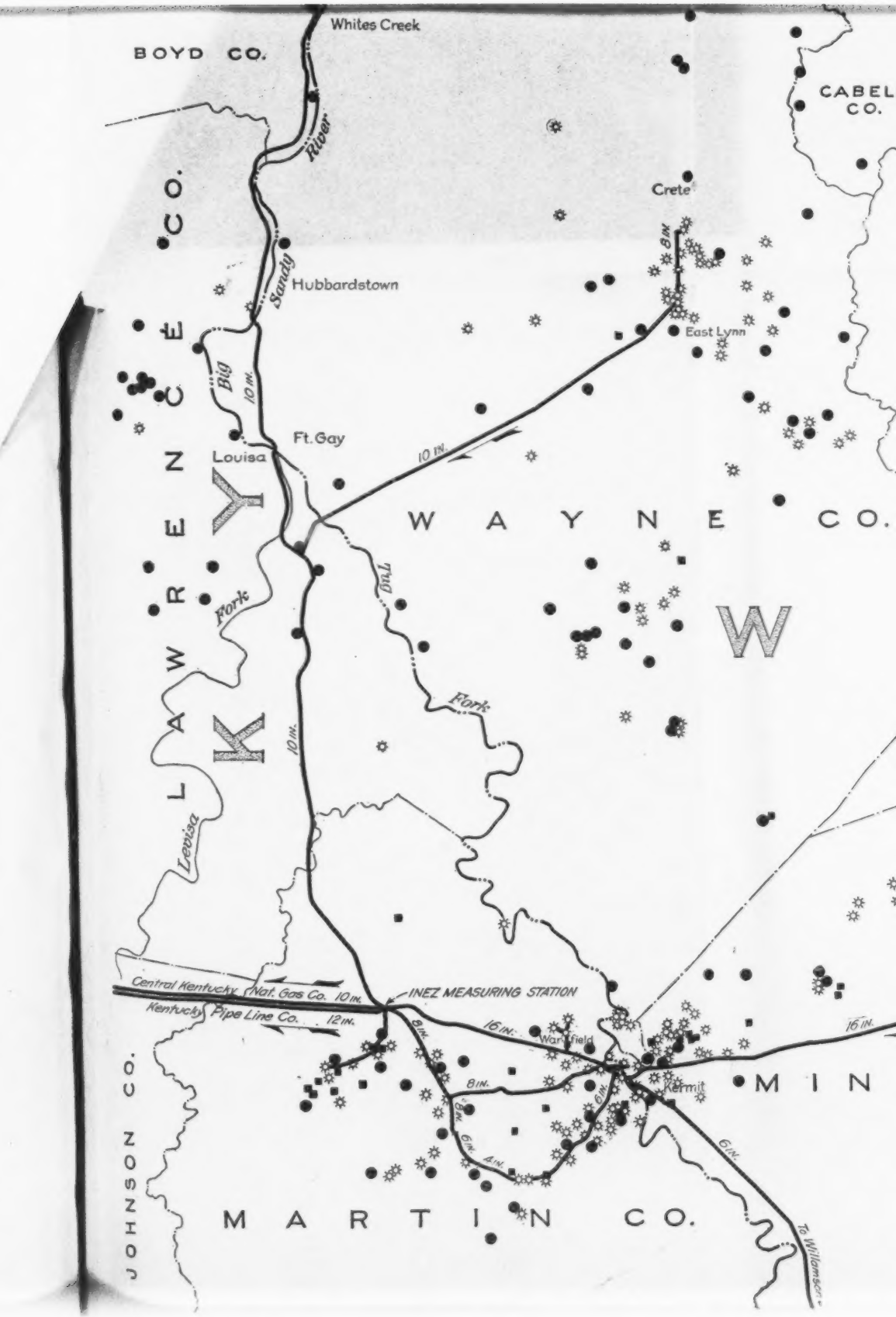


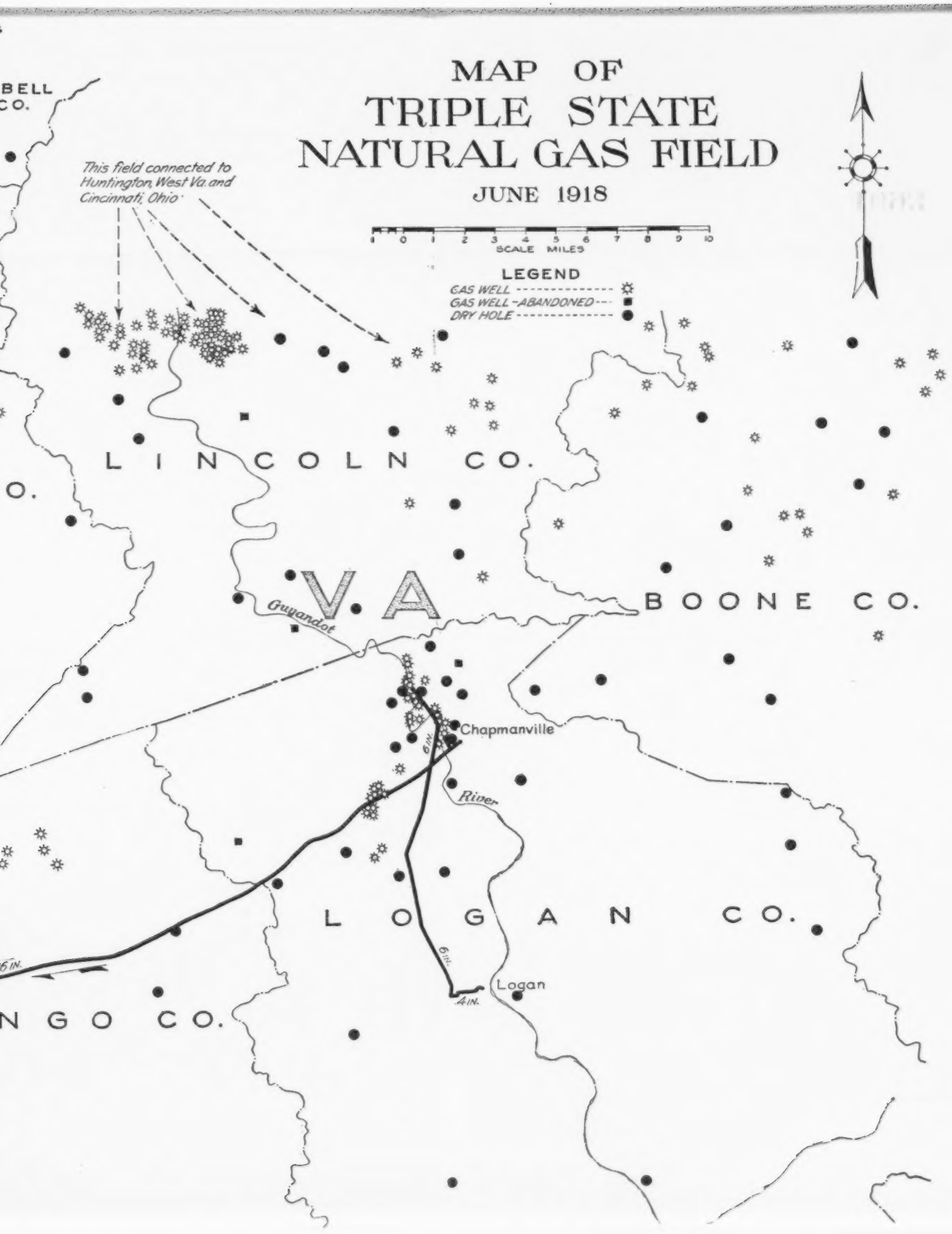
NATURAL GAS MAIN LINE RIVER CROSSING UNDER CONSTRUCTION.

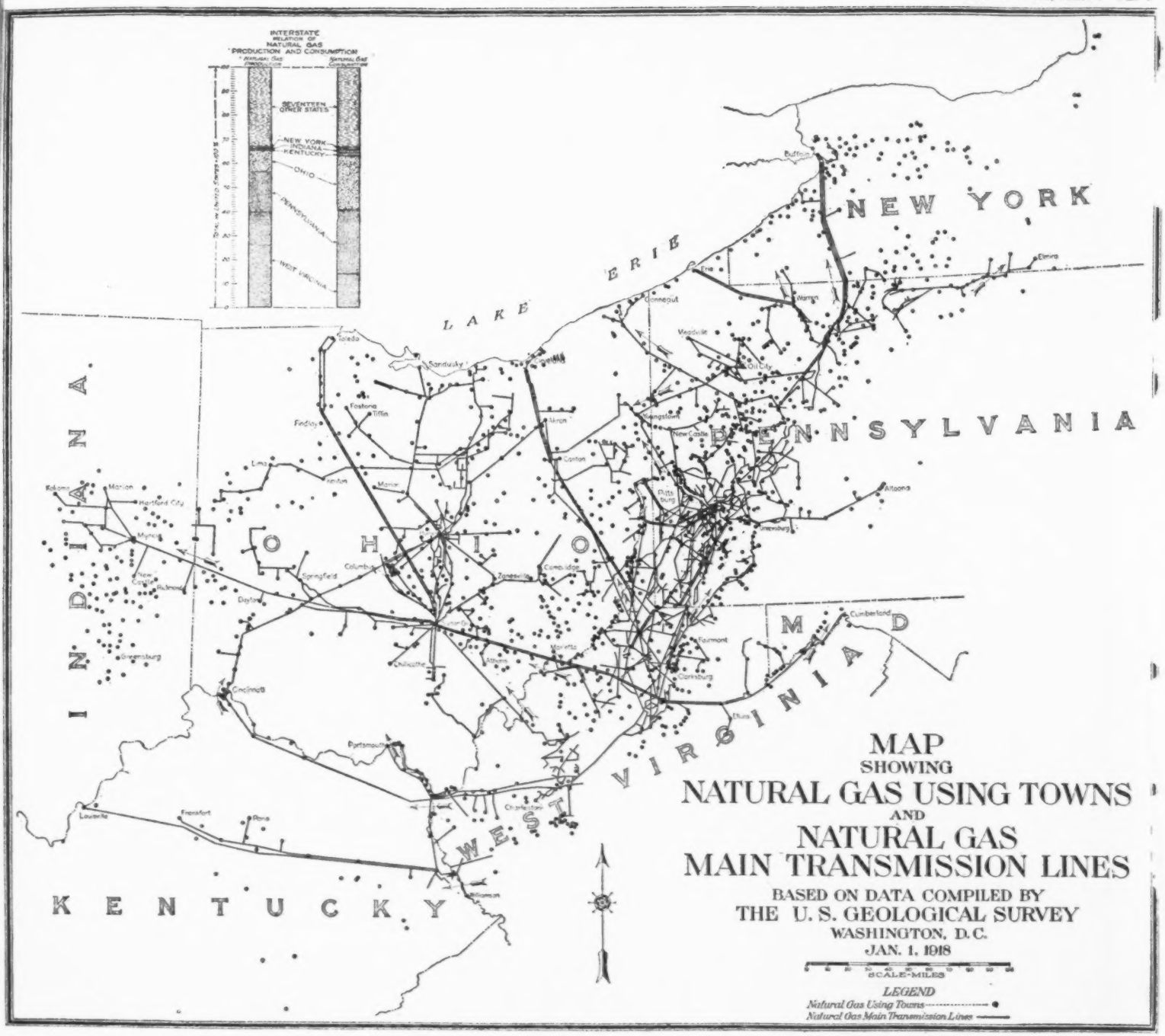
WASTE OF NATURAL GAS IN BLOWING SALT WATER FROM WELL.

THE EFFECT OF ELECTROLYSIS ON GAS PIPE.

Gas pipe from Kansas City, Mo., showing holes produced by electrolysis, and therefore many opportunities for waste of gas through leakage. This also produces serious life and property hazard. The term "electrolysis" as here used means the destructive, disintegrating, chemical action, and the resulting damage of underground metallic structures when stray electric currents from electric railways have leaked from their own return circuit and wandered to other underground structures and thence back into the soil.


BOYD CO.
Whites Creek
River
Sandy
Hubbardstown
Crete
8 IN.
East Lynn
CABEL CO.
CO.
Big
10 IN.
Louisa
Ft. Gay
10 IN.
W A Y N E CO.
Fork
Big
Fork
10 IN.
Louisa
Central Kentucky Nat. Gas Co. 10 IN.
Kentucky Pipe Line Co. 12 IN.
INEZ MEASURING STATION
8 IN.
16 IN.
Warfield
16 IN.
Kermit
M I N
8 IN.
6 IN.
8 IN.
6 IN.
4 IN.
6 IN.
To Williamson
JOHNSON CO.
M A R T I N CO.


MAP OF
TRIPLE STATE
NATURAL GAS FIELD
JUNE 1918
This field connected to Huntington, West Va. and Cincinnati, Ohio
SCALE MILES
LEGEND
GAS WELL
GAS WELL - ABANDONED
DRY HOLE
LINCOLN CO.
V.A
BOONE CO.
Guyandot
Chapmanville
River
LOGAN CO.
Logan
6 IN.
4 IN.
BELL CO.
NGO CO.


INTERSTATE RELATION OF NATURAL GAS PRODUCTION AND CONSUMPTION
SEVENTEEN OTHER STATES
NEW YORK
INDIANA
KENTUCKY
OHIO
PENNSYLVANIA
WEST VIRGINIA
NEW YORK
LAKE ERIE
PENNSYLVANIA
INDIANA
OHIO
WEST VIRGINIA
KENTUCKY
MARYLAND
Buffalo
Erie
Elmira
Conneaut
Meadville
Oil City
Toledo
Sandusky
Youngstown
New Castle
Akron
Findlay
Fostoria
Tiffin
Lima
Canton
Marion
Mansfield
Hartford City
Muncie
Richmond
Springfield
Columbus
Zanesville
Coshocton
Dayton
Greensburg
Cincinnati
Portsmouth
Chillicothe
Marietta
Fairmont
Cumberland
Clarksburg
Huntington
Charleston
Louisville
Frankfort
Pikeville
Williamson
Altoona
Pittsburg
Greensburg
MAP
SHOWING
NATURAL GAS USING TOWNS
AND
NATURAL GAS
MAIN TRANSMISSION LINES
BASED ON DATA COMPILED BY
THE U. S. GEOLOGICAL SURVEY
WASHINGTON, D.C.
JAN. 1, 1918
SCALE-MILES
LEGEND
Natural Gas Using Towns
Natural Gas Main Transmission Lines

A

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194 OHIO EXHIBIT 1.

Offered at p. 564 of Printed Record by Witness Daly.

Map of Main Lines of the East Ohio Gas Company.

NOTE.—This was replaced by Pennsylvania Exhibit 47.

195 OHIO EXHIBIT 2.

Offered at p. 651 of Printed Record by Witness Denning.

Map of Main Trunk Lines and Transmission Lines of the Ohio Fuel Supply Company.

NOTE.—This was replaced by Pennsylvania Exhibit 49.

195a OHIO EXHIBIT 3.

Offered at p. 681 of Printed Record by Witness Denning.

Administration Order, Public Utility Commission of Ohio, Relative to Discontinuing Gas to Industrial Consumers.

196 OHIO EX. #3.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretary of The Public Utilities Commission of Ohio, in whose custody the books, papers, records, documents and files of said Commission are kept, hereby certify that at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the fifteenth day of December, 1916, at which Messrs. Beecher W. Waltermire, (Chairman), Lawrence K. Langdon and Louis M. Day, Commissioners, were present, such Commission entered the following order, instituting a proceeding entitled,

"In the matter of the amendment of the schedule of rates for natural gas service of The Union Gas and Electric Company, No. 1024."

"It appearing from statements by the public that an emergency may arise necessitating the temporary alteration or amendment of the schedule of rates for natural gas service of The Union Gas and Electric Company, it is, therefore,

"Ordered, That the Commission proceed, forthwith, to investigate the adequacy of the natural gas service of The Union Gas and Elec-

tric Company with a view to determining the necessity for the temporary alteration or amendment of said company's schedule of rates for natural gas."

which order was, thereupon, served upon said respondent, The Union Gas and Electric Company.

I further certify that, at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the nineteenth day of December, A. D. 1916, at which Messrs. Beecher W. Waltermire, (Chairman), Lawrence K. Langdon and Louis M. Day, Commissioners, were present, such Commission entered the following orders in the aforesaid proceeding:

"This matter came on to be heard upon the evidence, investigations and reports with reference to the inadequate supply of natural gas by The Union Gas and Electric Company to consumers:

"Upon consideration whereof, the Commission is of opinion and finds that an emergency exists with reference thereto and, in order to preserve the public health, welfare and interest, that the schedule of rates and regulations of said company on file with the Commission should be temporarily altered and amended to include the following provision, to-wit:

"'That the service of all consumers of natural gas using one hundred thousand (100,000) cubic feet or more of natural
197 gas per month, may, in the discretion of the Commission, be discontinued without notice.'

It is, therefore,

"Ordered, That the said schedule of The Union Gas and Electric Company on file with the Commission be temporarily altered and amended to include the following provision, to-wit:

'That the service to all consumers of natural gas using one hundred thousand (100,000) cubic feet or more of natural gas per month, may, in the discretion of the Commission, be discontinued without notice.'

It is further

"Ordered, That this order shall be effective on and after this date."

And

"It is

"Ordered, That the service to the following named consumers of the natural gas supply of The Union Gas and Electric Company, said consumers using more than one hundred thousand cubic feet of gas per month, be discontinued forthwith in accordance with the order in proceeding Number 1024:

"North Cincinnati Turnverein,
Crescent Apartments,
Triumph Electric Company,
National Lead Company,
Allis Chalmers Manufacturing Company,
Queen City Forging Company,
Tool Steel Gear and Pinion Company,
Lunkenheimer Company,
Cincinnati Car Company,

Smith and Mills,
American Valve and Meter Company,
William Powell Company,
J. A. Peterson,
Queen City Printing Ink Company,
F. H. Lawson Company,
J. B. Morris,
Ault and Wiborg,
Walnut Hills Laundry,
United States Can Company,
Walnut Street Theatre,
Cincinnati Galvanizing Company,
C. R. Holmes,
Rookwood Pottery Company,
Edwards Manufacturing Company,
Longview Hospital,
Bethany Home,
Cincinnati and Suburban Bell Telephone Company,
College Hill Realty Company, and
The Charles Boldt Company.

It is further

98 "Ordered, That this order be effective on and after this date."

hich orders were, thereupon, served upon the respondent, said The nion Gas and Electric Company.

I further certify that, at a regular session of The Public Utilities ommission of Ohio, held at Columbus, Ohio, upon the twenty-first ay of December, A. D. 191, at which Messrs. Beecher W. Walternire, (Chairman), Lawrence K. Langdon and Louis M. Day, Commissioners, were present, such Commission entered the following rders in the aforesaid proceeding:

"It is

"Ordered, That the service to Peter G. Thomson of the natural as supply of The Union Gas and Electric Company, said consumer using more than one hundred thousand cubic feet of gas per nonth, be discontinued forthwith in accordance with the order hereofore made in this matter. It is further

"Ordered, That this order be effective on and after this date."

And

"It is

Ordered, That the order, this day made herein, providing for the liscontinuance of natural gas service to Peter G. Thomson, be, and t hereby is modified and amended to provide for the discontinuance f service, within one week from the date hereof, to the boiler of aid consumer, used for house-heating purposes, consuming more han one hundred thousand cubic feet of gas per month."

which orders were, thereupon, served upon the respondent, said The Union Gas and Electric Company.

I further certify that, at a regular session of The Public Utilities

Commission of Ohio, held at Columbus, Ohio, upon the thirteenth day of January, A. D. 1917, at which Messrs. Beecher W. Waltermire, (Chairman), Lawrence K. Langdon and Louis M. Day, Commissioners, were present, such Commission entered the following order in the aforesaid proceeding:

"It is hereby

"Ordered, That the service to the consumers of the natural gas supply of The Union Gas and Electric Company using more than One Hundred Thousand (100,000) cubic feet per month, be reduced or discontinued in accordance with the survey and classification, until the further order of the Commission, as shown therein, which survey and classification is adopted and made a part of the record in this proceeding, marked 'Exhibit A.' It is further

"Ordered, That this order be effective on and after this date."

which order was, thereupon, served upon the respondent, said
199 The Union Gas and Electric Company.

In testimony whereof, I have hereunto subscribed my name and affixed the official seal of The Public Utilities Commission of Ohio at Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of the Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

200 OHIO EXHIBIT 4.

Offered at p. 681 of Printed Record by Witness Denning.

Administration Order, Public Utility Commission of Ohio, Relative to Discontinuing Gas to Industrial Consumers.

201 OHIO EX. #4.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretary of The Public Utilities Commission of Ohio, in whose custody the books, papers, records, documents and files of said Commission are kept, hereby certify that at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the twentieth day of December, A. D. 1916, at which Messrs. Beecher W. Waltermire, (Chairman), Lawrence K. Langdon and Louis M. Day, Commissioners, were present, such Commission entered the following order, instituting a proceeding entitled,

"In the matter of the amendment of the schedule of rates for natural gas service of The East Ohio Gas Company, No. 1025,"

"It appearing from statements by the public that an emergency

ay arise necessitating the temporary alteration or amendment of the hedule of rates for natural gas service of The East Ohio Gas Comny, it is, therefore,

"Ordered, That the Commission proceed, forthwith, to investigate e adequacy of the natural gas service of The East Ohio Gas Comny with a view to determining the necessity for the temporary teration or amendment of said company's schedule of rates for atural gas."

d, thereupon, upon said day aforesaid, said Commission did enter e following order in said proceeding, viz:

"This matter came on to be heard upon the evidence, investigations d reports with reference to the inadequate supply of natural gas The East Ohio Gas Company to consumers:

"Upon consideration whereof, the Commission is of opinion and ds that an emergency exists with reference thereto, and, in order preserve the public health, welfare and interest, that the schedule rates and regulations of said company on file with the Comission should be temporarily altered and amended to include the llowing provision, to-wit:

" 'That the service to all consumers of natural gas using one undred thousand (100,000) cubic feet or more of natural gas per onth, may, in the discretion of the Commission, be discontinued ithout notice.'

It is, therefore,

"Ordered, That the said schedule of The East Ohio Gas Company file with the Commission be temporarily altered and amended to include the following provision, to-wit:

" 'That the service to all consumers of natural gas using one hundred thousand (100,000) cubic feet or more of atural gas per month, may, in the discretion of the Commission, discontinued without notice.'

It is further

"Ordered, That this order shall be effective on and after this date."

hich orders were, thereupon served upon said respondent, The ast Ohio Gas Company.

I further certify that, at a regular session of The Public Utilities ommission of Ohio, held at Columbus, Ohio, upon the sixteenth ay of February, A. D. 1917, at which Messrs. Beecher W. Walterire, (Chairman), Lawrence K. Langdon and Oliver H. Hughes, ommissioners, were present, such Commission entered the followg order in said proceeding:

"For good cause the order, made and entered herein on the twenth day of December, 1916, hereby is vacated and rescinded and is inquiry discontinued."

In testimony whereof, I have hereunto subscribed my name and affixed the official seal of The Public Utilities Commission of Ohio at Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of the Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

203 OHIO EXHIBIT 5.

Offered at p. 681 of Printed Record by Witness Denning.

Administration Order, Public Utility Commission of Ohio, Relative to Discontinuing Gas to Industrial Consumers.

204 OHIO EX. #5.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretary of The Public Utilities Commission of Ohio, in whose custody the books, papers, records, documents and files of said Commission are kept, hereby certify that at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the eleventh day of December, A. D. 1917, at which Messrs. Charles C. Marshall, (Chairman), and Beecher W. Waltermire, Commissioners, were present, such Commission entered the following order, instituting a proceeding, entitled,

"In the matter of the investigation by the Commission to determine the existence of an emergency necessitating the alteration or amendment of the schedules of The Union Gas and Electric Company for natural gas service, No. 1350,"

"It being made to appear to the Commission that an emergency may exist necessitating the temporary alteration or amendment of the schedules of rates for natural gas service of The Union Gas and Electric Company, it is, therefore,

"Ordered, That the Commission proceed, forthwith, to investigate the adequacy of the natural gas service of The Union Gas and Electric Company with a view to determining the necessity for the temporary alteration or amendment of said company's schedules of rates for natural gas service."

which order, was, thereupon served upon said respondent, The Union Gas and Electric Company, and

I further certify that, at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the twelfth day of December, A. D. 1917, at which Messrs. Charles C. Marshall, (Chairman), and Beecher W. Waltermire, Commissioners, were present, such Commission entered the following order in the aforesaid proceeding:

This matter came on to be heard upon the evidence, investiga-
s and reports with reference to the inadequate Supply of natural
by The Union Gas and Electric Company to consumers:
Upon consideration whereof, the Commission is of the opinion
finds that an emergency exists with reference thereto, and that, in
r to preserve the public health, welfare and interest, the schedule
ates and regulations of said company on file with the Commis-
should temporarily be altered and amended to include the pro-
ns of the following order. It is, therefore,

"Ordered, That the schedule of The Union Gas and Elec-
tric Company for natural gas service, on file with this Com-
mission, temporarily be altered and amended to include the
wing provisions, to-wit:

'That the service of natural gas to each and every consumer,
r than for use in private residences and in hospitals and similar
itable institutions, may, in the discretion of the Commission be
ediately discontinued without notice, subject, however, to tem-
ry stay of operation of the order of discontinuance in the specific
nces or classes of consumers designated and reported to the
mission by a representative thereof, upon investigation made
ugh such representative.'

is further

Ordered, That this order shall be effective on and after this
and for so long as said emergency shall exist, or until the further
r of the Commission. It is further

Ordered, That The Union Gas and Electric Company im-
iately discontinue and cause to be disconnected so long as neces-
to furnish an adequate supply of gas to domestic consumers,
ervice of natural gas to all consumers comprised in the following
ifications, to wit:

Classification 1: All industrial consumers using natural gas in
r furnaces or in manufacturing or industrial process.

Classification 2: All consumers using natural gas for heating or
er purposes in buildings and offices and establishments other than
ate residences.

Classification 3: All consumers using natural gas for the op-
on of gas engines.

Classification 4: All consumers operating restaurants, hotels, clubs
dining rooms using natural gas in the preparation of food.

Provided: That temporary stay of the immediate operation of
order is hereby granted to such specific consumers, for good
e shown and where necessary to preserve the health, interest and
fare of the public, as shall be designated by the Commission."

ch order was, thereupon, served upon the respondent, said The
on Gas and Electric Company.

In testimony whereof, I have hereunto subscribed my name and affixed the official seal of The Public Utilities Commission of Ohio at Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of the Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

206 OHIO EXHIBIT 6.

Offered at p. 681 of Printed Record by Witness Denning.

Administration Order, Public Utility Commission of Ohio, Relative to Discontinuing Gas to Industrial Consumers.

207 OHIO EX. #6.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretary of The Public Utilities Commission of Ohio, in whose custody the books, papers, records, documents and files of said Commission are kept, hereby certify that at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the nineteenth day of December, A. D. 1916, at which Messrs. Beecher W. Waltermire (Chairman), Lawrence K. Langdon and Louis M. Day, Commissioners, were present, such Commission adopted the following order, which was thereupon served upon each and every Natural Gas Company furnishing service to consumers within the State of Ohio:

"Administrative Order No. 28.

"The Commission having under consideration the furnishing of natural gas to consumers within Ohio and having, through its experts and examiners, made a careful investigation of the situation, taken the pressure in various parts of the State, examined conditions and ascertained that there is a stortage of gas in many localities of the State, creating an emergency therein, finds that there is an insufficient supply of natural gas to furnish both domestic and industrial consumers.

"The Commission further finds that the schedules of the various companies, so furnishing said gas, on file with the Commission show that industrial consumers, or the 'non-preferred class,' are, for the most part, furnished service under what is known as a 'uniform contract,' which contract provides that their service is subject to discontinuance and disconnection at any time and under any circumstances upon summary notice by the gas company, subject to the conditions of the 'uniform contract,' or clauses of like import. It is, therefore,

"Ordered, That each and every company furnishing natural gas both domestic and industrial consumers within the State of Ohio ceed, forthwith, to a strict enforcement of the terms of said niform contract' and to enforce the conditions of said schedules the discontinuance of said 'non-preferred' or industrial class in h and every locality where the supply of gas is not adequate and fficient to furnish a reasonable supply to both; and to continue h disconnection until such time as adequate service can be fur-hed to both. It is further

"Ordered, That each and every public utility furnishing natural s as aforesaid in any locality when, after the disconnection of in-strial consumers, the supply is not adequate to supply domestic consumers, forthwith make report of such facts, together with a list of any and all other consumers not within the domestic class but not subject to summary discontinuance, further order of the Commission."

In testimony whereof, I have hereunto subscribed my name and ixed the official seal of The Public Utilities Commission of Ohio Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of the Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

EXHIBIT 7.

Offered at p. 681 of Printed Record by Witness Denning.

dministration Order, Public Utility Commission of Ohio, Relative to Discontinuing Gas to Industrial Consumers.

OHIO EX. 7.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretary The Public Utilities Commission of Ohio, in whose custody the oks, papers, records, documents and files of said Commission are pt, hereby certify that at a regular session of The Public Utilities mmission of Ohio, held at Columbus, Ohio, upon the twenty-first y of May, 1918, at which Messrs. Charles C. Marshall (Chairman), echer W. Waltermire and Byron M. Clen Dening, Commissioners, re present, such Commission adopted the following order, which s thereupon served upon each and every Natural Gas Company rnishing service to consumers within the State of Ohio:

"Administrative Order No. 34.

The Public Utilities Commission, having under consideration the obable inability of natural gas companies to furnish an adequate

supply to all their consumers during the coming Winter, and the necessity of formulating more definite rules for the guidance of such public utility companies in disconnecting industrial and other consumers from the service, when necessary, during an emergency, to conserve the supply for domestic consumers, and the order in which disconnection should be made, as well as the order in which the service should be restored when the emergency is passed, hereby adopts the following rules and regulations, to wit:

1. That for the purpose of disconnecting or curtailing service to consumers during an emergency, all consumers of natural gas are divided into two general classes, namely: Domestic Consumers and Industrial Consumers.

2. That domestic consumers, for such purposes, include the users of natural gas for heating, lighting and cooking in private homes, boarding houses, and apartment houses; and users of natural gas for lighting and cooking only, in hotels, restaurants, bakeries, eating places, club houses, hospitals and other charitable institutions.

3. That all other consumers shall be designated as "Industrial Consumers"; but for the purpose of disconnecting or curtailment during an emergency, the following subdivisions of industrial
211 consumers may be made, in cases where there is more than a sufficient supply of gas for domestic consumers as herein specified, but not a sufficient supply for all industrial consumers:

A. Users who are not included in the domestic consumers' class, as herein specified, but who are engaged in preparing or preserving foodstuff, or food producing plants, for such purposes only.

B. Industries directly engaged in manufacturing or producing war materials, for such purposes only; and users of gas in gas engines.

C. All other industrial consumers.

When there is not sufficient gas for all industrial consumers, as herein defined, the surplus shall be furnished to industrials in the order above named.

4. This classification is subject to the following exception: Where natural gas is being used in limited quantities for scientific, experimental, or mechanical purposes, and where other means of producing light and heat for such purposes cannot be reasonably substituted, an amount essential to such use, but not to exceed five thousand (5,000) cubic feet per month to each consumer so engaged may be used for such purposes only, and as if they were included in the class of domestic consumers herein specified.

5. If, after disconnecting all industrial consumers, there is not a sufficient supply of gas for the domestic consumers, then all boilers and furnaces not provided with gas fixtures and appliances primarily designed for burning natural gas as a fuel shall be disconnected; and if it becomes necessary to further restrict the use of gas to meet

the emergency, domestic consumers may be limited to the use of thirty-five thousand (35,000) cubic feet per month, in one building, or for one family.

6. A copy of these regulations shall be furnished by each natural gas company to its consumers not later than June 15, 1918.

7. Consumers who do not promptly disconnect or curtail, in accordance with these rules and regulations, when notified by the utility that it is necessary so to do, shall, upon discovery, be wholly disconnected from the service until the emergency is passed."

212 In testimony whereof, I have hereunto subscribed my name and affixed the official seal of The Public Utilities Commission of Ohio at Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of the Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

213 OHIO EXHIBIT 8.

Offered at p. 681 of Printed Record by Witness Denning.

Administration Order, Public Utility Commission of Ohio, Relative to Discontinuing Gas to Industrial Consumers.

214 OHIO EX. #8.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretary of The Public Utilities Commission of Ohio, in whose custody the books, papers, records, documents and files of said Commission are kept, hereby certify that at a regular session of The Public Utilities Commission of Ohio, held at Columbus, Ohio, upon the tenth day of June, 1919, at which Messrs. Charles C. Marshall (Chairman), Beecher W. Waltermire and Byron M. Clen Dening, Commissioners, were present, such Commission dopted the following order, which was thereupon served upon each and every Natural Gas Company furnishing service to consumers within the State of Ohio:

Administrative Order No. 41.

"The Commission again having under consideration the probable inability of the natural gas companies to furnish an adequate supply to all consumers during the coming winter season:

It is

Ordered, That Administrative Order No. 34, promulgated by this Commission under date of May 21, 1918, be, and hereby it is re-

newed and continued in full force and effect for the further perio of one year, with the modification that instead of being required t furnish its consumers with a copy of said order, each natural ga company operating in the State of Ohio shall give notice to eac consumer of the extension of said order not later than July 1 1919."

In testimony whereof, I have hereunto subscribed my name an affixed the official seal of The Public Utilities Commission of Ohi at Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of the Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

215 OHIO EXHIBIT 9.

Office of the Public Utilities Commission of Ohio.

Administrative Order, Public Utility Commission of Ohio, Relati to Discontinuing Gas to Industrial Consumers.

216 OHIO EX. #9.

Office of the Public Utilities Commission of Ohio.

I, J. E. Baird, the duly appointed, qualified and acting Secretar of The Public Utilities Commission of Ohio, in whose custody th books, papers, records, documents and files of said Commission ar kept, hereby certify that at a regular session of The Public Utilitie Commission of Ohio, held at Columbus, Ohio, upon the 12th da of August, 1920, at which Messrs. Charles C. Marshall (Chairman Beecher W. Waltermire and Byron M. Clen Dening, Commissioners were present, such Commission adopted the following order, whic was thereupon served upon each and every Natural Gas Compan furnishing service to consumers within the State of Ohio:

"Administrative Order No. 46.

The Public Utilities Commission, having under consideration th inability of natural gas companies to furnish an adequate supply t all their consumers during severe weather, and the necessity o formulating more definite rules for the guidance of such public utility companies in disconnecting industrial and other consumer from the service, when necessary, during an emergency, to conserv the supply for domestic consumers, and the order in which discon nections should be made, as well as the order in which the service should be restored when the emergency is passed, hereby adopts th following rules and regulations, to-wit:

1. That for the purpose of disconnecting or curtailing service t consumers during an emergency, all consumers of natural gas are

ivided into two general classes, namely: Domestic Consumers and ndustrial Consumers.

2. That domestic consumers, for such purposes, include the users f natural gas for heating, lighting and cooking in private homes, oarding houses, and apartment houses; the users of natural gas for ighting and cooking only, in hotels, restaurants, bakeries, eating laces, club houses, hospitals and other charitable institutions, and n places of like kind where the element of human welfare is the redominating requirement.

3. That all other consumers shall be designated as "Industrial Consumers"; but for the purposes of disconnecting or cur-
217 tailment during an emergency, the following subdivisions of industrial consumers may be made, in cases where there is nore than a sufficient supply of gas for domestic consumers as herein pecified, but not a sufficient supply for all industrial consumers:

A. Users who are not included in the domestic consumers' class, s herein specified, but who are engaged in preparing or preserving oodstuff, or food producing plants, for such purposes only.

B. Users of gas in gas engines.
(1. Those using 150,000 cu. ft. or less per month.
(2. Those using more than 150,000 cu. ft. per month.

C. All other industrial consumers.

When there is not sufficient gas for all industrial consumers, as herein defined, the surplus shall be furnished to industrials in the order above named.

4. This classification is subject to the following exceptions: Where natural gas is being used in limited quantities for scientific, experimental, or mechanical purposes, and where other means of producing light and heat for such purposes cannot be reasonably substituted, an amount essential to such use, but not to exceed ten thousand (10,000) cubic feet per month to each consumer so engaged may be used for such purposes only, and as if they were included in the class of domestic consumers herein specified.

5. If, after disconnecting all industrial consumers, there is not a sufficient supply of gas for the domestic consumers, then all boilers and furnaces not provided with gas fixtures and appliances primarily designed for burning natural gas as a fuel shall be disconnected, and if it becomes necessary to further restrict the use of gas to meet the emergency, domestic consumers may be limited to the use of thirty-five thousand (35,000) cubic feet per month, in one home, or for one family.

6. Realizing the necessity of conserving natural gas, and that, to
do so, it should be used in the most economical manner, the
218 Commission recommends that all distributing companies make a special study of the best methods of using the same,

and of the most economical appliances which have been designed for such use, and that they notify their consumers of their willingness to make free inspection of premises and give free advice as to such changes, if any, in their present fixtures and appliances as will accomplish that purpose, together with an estimate of the cost of the same; but no such company shall have authority to require any such changes to be made. Any gross wasteful use of gas by a consumer should be reported to the Commission.

7. A copy of these regulations shall be furnished by each natural gas company to its consumers not later than September 1, 1920.

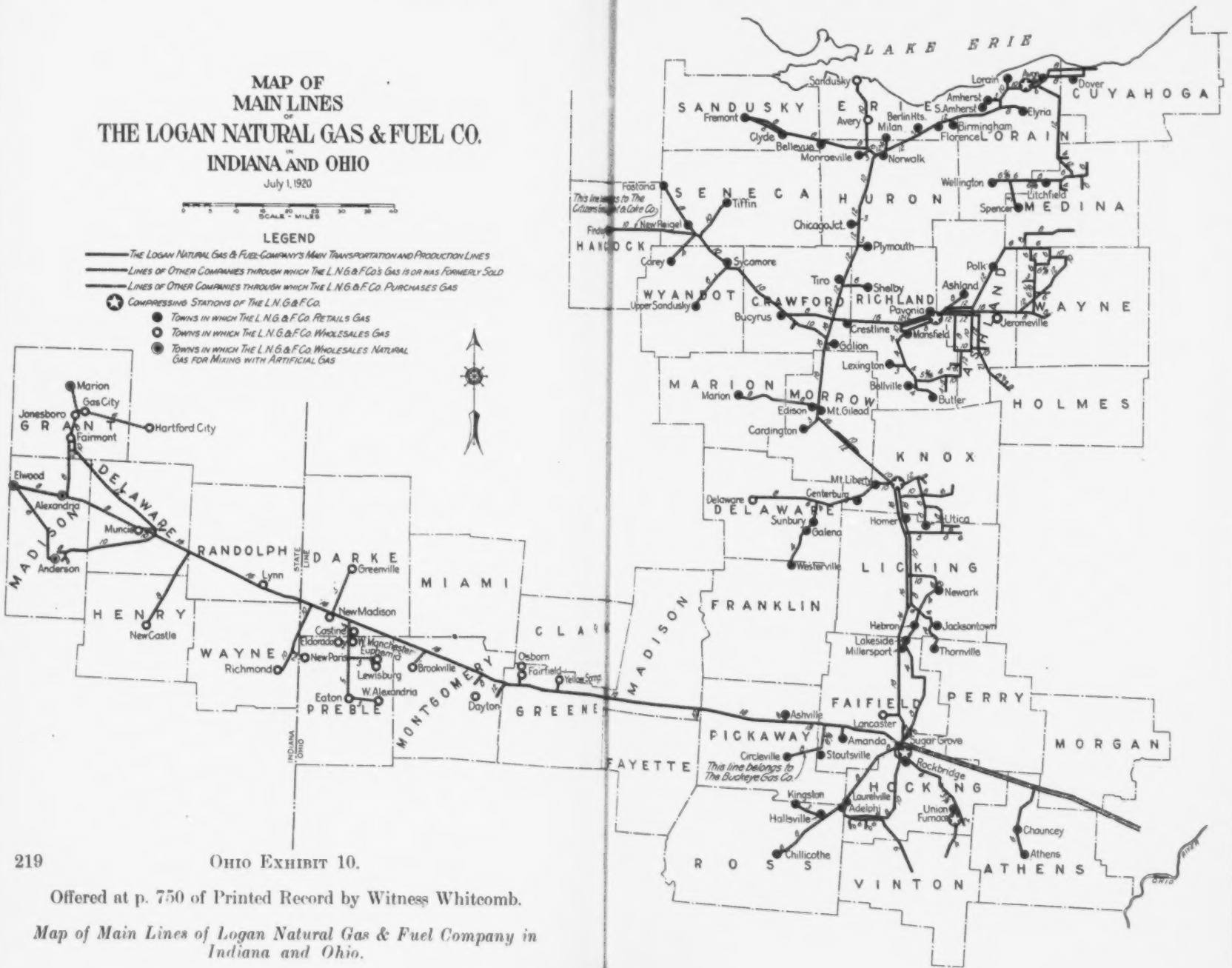
8. Consumers who do not promptly disconnect or curtail, in accordance with the rules and regulations, when notified by the utility that it is necessary so to do, shall, upon discovery, be wholly disconnected from the service until the emergency is passed.

In testimony whereof, I have hereunto subscribed my name and affixed the official seal of The Public Utilities Commission of Ohio at Columbus, Ohio, this eleventh day of July, A. D. 1921.

[Seal of The Public Utilities Commission of Ohio.]

J. E. BAIRD,
Acting Secretary the Public Utilities Commission of Ohio.

(Here follows map of main lines of Logan Natural Gas & Fuel Company in Indiana and Ohio, marked page 219.)



219 OHIO EXHIBIT 10.

Offered at p. 750 of Printed Record by Witness Whitcomb.

Map of Main Lines of Logan Natural Gas & Fuel Company in Indiana and Ohio.

Vol. IV.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1931.

~~17-18~~ 15-16

Nos. [redacted], Original.

THE COMMONWEALTH OF PENNSYLVANIA,
COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

EXHIBITS, VOL. II.

West Virginia, 1-60.

FILED

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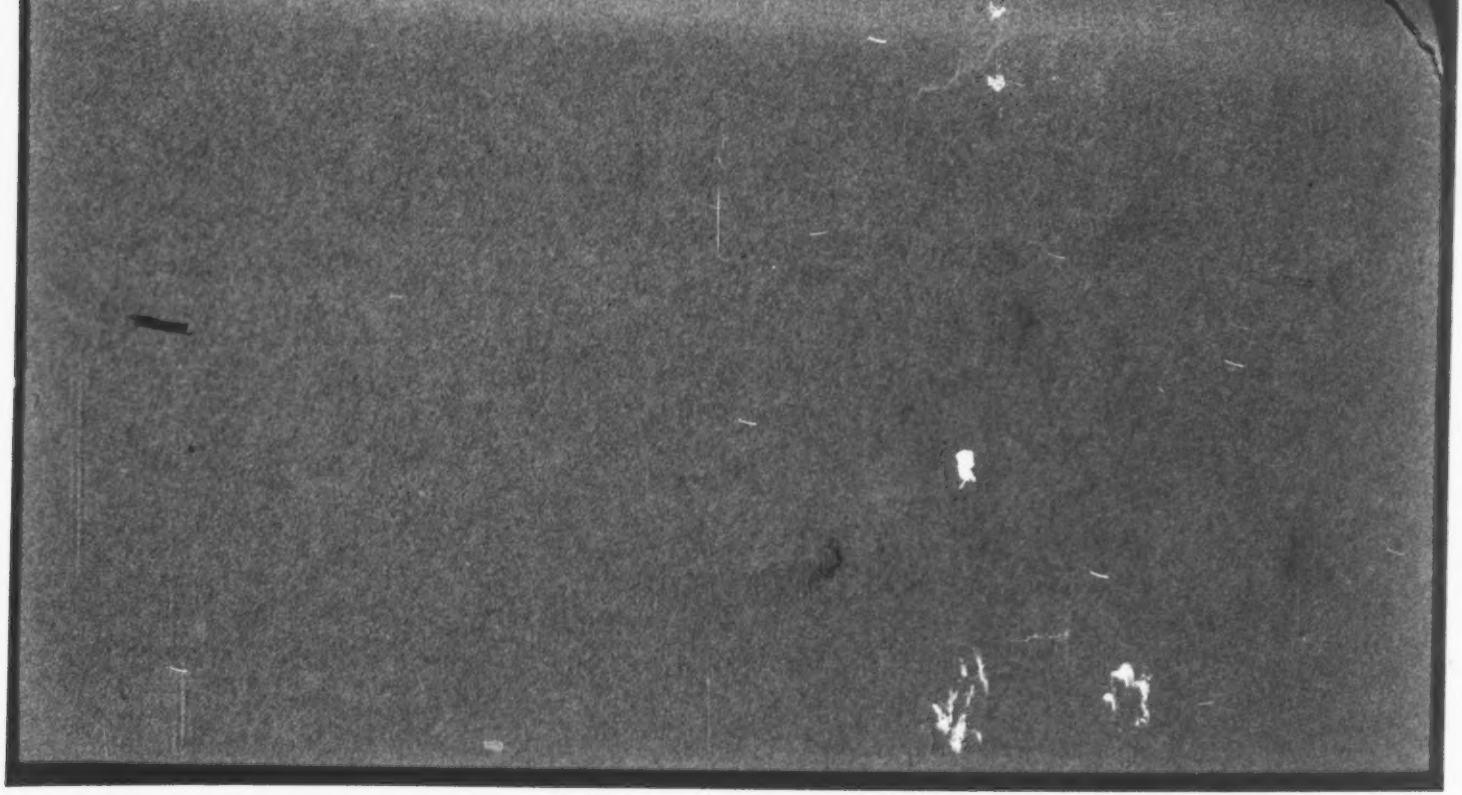

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

Nos. 20-21, Original.

THE COMMONWEALTH OF PENNSYLVANIA, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

VOLUME II OF EXHIBITS.

TABLE OF CONTENTS.

West Virginia exhibit number		Offered in printed record at page	Offered by witness	Shown in this book at
1	Gas purchase agreement: Hope Natural Gas Company and Manufacturers Light & Heat Company.	138	Quay....	Page 1712
2	Hope and L., F. and P. Co.'s agreement.	284	Sullivan.	" 1724
3	Pittsburgh, W. Va. & Equitable Co.'s agreement number 1.	529	Reed....	" 1729
4	Pittsburgh, W. Va. & Equitable Co.'s agreement number 2.	529	Reed....	" 1732

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., MAY 19, 1920.

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
5	Pittsburgh, W. Va. & Equitable Co.'s agreement number 3.	529	Reed....	"	1733
6	Pittsburgh, W. Va. & Equitable Co.'s agreement number 4.	529	Reed....	"	1735
7	Monthly production report to Public Service Commission.	984	Nease....	Folio	268
8	Monthly transportation report to the Public Service Commission.	984	Nease....	"	269
9	Hope Report, Board of Public Works.	988	Nease....	"	270 to 288
10	Pittsburgh & W. Va. report, Board of Public Works.	988	Nease....	"	289 to 305
11	United Fuel Gas Company report, Board of Public Works.	988	Nease....	"	306 to 321
12	Reserve Gas Company report, Board of Public Works.	988	Nease....	"	322 to 336
13	Carnegie Natural Gas Company report, Board of Public Works.	988	Nease....	"	337 to 350
14	Columbia Gas & Electric Company report, Board of Public Works.	988	Nease....	"	351 to 364
15	Manufacturers Light & Heat Company report, Board of Public Works.	988	Nease....	Folio	365 to 378
16	Statement showing supply of natural gas produced and acquired within West Virginia by the Hope N. G. Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Co., Carnegie Gas Co., Columbia Gas & Electric Co., and Manufacturers Light & Heat Co., combined for seven Co.'s. NOTE.—This includes 16-A to 16-I.	995	Nease....	"	379 to 388
17	Statement showing acreage of natural gas territory held within W. Va. by the Hope Natural Gas Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Company, Carnegie Natural Gas Co., Columbia Gas &	998	Nease....	"	390 to 400

West Virginia Exhibit Number		Offered in printed record at page	Offered by witness		Shown in this book at
	Electric Co., and Manufacturers Light & Heat Co., combined for the seven companies. NOTE.—This includes 17-A to 17-K.				
18	Statement showing number of consumers within W. Va. furnished natural gas by the Hope Natural Gas Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Company, Carnegie Natural Gas Co., Columbia Gas & Electric Co., and Manufacturers Light & Heat Co., combined for the seven companies. NOTE.—This includes 18-A to 18-J.	1015	Nease....	"	402 to 412
19	Statement showing distribution of their net supply of W. Va. natural gas by the Hope Natural Gas Co., Pittsburgh & W. Va. Gas Co., United Fuel Gas Company, Reserve Gas Co., Carnegie Natural Gas Co., Columbia Gas & Electric Company, and Manufacturers Light & Heat Co., combined for the seven companies. NOTE.—This includes 19-A to 19-I.	1018	Nease....	"	414 to 423*
20	Chart showing consumption of natural gas for industrial purposes in W. Va., including gas sold in Maryland, 1914 to 1918.	1095	Krebs....	Folio	438
21	Chart showing consumption of natural gas for industrial purposes in W. Va., exclusive of Maryland, 1914 to 1918.	1095	Krebs....	"	439
22	Diagram of production and consumption of natural gas in State of Pennsylvania, 1914 to 1918.	1102	Krebs....	"	440

*The folio numbers jump from 423 to 438.

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
23	Chart showing consumption of natural gas for industrial purposes in State of Pennsylvania, 1914 to 1918.	1108	Krebs....	"	441
24	Diagram of production and consumption of natural gas in Ohio, 1914 to 1918.	1105	Krebs....	"	442
25	Chart showing consumption of natural gas for industrial purposes in Ohio, 1914 to 1918.	1106	Krebs....	"	443
26	Diagram of production and consumption of natural gas in Indiana, 1914 to 1918.	1107	Krebs....	"	444
27	Chart showing consumption of natural gas for industrial purposes in Indiana, 1914 to 1918.	1109	Krebs....	"	445
28	Diagram of production and consumption of natural gas in Kentucky, 1914 to 1918.	1110	Krebs....	"	446
29	Chart showing consumption of natural gas for industrial purposes in Kentucky, 1914 to 1918.	1111	Krebs....	"	447
30A	Map showing the location of gas pipe lines and compressor and measuring stations in W. Va.	1115	Krebs....	"	448
31	Diagram of production and consumption of natural gas in W. Va., including gas sold in Maryland, 1914 to 1918.	1121	Krebs....	Folio	449
32	Diagram of production and consumption of natural gas in W. Va., exclusive of Maryland, 1914 to 1918.	1121	Krebs....	"	450
33	Indenture by the Wheeling Natural Gas Co. and others to the Hope Natural Gas Co., June 27, 1911.	1171	Nease....	Page	1737
34	Indenture by the Mountain State Gas Co. to the Hope Natural Gas Co., April 1, 1910.	1173	Nease....	"	1737
35	Agreement, dated July 5, 1913, between United Fuel Co. and Louisville Gas & Elec. Co.	1190	Wallace..	"	1738

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
36	United Fuel Gas Co. and Portsmouth Co.'s agreement.	1199	Wallace..	"	1745
37	United Fuel Gas Co. and Central Ky. Co.'s agreement.	1199	Wallace..	"	1752
38	United Fuel Gas Co. and Ohio Fuel Sup. Co.'s agreement.	1199	Wallace..	"	1761
39	United Fuel Gas and Hope Natural Gas Co.'s agreement.	1199	Wallace..	"	1769
40	United Fuel Gas and Hope Natural Gas Co.'s agreement.	1199	Wallace..	"	1777
41	United Fuel Gas and Pittsburgh Co.'s agreement.	1199	Wallace..	"	1780
42	United Fuel Gas and Pittsburgh Co.'s agreement.	1199	Wallace..	"	1788
43	Columbia Gas & Electric and United Fuel Gas Co.'s agreement.	1199	Wallace..	"	1791
44	Columbia Gas & Electric and Ohio Fuel Supply Co.'s agreement.	1199	Wallace..	"	1800
45	Reserve Gas Co. vs. McKinley (condemnation proceeding).	1215	Allman..	"	1802
46	Hope Natural Gas Company vs. Rhodes (condemnation proceeding).	1217	Coffman.	Page	1821
47	Pittsburgh & W. Va. Gas Co. vs. Morrison (condemnation proceeding).	1217	Coffman.	"	1843
48	Philadelphia Co. of W. Va. vs. Curry (condemnation proceeding).	1217	Coffman.	"	1856
49	Carnegie Natural Gas Co. vs. Swiger (condemnation proceeding).	1217	Coffman.	"	1875
50	Fairmont & Grafton Gas Co. vs. Thompson (condemnation proceeding).	1217	Coffman.	"	1895
51	Wheeling Natural Gas Company vs. Tennant (condemnation proceeding).	1363	.....	"	1905
52	Highway franchises.....	1364	.....	"	1917
53	Hope Natural Gas Co. rate application.	1364	.....	"	1922
54	United Fuel Gas Co. rate application.	1364	.....	"	1929
55	Pittsburgh & W. Va. Gas Co. rate application.	1364	.....	"	1934
*	Reserve Gas Co. rate application.	1364	.....	"	1938

* The fo.. tion.

West Virginia exhibit number		Offered in printed record at page	Offered by witness		Shown in this book at
57	Reserve Gas Co. rate order...	1364	.....	"	1939
58	Manufacturers Light & Heat Co. rate application.	1365	.....	"	1940
59	Manufacturers Light & Heat Co. rate order.	1365	.....	"	1942
60	Pennsylvania Public Service Commission's orders.	1368	.....	"	1944

SUPREME COURT OF THE UNITED STATES

Nos. 20 and 21, Original.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

EXHIBITS, VOLUME II.

WEST VIRGINIA EXHIBITS Nos. 1 TO 60.

(SEE INDEX)

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* The fo...

221

Index to West Virginia Exhibits.

Agreements: Page.

Columbia & Ohio Fuel Cos., Ex. Nos. 43-44..... ....
Hope & Mfg. Cos., Ex. No. 1..... ....
Hope & L. F. & P. Cos. Ex. No. 2..... ....
Hope & United Fuel Cos., Ex. Nos. 39-40..... ....
Pgh. & W. Va. and Equitable Cos. Ex. Nos. 3, 4, 5, 6.. ....
United Fuel & Louisville Cos., Ex. No. 35..... ....
United Fuel & Portsmouth Cos., Ex. No. 36..... ....
United Fuel & Central Ky. Cos., Ex. No 37..... ....
United Fuel & Ohio Fuel Cos., Ex. No. 38..... ....
United Fuel & Hope Cos., Ex. Nos. 39-40..... ....
United Fuel & Pgh. Cos., Ex. Nos. 41-42..... ....
United Fuel & Columbia Cos., Ex. Nos. 43-44..... ....

Charts (see also statements):

Ind. con. in W. Va., inc. Md., Ex. No. 20..... ....
Ind. con. in W. Va., exc. Md., Ex. No. 21..... ....
Prod. and con. in Pa., 1914-1918, Ex. No. 22..... ....
Con. for ind. in Pa., 1914-1918, Ex. No. 23..... ....
Prod. and con. in Ohio, 1914-1918, Ex. No. 24..... ....
Con. for ind. in Ohio, 1914-1918, Ex. No. 25..... ....
Prod. and con. in Ind., 1914-1918, Ex. No. 26..... ....
Con. for ind. in Ind., 1914-1918, Ex. No. 27..... ....
Prod. and con. in Ky., 1914-1918, Ex., No. 28..... ....
Con. in Ky., 1914-1918, Ex. No. 29..... ....
Prod. and con. in W. Va. inc. gas sold Md. Ex. No. 31.. ....
Prod. and con. in W. Va. exc. gas sold Md. Ex. No. 32.. ....

Condemnations:

Carnegie Co. v. Swiger, Ex. No. 49..... ....
Fairmont Gas Co. v. Thompson, Ex. No. 50..... ....
Hope Gas Co. v. Rhodes, Ex. No. 46..... ....
Pgh. & W. Va. Co. v. Morrison, Ex. No. 47..... ....
Phila. Co. v. Currey, Ex. No. 48..... ....
Reserve Gas Co. v. McKinley, Ex. No. 45..... ....
Wheelng Gas Co. v. Tennant, Ex. No. 51..... ....

Deeds:

Mountain State Co. to Hope Co., Ex. No. 34..... ....
Wheeling Gas Co. to Hope Co., Ex. No. 33..... ....

Franchises over Highways: Ex. No. 52..... ....
Highway Franchises: Ex. No. 52..... ....
Maps: Eight Companies' Lines, Ex. No. 30..... ....
Pa. Public Service Commission Orders: 20 Cases, Ex. No. 60. ....
Rate Applications:

Page.

Hope Gas Co., Ex. No. 53 ....
Mfg. L. & H. Co., Ex. Nos. 58-59 ....
Pgh. & W. Va. Co., Ex. No. 55 ....
Reserve Gas Co., Ex. Nos. 56-57 ....
United Fuel Gas Co., Ex. No. 54 ....

222

Reports:

Annual Reports to Board Public Works, W. Va. ....
Carnegie Gas Co., Ex. No. 13 ....
Columbia G. & E. Co., Ex. No. 14 ....
Hope Gas Co., Ex. No. 9 ....
Mfg. L. & H. Co., Ex. No. 15 ....
Pgh. & W. Va. Co., Ex. No. 10 ....
Reserve Gas Co., Ex. No. 12 ....
United Fuel Gas Co., Ex. No. 11 ....
Form of Monthly Report to P. S. Com., W. Va., Ex. No. 7 ....
Form of Transportation Report to P. S. Com., W. Va., Ex. No. 8 ....

Statements:

Acreage, 7 Cos., 1910-1919, Ex. No. 17 ....
Same, by years, 1919-1910, Ex. Nos. 17*a* to 17*j* ....
Consumers in W. Va., 7 Cos., 1910-1919, Ex. No. 18 ....
Same, by years, 1919-1910, Ex. Nos. 18*a* to 18*j* ....
Distribution W. Va. Supply 7 Cos., 1911-1919, Ex. No. 19 ....
Same, by years, 1919-1911, Ex. Nos. 19*a* to 19*j* ....
Supply produced, etc., W. Va., 7 Cos., 1911-1919, Ex. No. 16 ....
Same, by years, 1919-1911, Ex. Nos. 16*a* to 16*i* ....

223 HOPE AND MFG. CO'S AGREEMENT, W. VA. EX. 1.

(Copy.)

(Original Rtd. to Gas Co.)

EXHIBIT WEST VIRGINIA NO. 1. J.

Gas Purchase Agreement.

Hope Natural Gas Company & the Manufacturers Light and Heat Company.

224 This agreement, Made this 1st day of May, A. D. 1910, by and between the Hope Natural Gas Company, a corporation organized and existing under the laws of the State of West Virginia

after called the "Hope Company," and The Manufacturers and Heat Company, a corporation organized and existing the laws of the State of Pennsylvania, hereinafter called the ıfacturers Company,"

nesseth: the Hope Company owns or holds under leases exten- acts of gas-producing territory in the State of West Virginia, vns pipe lines for the transportation of gas from the wells or where same is received from other producers to various points, engaged in the business of producing natural gas and purchas- e same from other producers and selling and delivering the o companies engaged in the business of distributing natural ıd also, through its distributing systems in the State of West ia, to domestic consumers, manufacturers and other consumers ıral gas in that state, and

ıreas, the Hope Company is desirous of extending its natural siness and its markets for the sale of natuarl gas, and

Whereas, the Manufacturers Company owns substantially all of the Capital Stock of the following Companies, to wit:

Manufacturers Light & Heat Company, a corporation organ- ed under the laws of West Virginia;
eling Natural Gas Company;
State Gas Company;
Wetzel Gas Company;
Ohio Valley Gas Company;
Cumberland Water & Gas Company;

e said Manufacturers Company, and the companies aforesaid it controls, owns systems for the distribution and sale of nat- s in the following cities and towns:

burg,
gheny,
hington,
opolis,
evue,
ckley,
ıester,
Brighton,
er,
Castle,
ton,
Liverpool,
sburg,
benville,
ire,
xville,
eling,
Martinsville,
egie,
onald,

and a large number of other cities and towns in the States of West Virginia, Ohio and Pennsylvania, and

Whereas, the Manufacturers Company and the companies which it controls require for the supply of the domestic consumers
226 and other consumers upon the verious distributing systems which said companies own, a large and regular supply of natural gas, and

Whereas, the said companies have heretofore been obtaining the natural gas requisite for the supply of their consumers in part from gas territory leased by one or other of said Companies, and in part under contracts made from time to time with producers on or near lines of pipe owned by one or other of said Companies; but the continuance of an adequate and regular supply of gas from the sources aforesaid could be insured only by large additional investments in gas territory and large and continued expenditures in the construction of additional pipe lines, and

Whereas, contemporaneously with this agreement the Hope Company has purchased or taken over such pipe lines, gas leases and existing contracts for the purchase of gas, as in view of this agreement the said Companies desire to dispose of, and

Whereas, the Manufacturers Company deems that this agreement, together with the gas territory and contracts with other parties for the purchase of gas which are still retained by the Manufacturers Company and the Companies which it controls, will insure to said Companies an adequate, reliable and regular supply of gas for the supply of their consumers;

227 Now, therefore, in consideration of the premises and of the mutual agreements hereinafter contained, the parties hereto agree as follows:

First. From May 1st, 1910, to October 31st, 1910, both dates inclusive, the Hope Company will sell and deliver to the Manufacturers Company, and the Manufacturers Company will purchase and take from the Hope Company on each and every day at least twenty-two million five hundred thousand (22,500,000) cubic feet of natural gas. From November 1st, 1910, to April 30th, 1911, both dates inclusive, the Hope Company will sell and deliver to the Manufacturers Company, and the Manufacturers Company will purchase and take from the Hope Company on each and every day at least forty-five million (45,000,000) cubic feet of natural gas.

From May 1st, 1911, until the expiration of this contract, the Hope Company will sell and deliver to the Manufacturers Company, and the Manufacturers Company will purchase and take from the Hope Company in each year an amount of natural gas at least equal to the amount of natural gas deemed requisite to supply during such year the domestic consumers upon the distributing systems now owned by the Manufacturers Company and the companies which it controls.

Second. Not less than thirty (30) days prior to May 1st, 1911, and not less than thirty (30) days prior to May 1st in each year

during the continuance of this contract, subsequent to May 1st, 1911, the engineers of the parties hereto shall, if possible, agree upon the amount that will be requisite for the supply he domestic consumers aforesaid during the year commencing on May 1st succeeding the time of such agreement. If such agree- t is reached, the amount agreed upon shall be the amount of nat- gas deliverable hereunder during the year as to which such ement is made, unless the parties hereto shall mutually agree a larger amount, in which case such larger amount shall be the unt deliverable hereunder during such year; in case the engi- s of the parties hereto are unable to agree upon the amount that be requisite to supply the consumers aforesaid during any year, no agreement is made between the parties hereto as to the unt to be delivered during such year, the amount deliverable nder during such year shall be the amount which was found sary to supply the consumers aforesaid during the previous year, six per cent (6%) of such amount.

the time of the agreement between the parties hereto as to the nt of gas to be delivered hereunder during any year, said engi- shall, if possible, agree upon the proportion of the total amount rable during such year which is to be delivered during each h of such year, provided, however, that the amount to be deliv- from May 1st to October 31st, inclusive, during such year, shall least one-half of the amount to be delivered between November 1st and April 30th, inclusive, in *in* such year; in case the en- gineers of the parties are unable to agree upon the amounts to be delivered during each month of the year, the proportion total amount deliverable during such year, which shall be de- ble during each month of such year shall be as follows:

th.	Per cent.
y	7½
e	4¾
r	4½
gust	4½
tember	4¾
ober	7½
ember	10½
ember	12
uary	12½
ruary	12
ch	11
il	8½

amount deliverable each month shall be delivered and taken ghout the month, approximately equal amounts being delivered ken each day;

vided, however, that the Manufacturers Company shall have ght to reduce or increase the amount to be delivered during onth so long as the amount delivered and taken is between

95 per cent and 105 per cent of the amount deliverable during such month, determined as hereinbefore provided, and shall have the right to increase or reduce the amount of gas to be delivered on any day of a month so long as the amount delivered and taken on the said day is between 90 per cent and 110 per cent of the average amount per day deliverable during the month, determined as
230 hereinbefore provided; it being understood that the Manufacturers Company shall take during each year the full amount deliverable during such year, determined as hereinbefore provided, and shall take each month at least 95 per cent of the amount deliverable during such month.

Third. The gas deliverable hereunder shall be delivered by the Hope Company and taken by the Manufacturers Company at measuring stations to be located at Sedalia, Doddridge County, West Virginia, and at Morgan, Marion County, West Virginia, and at or near Iuka, Tyler County, West Virginia, and at such other points as may from time to time be agreed upon between the parties hereto; the engineers of the parties hereto shall from time to time agree upon the proportion of such gas to be delivered at each of said stations; in case of the failure of the engineers so to agree, the Hope Company shall deliver the gas at each station in the proportions designated by the Manufacturers Company in so far as it can make such delivery from its current sources of supply without additional investment in pipe lines, compressing stations or transportation facilities.

It is agreed, however, that the Hope Company only undertakes to deliver at Iuka the proportion of gas deliverable and to be taken by the Manufacturers Company at the station at or near Iuka, during the term of the contract between The Freehold Oil & Gas
230½ Company, of the one part, and the Tri-State Gas Company, of the other part, bearing date the 21st day of September, 1909, the Manufacturers Company agreeing to comply with the terms of said contract.

The amount of gas furnished and delivered hereunder at each point of delivery shall be determined as follows: Readings of the Pitot tubes and pressure gauges hereinafter provided for shall be made at regular fifteen-minute intervals throughout the twenty-four hours of each day, and duplicate statements of the readings shall be mailed daily to the Hope Company and to the Manufacturers Company; from such readings of the measuring tubes the amount of natural gas furnished and delivered each month shall be computed on the basis of ten ounces pressure above atmospheric according to Boyle's Law for the measurement of gas at varying pressures. This method of measurement is hereby adopted as the basis of measurement for the purposes of this contract, and payment for gas shall be made upon the monthly statements rendered by the Hope Company to the Manufacturers Company showing the total computation of gas so measured during the month.

Such gas shall be delivered by the Hope Company at the points of delivery at a pressure of at least sixty pounds; and shall be delivered

against the varying pressures in the lines of the Manufac-
31 ers Company not exceeding 200 pounds, so far as such de-
livery can be made under natural pressure from the wells
ithout resorting to artificial means of compression.

The Pitot tubes for the measurement of the gas deliverable here-
nder shall be of standard type. The Hope Company will erect or
use to be erected measuring stations at the points of delivery. All
pparatus and equipment to be installed and operated in said sta-
ons, and the character and efficiency thereof shall be satisfactory to
th parties hereto. One-half the cost of erecting and equipping
d stations shall be paid to the Hope Company by the Manu-
turers Company.

Said stations, equipment and apparatus shall be operated jointly
both companies and the expense of operating and maintaining
d stations after the same shall have been completed and equipped
d in working order, and the expense of checking the operation and
gistration of the measuring apparatus shall be equally divided be-
een the parties hereto.

Fourth. For the purposes of this agreement domestic consumers
ll be deemed to include all such consumers of gas as according
the present system of accounts used by the Manufacturers Com-
pany are classed as domestic consumers.

2 Fifth. The Manufacturers Company, on or before the
tenth day of each month during the continuance of this
tract shall furnish to the Hope Company a statement showing
amount of gas supplied by the Manufacturers Company and
the companies which it controls, during the preceding month,
lomestic consumers upon the systems now owned or controlled by
l companies. Whenever practicable, the amount of natural gas
plied to any such consumers shall be measured by meters of
ndard type.

All meters used for measuring gas delivered to domestic consum-
shall be at all times open to the inspection of the representatives
he Hope Company, and all books and records of the Manufac-
rs Company and of the companies which it controls, shall, like-
e be open to the inspection of the representatives of the Hope
npany at all reasonable times.

ixth. The Manufacturers Company shall pay the Hope Com-
y for all gas delivered hereunder as follows:

all natural gas delivered from May 1st, 1910,
October 31st, 1910, inclusive..... 7½¢ per M cu. ft.
all natural gas delivered from November 1st,
910, to April 30th, 1911, inclusive..... 8¢ per M cu. ft.
all natural gas delivered from May 1st, 1911,
April 30th, 1912, inclusive..... 9¢ per M cu. ft.
all natural gas delivered from May 1st, 1912,
to April 30th, 1913, inclusive..... 10¢ per M cu. ft.
For all natural gas delivered from May
1st, 1913, to April 30th, 1914, inclusive 11¢ per M cu. ft.

For all natural gas delivered from May 1st, 1914, to April 30th, 1915, inclusive..... 12¢ per M cu. ft.
For all natural gas delivered from May 1st, 1915, to April 30th, 1916, inclusive..... 13¢ per M cu. ft.
For all natural gas delivered from May 1st, 1916, to April 30th, 1917, inclusive..... 14¢ per M cu. ft.

and for all natural gas delivered hereunder on and after May 1st, 1917, a price equal to fifty per cent (50%) of the average price realized by the Manufacturers Company and the companies which it controls, for natural gas sold to domestic consumers; Provided, however, that the price paid to the Hope Company shall not be less than fifteen cents (15¢) per thousand cubic feet of gas delivered by the Hope Company to the Manufacturers Company; and provided, further, that in case any tax or assessment is hereafter imposed on natural gas for use in or export from the State, or on the sale or exportation from the State of natural gas, or in any other manner so as to constitute in effect a charge upon the gas delivered hereunder, the amount of such tax or assessment or charge shall be borne by the Manufacturers Company in so far as it affects or relates to or is apportionable to the natural gas deliverable hereunder; and in the event that the Hope Company is required to pay the same, the amount thereof shall be paid by the Manufacturers Company to the Hope Company in addition to the prices above stated; and provided further that in case at any time or
234 times after April 30th, 1917, general conditions affecting the cost of producing natural gas have so changed that the cost of gas to the Hope Company is materially increased, or by reason of it being necessary for the Hope Company to obtain same from greater distances, the cost of obtaining and delivering the same is materially increased, the prices hereinabove specified to be paid to the Hope Company shall be correspondingly increased and that if the parties hereto are unable to agree as to the proper amount of such increase, the question of the proper amount thereof shall be submitted to arbitration and the prices thereafter to be paid by the Manufacturers Company shall be the prices as fixed by such agreement or arbitration.

Seventh. The obligation of the Hope Company to deliver gas hereunder shall be limited to the amount which it is currently able to supply from its own production and such current contracts as it may then have for the purchase of gas, consistently with its present or future contracts with other purchasers, provided, however, that until the present floating indebtedness of the Manufacturers Company is paid off, if it is paid off within seven years from May 1st, 1910, or if such floating indebtedness is not paid off within said seven years, then, until the expiration of said seven years, the Hope Company will supply to the Manufacturers Company under this agreement a proportion of its production of gas
235 not exceeding the domestic consumption of the Manufacturers Company and of the companies controlled by the Manufacturers Company at least equal to the proportion which the num-

ber of domestic consumers supplied by the Manufacturers Company and its subsidiary companies bears to the total number of domestic consumers on all the systems then obtaining their supply of gas from the Hope Company, including the system of the Manufacturers Company and its subsidiary companies. And that after said floating indebtedness has been paid off or said seven years have expired, the Hope Company is to have the right to supply its own domestic consumers in West Virginia, and to supply The East Ohio Gas Company and The Peoples Natural Gas Company to the extent of their requirements for domestic consumers upon the systems now owned or supplied by said companies, in preference to the Manufacturers Company, but otherwise is not to give other purchasers a preference over the Manufacturers Company. It is understood that said preference to The East Ohio Gas Company and The Peoples Natural Gas Company shall not include consumers hereafter obtained by the purchase, absorption or merger of other companies or lines, or by extraordinary extensions of the lines of said companies, but only the ordinary growth and accretions of natural gas companies in the territory now occupied by said companies.

Eighth. The Manufacturers Company will use its best efforts to develop and extend the distribution and sale of natural gas to 36 domestic consumers both on its own systems and on the systems of the companies which it controls, and to this end will make such solicitations and demonstrations as are reasonable and customary to induce the greater consumption of natural gas, and will introduce and furnish such appliances for its uses on reasonable terms; and will at all times during the continuance of this contract use every endeavor to secure domestic consumers and to build up and extend the sale of gas for domestic purposes.

Ninth. At all times during the continuance of this contract, the transportation and distribution of natural gas by the Manufacturers Company, and its transportation and distributing system, and the transportation and distribution of natural gas by each of the controlled companies, and the transportation and distributing systems of each of such companies shall be in charge of an officer appointed by the Board of Directors and subject only to the Board.

Tenth. The Manufacturers Company agrees to set aside and deposit with the Colonial Trust Company or some other trust company or financial institution to be selected by the Manufacturers Company, the sum of Two hundred thousand dollars ($200,000.00) and agrees that all of said sum shall be expended under the direction of the officer to be appointed by the Manufacturers Company pursuant to the preceding paragraph hereof, in the improvement and betterment of its distributing system or the distributing systems of the companies which it controls; and until paid out for such purposes upon the order of such officer, shall remain on deposit with the Colonial Trust Company, or the elected depository; provided, however, that in case John L. Porter, George W. Crawford and John G. Pew, or a majority of them,

shall report in writing to the Manufacturers Company and to the Colonial Trust Company that a smaller amount than two hundred thousand dollars ($200,000.00) is sufficient to effect the requisite improvements and betterments in said distributing systems, the excess over the amount reported by them to be requisite for such purposes shall be at once repaid to the Manufacturers Company.

Eleventh. In case of the acquisition at any time hereafter by the Manufacturers Company or by any of the companies which it controls of an additional distributing system or of stock representing such system, and requiring an additional domestic supply, the amount of natural gas requisite for the supply of the domestic consumers on such system not obtainable from properties or under contracts appurtenant to and taken over in connection with such system, shall, at the option of the Hope Company, be added to the amount of gas to be purchased and taken hereunder; provided, however, that the Hope Company shall, in case of any such system, exercise
238 such option within sixty days after written notice from the Manufacturers Company requiring it so to do.

Twelfth. If at any time during the continuance of this contract the requirements of the Manufacturers Company and the Companies which it controls, exceed the amounts of gas deliverable by the Hope Company hereunder or obtainable by said companies under contracts which they now have with other parties for the purchase of gas, or obtainable from territories now owned or leased by them, the Manufacturers Company will purchase from the Hope Company the amount of such excess requirements so far as the Hope Company is willing to supply the same on terms as favorable to the Manufacturers Company as those on which the same can be obtained from other sources.

Thirteenth. The Hope Company undertakes and agrees that at all times during the continuance of this contract it will use all reasonable diligence in developing and extending its gas leases and properties and in obtaining gas therefrom for the purpose of fulfiling its obligations hereunder, and that it will use all reasonable diligence to drill wells and maintain its pipe lines and wells in good order and condition to supply the gas which it has herein undertaken to deliver.

Fourteenth. Where either party to this contract fails to
239 perform any obligation herein assumed by it, and such failure is due to the Acts of God, or a public enemy, strikes, riots, injunctions or other interferences through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, failure of gas wells in whole or in part, or to any causes not due to the fault of such party, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder, but such party shall use due diligence to again put itself in position to carry out all the obligations, which by the terms hereof, it has assumed.

Fifteenth. The gas to be supplied by the Hope Company under this agreement shall be so supplied in the same condition as it leaves the wells except as to such changes as are incident to the usual processes of compression and pumping, or in the course of transportation.

Sixteenth. The amounts payable to the Hope Company hereunder for gas delivered hereunder in each calendar month shall be paid by the Manufacturers Company to the Hope Company on or before the twentieth day of the following month.

Seventeenth. It is mutually understood and agreed that in
240 case the Manufacturers Company shall fail to pay to the Hope Company any amounts that may be due and payable hereunder to the Hope Company within twenty (20) days after such amount becomes due and payable, or to perform the covenants of this agreement, the Hope Company shall have the right, without cancelling this contract or waiving any of its rights hereunder, after ten days' written notice to the Manufacturers Company of its intention so to do, to suspend the delivery of natural gas hereunder until all amounts due to it are paid, or at its option shall have the right to terminate this contract on thirty (30) days' notice to the Manufacturers Company without prejudice to its right to collect the amounts due it at the time of such temination for any gas previously furnished hereunder.

Eighteenth. The Manufacturers Company during the continuance of this contract, shall at all times exercuse due diligence to maintain its distributing system and the distributing systems of the companies owned and controlled by it in good order and condition. The Hope Company will likewise exercise due diligence to maintain in good order and condition its pipe line system so far as necessary for the transportation of the natural gas which it is obligated to deliver hereunder.

Nineteenth. This contract shall be binding upon the parties
41 hereto and their successors and assigns, respectively, provided, however, that in case the gas distributing system now or hereafter owned or controlled by the Manufacturers Company is substantially broken up so that substantial parts thereof are vested in different owners, the Hope Company, at its option, shall have the right to terminate this contract.

Twentieth. The Manufacturers Company represents that Schedule hereto annexed, correctly sets out the floating indebtedness of said ompany; that Schedule B hereto annexed, correctly sets out the ntracts which the Manufacturers Company and the companies hich it controls now have with other parties for the purchase of gas; d that Schedule C hereto annexed, correctly sets out the leases of s territory held by the said companies.

Twenty-first. This contract, unless sooner terminated pursuant to e provisions herein contained or in consequence of the default of her party and the election of the other to treat it as abrogated, all continue for twenty years from the date hereof.

In witness whereof the Hope Natural Gas Company and The Manufacturers Light & Heat Company have caused this agreement to be executed in duplicate in their respective names by their respective Presidents or Vice Presidents, and their respective corporate
242 seals to be hereto affixed and attested by their respective Secretaries this 27th day of June, A. D. 1911, as of the day and year first above written.

[CORPORATE SEAL.] HOPE NATURAL GAS COMPANY,
By JOHN G. PEW,
Vice President.

Attest:

CHRISTY PAYNE,
Secretary.

[CORPORATE SEAL.] THE MANUFACTURERS LIGHT & HEAT COMPANY,
By JOHN E. GILL,
President.

Attest:

H. E. SEIBERT,
Secretary.

243 SCHEDULE "A."

Floating Indebtedness, April 30th, 1910.

Bills Payable.

Colonial Trust Company	$2,036,366.60
Booth & Flinn	46,808.35
Covered by agreement with The Colonial Trust Company	$2,083,174.95
Union Deposit Bank, Steubenville	10,000.00
Coraopolis Savings & Trust Company	12,500.00
E. V. Selden	10,000.00
Colonial Trust Company	630,000.00
C. M. Crawford	18,229.05
J. H. McDermott	10,162.50
Reese & Rinehart	5,423.75
E. H. Jennings Bros. Company	40,000.00
Dresser Manufacturing Company	5,644.25
Snow Steam Pump Works	10,000.00
George W. Rowley	6,087.17
Williams & Birch	1,233.00
W. H. Seybert	2,293.00
Frank T. Burns	5,366.00
Pittsburgh Valve, Foundry and Construction Company	9,380.34

SCHEDULE "B."

Contracts for Purchase of Gas.

Selling party.	Purchaser.	Date.	Acres.	District.	County.
Southern Carbon Company	The Wheeling Natural Gas Company	March 11, 1907	819	West Union	Doddridge.
G. H. Trainer and J. E. Trainer	The Wheeling Natural Gas Company	March 14, 1907	355		Doddridge.
G. H. Trainer and J. E. Trainer	The Wheeling Natural Gas Company	November 25, 1907	8	Grant & West Union	Doddridge.
G. H. Trainer and J. E. Trainer	The Wheeling Natural Gas Company	September 22, 1909	296.12	McClellan	Doddridge.
G. H. Trainer, J. E. Trainer, R. K. Jones, S. E. Strother, W. L. Strother.	The Wheeling Natural Gas Company	October 18, 1909	102	Grant	Doddridge.
G. H. Trainer, J. E. Trainer, R. K. Jones, S. E. Strother, W. L. Strother.	The Wheeling Natural Gas Company	October 18, 1909	43	Grant	Doddridge.
Diamond Oil & Gas Company	The Wheeling Natural Gas Company	October 1, 1909	102	Grant	Doddridge.
Eastern Oil Company	The Wheeling Natural Gas Company	December 28, 1908	1,026	West Union	Doddridge.

P. L. Wally	3,441.96
F. L. Black & Bros.	13,265.44
Montour Gas Company	7,800.00
Cecil Lumber Company	1,400.00
C. & G. Cooper Company	7,750.00
A. C. McGinnis	2,000.00
T. J. Burns	2,082.00
South & Sedwick	3,000.00
Snyder & Pentz	3,380.92
J. W. Moorhead	10,224.00
	$2,913,838.33

In addition to the foregoing, the reports of the Company show the following items of Floating Indebtedness:

Accounts payable	$300,913.55
Security Deposits	97,920.56
Advance Payments	5,101.54

(Here follows Schedule "B," contracts for purchase of gas, marked page 244.)

245 HOPE AND L., F. & P. CO.S' AGREEMENT, W. VA. EX. 2.

(Introduced at Page 284, Record.)

Copy of West Virginia Exhibit No. 2.

(Original Retd. to Gas Co.)

This agreement, Made and entered into this 22nd day of November, A. D. 1911, by and between Hope Natural Gas Company, a West Virginia corporation, party of the first part, and The Light, Fuel & Power Company of West Virginia, also a West Virginia corporation, party of the second part,

Witnesseth: That whereas, *that* party of the second part, being the owner of a 3 inch pipe line extending from a point near the town of Burnsville, in Salt Lick District, Braxton County, West Virginia, to the towns of Flatwoods and Sutton, with branch lines to the town of Burnsville and intermediate villages, and being the owner of franchises or rights therein to supply natural gas, desires to buy from the party of the first part the natural gas to be supplied to consumers in said towns, and

Whereas, the party of the first part, being the owner of gas leases and wells in Braxton and Lewis Counties, is willing to construct a pipe line from its wells in Lewis County to unite with the line from its wells in Braxton County to connect into the pipe line owned by the party of the second part at Burnsville in order to furnish natural gas for the requirements of the party of the second part;

Now therefore in consideration of the premises, and of the mutual covenants and agreements herein contained, to be
246 faithfully performed by each party, its successors and assigns, to the other, the parties hereto, the party of the first part hereinafter called the "Selling Company" and the party of the second part the "Buying Company," have agreed, and do hereby mutually agree as follows:

First. The selling company undertakes and agrees during the continuance of this contract and beginning on the 1st day of December
F. W. B. C. P. [November],* 1911 to sell and deliver to the buying company and the buying company undertakes and agrees to purchase and take from the selling company all of the natural gas required by the buying company for the supply of all the consumers purchasing gas directly from the buying company which it now has or may hereafter acquire in the cities, towns and villages now furnished with natural gas by the buying company, and the buying company further undertakes and agrees to purchase and take from the selling company, if the latter shall hereafter undertake and agree to sell and deliver the same to it,

[*Word enclosed in brackets erased in copy.]

all of the natural gas required by the buying company for the supply of any other company or distributing system in the general locality aforesaid under any contract now existing or hereafter made between said buying company and such other distributing company at and upon the same terms and conditions as are hereinafter set forth; providing, however, that the selling company shall not be obliged to sell and deliver, or the buying company to purchase and take,
247 gas in excess of the amounts currently required for the aforesaid purpose.

Second. The selling company agrees to construct and put into operation a pipe line extending from its gas fields in Lewis County to connect into the pipe line of the buying company at a point upon the lands of —— ——, situate near the town of Burnsville, in Salt Lake District, Braxton County, West Virginia. The work of constructing said line shall be commenced promptly upon the execution and delivery of this agreement and shall be prosecuted to completion with due diligence, so that the delivery of gas from said Lewis County field to supplement the supply from the Braxton County
F. W. B. C. P. field, shall commence [in ample time to meet not later than February 1st, 1912, the requirements of the buying company before the cold weather begins in the fall of 1911].* The junction point of the pipe lines of the parties hereto shall be known and designated for the purposes of this contract as Burnsville Station and at that point there shall be erected a Pitot tube measuring station for the purpose of measuring the gas sold and delivered to the buying company hereunder; the said station shall be erected by the selling company, connected to the lines of each party and fully equipped, ready to be put into operation on the 1st day of
F. W. B. C. P. [November],' [1911];* the said station shall February 1912 thereafter be maintained and operated by the selling company at all times with the right to employ men
248 to read or check the readings of the Pitot tubes. The reading of the Pitot tubes shall be under the joint control of the parties hereto; and shall be made at 15 minute intervals during each day of 24 hours; duplicate reports of the daily readings shall be mailed to each party.

Third. The buying company undertakes and agrees that it will pay to the selling company for the natural gas sold and delivered to it by the selling company, upon the basis of the measurements recorded by said Pitot tubes, calculated upon a pressure of 10 ounces to the square inch above 14.4 pounds atmospheric, according to Boyle's Law for the measurement of gas at varying pressures, but without allowance for temperature or barometric conditions, the following rates and prices, viz:

(a) For all gas sold and delivered from the 1st day of

[*Words enclosed in brackets erased in copy.]

December
F. W. B. C. P. [November],* 1911, to and including the 31st day of December, 1916, at the rate or price of ten (10¢) per thousand cubic feet.

(*b*) For all gas sold and delivered from and after January 1st, 1917, that price from month to month for each one thousand cubic feet of gas equal to fifty (50) per centum of the average price per thousand cubic feet charged from month to month, during
249 that period, by the buying company to its domestic consumers; provided, always, that during the
November
C. P. F. W. B. period from January 1st, 1917, to [October],*
30th
F. W. B. C. P. [31st],* 1920, both inclusive, the price to be paid by the buying company to the selling company shall at no time be less than twelve and one-half (12½¢) cents for each one thousand cubic feet of gas; and that during the period
December
F. W. B. C. P. from and after [November]* 1st, 1920, the price to be paid by the buying company to the selling company shall at no time be less than 15¢ for each one thousand cubic feet of gas.

Fourth. The buying company agrees to pay to the selling company at its offices in Pittsburgh, Pennsylvania, on or before the
25th
F. W. B. C. P. [15th]* day of each month for all gas sold and delivered to it in the preceding month.

Fifth. No dominion or control over the natural gas delivered under this contract shall remain in the selling company after the gas passes the point of delivery above stated, nor shall the selling company be responsible for or on account of anything that may be done, happen or arise touching said gas after its delivery; and the buying company undertakes and agrees that it will at all times and from time to time keep free, save harmless and indemnify the selling company from any and all manner of claims, suits and damages on account of any conduct, act or thing touching the said
250 gas after it has left the said point of delivery.

Sixth. The Selling company undertakes and agrees that at all times during the continuance of this contract (excepting as provided in the Ninth and Tenth paragraphs hereof) it will deliver gas into the 3 inch line of the buying company so as to maintain a pressure on said line at said Burnsville Station end thereof, of not less than 150 pounds to the square inch, such pressure, however, to be maintained only so long as the pipe line system of the buying company consists of a 3 inch line from said station to Sutton, West Virginia; if the size and capacity of said line is increased then the selling com-

[*Words enclosed in brackets erased in copy.]

any thereafter during the continuance of this contract shall not be ound to maintain said pressure of 150 pounds at Burnsville Station ut shall undertake and agree at all times thereafter to use all rea- nable diligence in developing and extending its gas leases and roperties and in obtaining gas therefrom, and in providing and aintaining in good order and condition compressing stations, pipe nes and other facilities in the State of West Virginia to supply e requirements of the buying company hereunder.

Seventh. It is mutually understood and agreed that if the ca- acity of the main line of the buying company from Burnsville to Sutton is increased, then the buying company shall keep the 51 selling company at all times fully informed of all facts tend- ing to show the amount of natural gas which will be neces- ry from time to time thereafter to supply its requirements here- nder, and will, on or before the 1st day of May in each year make nown to the selling company, in writing, the amount of gas which e buying company estimates will be required from time to time the year beginning with the next succeeding November 1st; and at so long as the selling company exercises due diligence in making ovision to supply, and does supply, the amount of natural gas imated to be necessary to meet such requirements, it shall not be ble by reason of its failure to supply gas in excess of said estimated nount.

Eighth. It is mutually understood and agreed that in so far as the ying company during any period does not obtain from the selling mpany all the gas requisite for the supply of its consumers, it may tain the amount of gas currently required to supplement the sup- during such period from other sources.

Should the buying company at any time purchase additional plants extend its distributing system and embrace any other cities or wns not herein mentioned the selling company shall have the ght to require the buying company to include such additional ies or towns within the terms of this contract.

2 Ninth. Where either party to this contract fails to per- form any obligation herein assumed by it, and such failure is e to the Acts of God, or a public enemy, strikes, riots, injunctions other interferences through legal proceedings, breakage or accident machinery or lines of pipes, washouts, earthquakes, storms, freez- g of lines or wells, sudden or unforseen failure of gas wells, or to y causes not due to the fault of such party, or is caused by the ecessity for making repairs or alterations in machinery or lines of pe, such failure shall not be deemed to be a violation by such party its obligations hereunder, but such party shall use due diligence again put itself in position to carry out all of the obligations, ich, by the terms hereof, it has assumed.

Tenth. This contract shall continue between the parties hereto the term of twenty (20) years from the 1st day of

F. W. B. C. P. December [November],* 1911, but the obligation of the selling company to deliver gas hereunder shall be limited to the amount which it is currently able to supply from its own production consistently with its present or future contracts with other purchasers, Provided, however, that the selling company is to have the right at any and all times to supply the domestic consumers connected to its own system in West Virginia
253 which it is supplying with gas and to The East Ohio Gas Company, The River Gas Company and The Peoples Natural Gas Company, to the extent of their requirements for domestic consumers, in preference to the buying company, but otherwise is not to give other purchasers the preference over the buying company. The selling company reserves the right to surrender, exchange, sell and dispose of any part of the gas properties now or hereafter owned or leased by it; should, however, the selling company desire to sell all of its gas properties situate in Lewis County, West Virginia, it shall do so only subject to this agreement.

Eleventh. It is mutually understood and agreed that in case the buying company shall fail to pay to the selling company any amounts that may be due and payable hereunder to the selling company within twenty (20) days after such amount becomes due and payable, or to perform the covenants of this agreement, the selling company shall have the right, without cancelling this contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder until all amounts due to it are paid, or, at its option, shall have the right to terminate this contract on thirty (30) days' notice to the buying company without prejudice to its right to collect the amounts due it at the time of such termina-
254 tion for any gas previously furnished hereunder.

Twelfth. This contract shall be binding upon the parties hereto and their successors and assigns, respectively, Provided, however, that in case the gas distributing system now or hereafter owned, controlled or supplied by the buying company is broken up, so that parts of the system are disconnected, or are vested in different owners, the selling company, at its option, shall have the right to terminate this contract.

In witness whereof the parties hereto have hereunto caused their corporate names to be signed by their respective Presidents or Vice Presidents, and their respective seals to be hereunto affixed by their respective Secretaries, the day and year first above written.

Executed in duplicate.

[Corporate Seal.] HOPE NATURAL GAS COMPANY,
(Sgd.) By J. W. R. CRAWFORD,
Vice President.

[*Word enclosed in brackets erased in copy.]

Attest:
(Sgd.) CHRISTY PAYNE,
Secretary.

[Corporate Seal.] THE LIGHT, FUEL AND POWER COMPANY OF WEST VIRGINIA,
(Sgd.) By JOHN C. WELWOOD,
President.

Attest:
(Sgd.) FERNANDO W. BENNER,
Assistant Secretary.

255 *Memorandum of Agreement.*

The undersigned, being the holders of all of the bonds secured by mortgage, deed of trust or otherwise, upon the properties of the Light, Fuel & Power Company of West Virginia, do hereby ratify, approve and confirm the agreement to which this is attached, between the said Light, Fuel & Power Company of West Virginia, and Hope Natural Gas Company, bearing date the — day of ——, 1911, and do for ourselves, our heirs, personal representatives and assigns, respectively covenant and agree that the lien or liens securing the payment of said bonds and interest thereon shall be subservient to the said agreement, and that any foreclosure of such lien or liens resulting in a sale of the property of said Light, Fuel & Power Company of West Virginia, or any part thereof, shall be made in such manner as to preserve and keep unimpaired the said agreement of the — day of ——, 1911.

Given under our hands and seals this — day of ——, 1911.

—— ——.

—— ——.

256 PGH. & W. VA. AND EQUITABLE CO.'S AGR. NO. 1, W. VA. EX. 3.

W. VA. EX. NO. 3. E. M.

(Introduced at Page 529, Record.)

This agreement made this 31st day of July, A. D., 1914, between the Pittsburgh and West Virginia Gas Company, a corporation of the State of West Virginia, (hereinafter called "Pittsburgh"), party of the first part, and the Equitable Gas Company, a corporation of the Commonwealth of Pennsylvania, (hereinafter called "Equitable"), party of the second part;

Whereas, Pittsburgh controls certain lands and leases situate in Lewis, Gilmer, Wetzel, Doddridge, Tyler, Marshall, Monongalia, Ritchie, Harrison, Marion, Pleasants, Braxton, Taylor, Upshur, Webster, Calhoun, Randolph and Barbour Counties, West Virginia, and now has Seven Hundred Ninety-Five (795) producing gas wells thereon; and

Whereas, Equitable desires the right to purchase from Pittsburgh for the period of thirty-four (34) years from August 1st, 1914, all or so much gas produced from its wells, now drilled, or hereafter to be drilled in the State of West Virginia, remaining after the latter supplies all the customers it now has or hereafter may have in the State of West Virginia, as Equitable may wish to buy, and Pittsburgh is willing to sell the same to Equitable,

Now, this agreement witnesseth, That in consideration of the premises, the covenants hereinafter contained, and the sum of One Dollar ($1.00) by each to the other paid, the receipt whereof is hereby acknowledged, it is agreed by and between the parties hereto as follows:

First. Pittsburgh does hereby sell to Equitable and agrees that Equitable may take, and Equitable does hereby agree to take and pay for as hereinafter set forth so much natural gas as Equitable may require over and above the gas used by it which has been produced in the States of Pennsylvania and Ohio, for the period of thirty-four (34) years from August 1st, 1914, from all of the wells now operated or hereafter operated by Pittsburgh in the State of West Virginia, remaining after Pittsburgh supplies all the customers it now has or hereafter may have in the State of West Virginia.

257 Second. The gas sold shall be delivered into the pipe lines of Equitable against the varying pressures therein, in a dry and marketable condition, at certain points on the dividing line between the States of West Virginia and Pennsylvania. The quantity thereof shall be metered or measured at certain points near said dividing line which points shall be agreed upon by the parties hereto.

Third. Equitable shall have charge of the metering or measuring of all gas sold or to be sold hereunder whenever such metering or measuring is done within the State of Pennsylvania, with the right in Pittsburgh, at all times, to have access to the meters and meter records and measuring devices, with the right to test said meters or measuring devices at all reasonable times.

Pittsburgh shall have charge of the metering or measuring of all gas sold or to be sold hereunder whenever such metering or measuring is done within the State of West Virginia, with the right in Equitable, at all times, to have access to the meters and meter records and measuring devices, with the right to test said meters or measuring devices at all reasonable times.

Fourth. Equitable agrees to pay Pittsburgh at the rate of eleven (11) cents per thousand (1000) cubic feet until February 1st, 1915, for all natural gas delivered to it under this contract, and shall, on the tenth (10th) day of each month, make payment for all gas received by it during the calendar month preceding. On February 1st, 1915 or within five (5) days thereafter, and on the first day of February or within five (5) days thereafter in each third year thereafter, either party hereto may demand a fixing of a new price and the parties hereto shall fix the price to be paid for gas for each

ext succeeding three (3) years, but the price fixed at any period
hall continue until another price is fixed hereunder. All gas de-
vered under this contract, is to be computed at a ten (10) ounce
pressure basis above 14.7 pounds atmospheric pressure ac-
58-259 cording to Boyle's Law for the measurement of gas at
varying pressures, but without allowance either for tem-
erature or barometric conditions.

Fifth. Pittsburgh agrees that it will use due diligence in de-
loping its Leases and further agrees to use its best efforts to main-
in or increase its present production.

Sixth. Pittsburgh shall have entire charge of turning gas into
e lines of Equitable, but such gas shall be delivered according to
e directions of Equitable and Equitable shall be required to take
e gas hereby purchased by it only in such volumes and at such
riods of time as it may deem necessary and proper.

Seventh. In case of any dispute arising hereunder the same shall
referred to the President of the Philadelphia Company, a cor-
ration of the Commonwealth of Pennsylvania, whose decision
ereon shall be final and conclusive.

Eighth. This agreement shall extend to and be binding upon
e parties hereto, their respective successors and assigns.

Witness the due execution and delivery hereof the day and year
oresaid.

[Seal of Pittsburgh and West Virginia Gas Company.]

PITTSBURGH AND WEST VIRGINIA
GAS COMPANY,
By J. F. GUFFY,
President.

Attest:
W. B. CARSON,
Secretary.

[Seal of Equitable Gas Company of Pittsburgh, Pa., Incorporated ——.]

EQUITABLE GAS COMPANY,
By J. H. PEW,
President.

Attest:
W. B. CARSON,
Secretary.

A true copy.
E. W. WASHABAUGH,
Asst. Secretary.
Mar. 4, 1920.

260 PGH. & W. VA. AND EQUITABLE COS.' AGR. NO. 2, W. VA. EX. 4.

W. VA. EX. NO. 4. E. M.

(Introducing at Page 529, Record.)

Agreement, made this 3rd day of May, A. D. 1916, between the Pittsburgh and West Virginia Gas Company, a corporation of the State of West Virginia, hereinafter called "Pittsburgh," party of the first part, and the Equitable Gas Company, a corporation of the State of Pennsylvania, hereinafter called "Equitable," party of the second part.

Whereas, by an agreement dated July 31st, 1914, between the parties hereto, Pittsburgh agreed to sell to Equitable, under certain conditions, a supply of natural gas at the rate of eleven (11) cents per thousand cubic feet, from August 1st, 1914 to February 1st, 1915, and at a price to be agreed upon thereafter;

And whereas, Pittsburgh, from August 1st, 1914 to December 31st, 1914, inclusive, sold gas to Equitable at the rate of eleven cents per thousand cubic feet, and on or about December 31st, 1914, by virtue of an oral agreement between the parties hereto, the rate was changed to five cents per thousand cubic feet, and Pittsburgh sold gas to Equitable at that rate from January 1st, 1915 to January 31st, 1916, inclusive, and on or about January 31st, 1916, by virtue of an oral agreement between the parties hereto, the rate was changed to seven and one-half cents per thousand cubic feet, to continue during the year 1916, and Pittsburgh has sold gas to Equitable at that rate from February 1st, 1916 to date;

And whereas, it is the desire of the parties hereto that the aforesaid oral agreements be ratified and reduced to writing:

Now, Therefore, This Agreement Witnesseth, that in consideration of the premises, and the sum of one dollar, by each of the parties to the other in hand paid, receipt of which is hereby acknowledged, the parties hereto agree each with the other as follows:

1st. The oral agreements between the parties hereto, whereby the rate for natural gas delivered by Pittsburgh to Equitable from January 1st, 1915 to February 1st, 1916 was fixed at five
261 cents per thousand cubic feet, and the rate for natural gas delivered from February 1st, 1916 to date was fixed at seven and one-half cents per thousand cubic feet, are hereby ratified and confirmed.

2nd. The rate of seven and one-half cents per thousand cubic feet is to continue during the calendar year 1916.

3rd. Hereafter the parties hereto shall fix the rate to be paid for gas delivered under the aforesaid agreement during the month of December of each year, and the rate so fixed shall continue in force during the following calendar year.

4th. Except as herein modified, all the terms and conditions of e agreement between the parties hereto, dated July 31st, 1914, all be and remain in full force and effect.

5th. All the terms and conditions of this agreement shall extend and be binding upon the successors and assigns of the parties reto.

In Witness Whereof, the said Pittsburgh and West Virginia Gas mpany and the Equitable Gas Company have caused their respec-e corporate seals to be hereto affixed, and duly attested, the day d year first above written.

PITTSBURGH AND WEST VIRGINIA GAS COMPANY,
By J. F. GUFFY,
President.

Attest:
W. B. CARSON,
Secretary.

EQUITABLE GAS COMPANY,
By J. H. PEW,
President.

Attest:
W. B. CARSON,
Secretary.

I hereby certify that this is a true copy of the original agreement.
J. L. FOSTER,
Assistant Secretary.

2 [Endorsed:] Phila Co. File No. 585.

3 PGH. & W. VA. AND EQUITABLE COS.' AGR. No. 3, W. VA. EX. 5.

W. VA. EX. No. 5. E. M.

(Introduced at Page 529, Record.)

Article of Agreement, made and concluded this 1st day of October, 17, by and between the Pittsburgh and West Virginia Gas Com-ny, a corporation of the State of West Virginia, hereinafter called ittsburgh," and the Equitable Gas Company, a corporation of the ate of Pennsylvania, hereinafter called "Equitable:"

Whereas, by an agreement dated July 31st, 1914, between the rties hereto, Pittsburgh agreed to sell natural gas to Equitable at e rate of 11¢ per 1,000 cubic feet, and
Whereas, by the terms of a supplemental agreement dated May d, 1916, the rate which Equitable was to pay for gas received from

Pittsburgh was fixed at 7½¢ per 1,000 cubic feet, which said rate is still in effect, and

Whereas, because of the greatly increased cost of said gas, the parties hereto are desirous of fixing a more equitable rate of payment for gas delivered by Pittsburgh to Equitable:

Now, Therefore, This Agreement Witnesseth that the parties hereto, for and in consideration of the sum of one dollar, by each of the parties to the other in hand paid, agree each with the other as follows, to wit:

1st. Beginning on the date hereof, Equitable agrees to pay to Pittsburgh at the rate of fifteen (15) cents per 1,000 cubic feet for all gas delivered to it under the terms of the aforesaid agreement of July 31st, 1914.

2nd. The said rate of payment shall continue in force until modified by an agreement in writing between the parties hereto.

3rd. Except as herein modified, all the terms and conditions of the said agreement of July 31st, 1914 shall be and remain in full force and effect.

4th. All the terms and conditions of this within agreement shall extend to and be binding upon the successors and assigns of the parties hereto.

In Witness Whereof, the parties hereto have caused their
264 respective corporate seals to be hereto affixed, and duly attested, the day and year first above written.

[Seal of Pittsburgh and West Virginia Gas Company.]

PITTSBURGH AND WEST VIRGINIA GAS COMPANY,
By J. F. GUFFY,
President.

Attest:
W. B. CARSON,
Secretary.

[Seal of Equitable Gas Company of Pittsburgh, Pa., Incorporated ——.]

EQUITABLE GAS COMPANY,
By J. H. PEW,
President.

Attest:
W. B. CARSON,
Secretary.

A true copy.

J. L. FOSTER,
Asst. Secretary.

Nov. 21, 1917.

265 PGH. & W. VA. AND EQUITABLE COS.' AGR. NO. 4, W. VA. EX. 6.

W. VA. EX. 6. E. M.

(Introduced at Page 529, Record.)

Article of Agreement, made and concluded this 6th day of June, A. D. 1918, by and between the Pittsburgh & West Virginia Gas Company, a corporation of the State of West Virginia, hereinafter called "West Virginia," and the Equitable Gas Company, a corporation of the State of Pennsylvania, hereinafter called "Equitable:"

Whereas, by agreement dated July 31st, 1914, between the parties hereto, West Virginia agreed to sell to Equitable natural gas in large quantities, the price for which, by various supplemental agreements, has been changed from time to time to meet market conditions and the cost of service, and

Whereas, on account of the increased cost of production and service, West Virginia is desirous of raising the price to be paid for gas delivered under the said contract and has requested Equitable to agree thereto, and the parties hereto have agreed to an advance in price, to be effective until it has been demonstrated that a greater or less price would be fair:

Now, Therefore, This Agreement Witnesseth that the parties hereto, in consideration of the sum of one dollar, by each to the other in hand this day paid, the receipt of which is hereby acknowledged, agree each with the other as follows, to wit:

1st. Equitable agrees to pay West Virginia at the rate of twenty-one (21) cents per 1,000 cubic feet for all gas delivered to it on and after September 1st, 1918, under the said contract of July 31st, 1914.

2nd. The said rate of payment shall continue in force until modified by the parties hereto, by an agreement in writing.

3rd. Equitable shall have the privilege, if it so desires, from time to time, of paying its monthly bills by trade acceptances running sixty days, and thereupon one per cent shall be added to the invoice price in lieu of interest.

4th. Except as herein modified, all the terms and conditions of the agreement or contract of July 31st, 1914 shall be and remain in full force and effect.

266 & 267 5th. All the terms and conditions hereof shall extend to and be binding upon the successors and assigns of the parties hereto.

In Witness Whereof, the parties hereto have caused their respective corporate seals to be hereto affixed, and duly attested, the day and year first above written.

[SEAL.] PITTSBURGH & WEST VIRGINIA GAS COMPANY,
By CARROLL MILLER,
Vice President.

Attest:
W. B. CARSON,
Secretary.

[SEAL.] EQUITABLE GAS COMPANY,
By J. H. PEW,
President.

Attest:
W. B. CARSON,
Secretary.

A true copy.

E. W. WASHABAUGH,
Asst. Secretary.

July 8th, 1918.

(Here follow reproductions of West Virginia Exhibits 7-32, inclusive, marked pages 268-450, inclusive.)

FORM 88-E. P. S. C. W. VA. Monthly Prod. Report to P. S. Com. W. Va. Ex. 7

MONTHLY REPORT OF GAS PRODUCTION OF THE

_____

(NAME OF UTILITY AND PLACE OF BUSINESS)

TO THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA:

FOR THE MONTH OF_____

GAS CONSUMED	ACTIVE INDUSTRIAL CONSUMERS	ACTIVE DOMESTIC CONSUMERS	TOTAL METERS IN USE	NO. OF THOUSAND CU. FT. GAS	TOTAL
1. Cities and towns					
2. Field and Main Lines					

3. SOLD TO OTHER UTILITIES	LOCATION OF MEASURING STATION	KIND AND SIZE OF METERS		
Gas Exported to other States				
Total Gas Sold, Distributed and Exported				

4. GAS PURCHASED	NO. OF WELLS USED	MEASURING STATION NUMBER	KIND AND SIZE OF METEHS		
Gas Imported from other States					
Total Gas Purchased from Producers, Utilities and Imported					

5. GAS PRODUCED BY UTILITY	NO. OF WELLS USED			
In West Virginia				
Total Gas Produced, Purchased and Imported				

(Show the amount of gas in THOUSAND cubic feet—not cubic feet.)

No. 572E, P.S.C. W.Va.

Monthly Trans. Rep. to P. Ser. Com. W.Va. Ex. 8.

_____
(Name of Company)

_____
(Address)

REPORT OF TRANSPORTATION INTO AND OUT OF THE STATE OF WEST VIRGINIA DURING THE MONTH OF _____ 192_.

To THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA

Gas Transported Out of the State

Line Number	Diameter of Pipe	Location of Measuring Station	Kind & Size of Meters	Number of M Cubic Ft. of Gas	TOTAL
Total Gas Transported Out of the State					

Gas Transported Into the State

Line Number	Diameter of Pipe	Location of Measuring Station	Kind & Size of Meters	Number of M Cubic Ft. of Gas	TOTAL
Total Gas Transported Into the State					269

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility:

A part of the report of the Hope Natural Gas Company.

1. Name of company making this report Hope Natural Gas Company
2. Nature of company, whether person or persons, association or corporation Corporation
3. Organized under the laws of what state West Virginia
4. Location of Principal Office 424 Sixth Avenue, Pittsburgh, Pa.
5. Location of Principal Place of Business in West Virginia Clarksburg, W. Va.
6. Name of President and his address in full A. C. Bedford 26 Broadway, New York.
7. Name of Secretary and his address in full Christy Payne 424 Sixth Avenue, Pittsburgh, Pa.
8. Name of General Manager and his address in full T. O. Sullivan 424 Sixth Avenue, Pittsburgh, Pa.
9. Name of Chief Officer or Managing Agent in W. Va., and his address in full J. J. Evans, General Sup't Clarksburg, W. Va.
10. Name of Tax Agent and his address in full Christy Payne 424 Sixth Avenue, Pittsburgh, Pa.
11. Name and full address of officer to whom correspondence regarding this report should be addressed

Christy Payne,	Secretary	424 Sixth Ave., Pittsburgh, Pa
(Name)	*(Title)*	*(Address)*

12. Date of annual meeting of stockholders Second Tuesday in June
13. The books of the company are closed for the year on what date December 31st.
14. If a consolidated company, name the constituent companies No.

REMARKS.

Number of pages of your report. This is
PAGE 1.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of Hope Natural Gas Company.

What is the amount of the authorized capital stock?	$ 20,000,000.00
How much of the capital stock has been issued?	$ 20,000,000.00
How many shares of common stock issued?	$ 200,000.00
How many shares of preferred stock issued?	$
What is the par value, per share, of the common stock?	$ 100.00
What is the par value, per share, of the preferred stock?	$
What is the market value, per share, of the common stock	$
What is the market value, per share, of the preferred stock?	$
If stock is not on the market, at what is it valued per share? Book Value	$ 167.62
How much of the stock was paid for in cash?	$ 12,000,000.00

What was the consideration for stock issued, but not paid for in cash? $2,000,000.00 for Stock in other Companies, and $6,000,000.00 Stock Dividends

If any part of the stock was not paid for in cash, was the consideration equivalent to cash? Yes

How much bonus stock, if any, was issued? None $

If stock is not worth par, how do you account for the fact that it is not?

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
	None			
Totals				

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
Current Bills, Etc.				1,649,421.57
Totals				

Accounts receivable, December 31, 1912 $ 3,648,656.19

This company began business or was acquired by the present owners or operators Incorporated (month) September (day) 17th (year) 1898

Investment. (By present owners.)

Stock issued (money value)	$ 12,000,000.00	
Amount realized from sale of bonds	$	
Earnings put into plant	$ 24,572,726.62	
	$	
Total investment or cost (entire plant)		$ 36,572,726.62

What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds? $ 36,572,726.62

What would be the approximate cost of reproducing the entire plant new? Impossible to answer on account of leaseholds owned

What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia? $

What is the total value of the entire plant, as shown by the books of the Company? $ 24,891,850.30

What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company? $ 24,891,850.30

In as much as stock owned in a West Virginia Company, whose property is already assessed in that State, is not subject to taxation, we have deducted for assessment purposes from the above answers such stock to a value of $2,887,510.00, and for stock owned in a corporation whose property is located and assessed in Ohio stock to a par value of $253,500.00, also 4% - 4½% and 3-3/4% United States Liberty Loan Bonds to a par value of $719,350.00.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 3—U.

Public Utility.

A part of the report of Hope Natural Company.

What were the total gross earnings (including all sums earned or charged ,whether actually received or not, and its proportion of the gross receipts for business done by it in connection with other companies or firms), of the Company, Co-partnership, Association or Corporation making this report, for the year ending

December 31, 1919 in all States? $ 20,051,118.31

in West Virginia $ 20,051,118.31

How much of the gross earnings resulted from business actually done in West Virginia? $ 20,051,118.31

How much of the total gross earnings should properly be credited to West Virginia to give the state a fair share of earnings? $ 20,051,118.31

If this company operates outside of West Virginia, how, or upon what principle were the earnings apportioned, as between this state and other states? —

What were the total operating and maintenance expenses including interest and taxes in all states? $ 16,700,422.00

What were the total operating and maintenance expenses including interest and taxes in West Virginia? $ 16,700,422.00

("Operating and maintenance expenses" is to be understood to mean the actual expenses of operation, and actual expenditures for maintenance. Expenditures for new work (peramnent improvements and additions), and dividends are not to be included as operating expenses.)

If this company operates outside of West Virginia, how, or upon what principle were the operating expenses apportioned as between this state and other states? —

What were the net earnings in West Virginia for the year ending December 31, ? $ 3,350,695.31*

What were the total net earnings, in all states, for the year ending December 31, ? $ 3,350,695.31*

What dividends were declared during the year on common stock? ____ per cent; amount $ None

What dividends were declared during the year on preferred stock? ____ per cent; amount $ "

When were the dividends declared on common stock? ____ Preferred Stock? $ —

Interest paid on Funded Debt during the year $

Interest paid on Unfunded Debt during the year $ 17,895.50

(There should appear on each sheet of this report *some notation* to indicate that the information desired or questions asked have not been overlooked. The word "none" may be used against any particular item or items, where that word expresses the *facts*. If, for any reason, for any item, the exact amount cannot be reported, such an amount as is approximately correct must be reported. In such case, refer by note to "remarks" at the bottom of the sheet on which a diviation occurs, where a brief explanation should be given why specific data called for cannot be returned *exactly as requested*.)

REMARKS. *See note on next page

The Company suffered a decline of 12.14% in the Rock Pressure of its gas fields during the year 1919, and has deducted from Earnings a Depletion of $2,660,619.39 in its return for Federal Income, and Excess Profit Taxes. This depletion is not deducted from the earnings on Page 3 of this return; nor has any account been taken of depletion inany of the statements rendered herein. On Page 4½ the amount of this depreciation is shown to be $1,688,767.92 for the year 1919. This depreciation is applied only to tangible property such as pipe lines and Compressing Stations and not to Leaseholds; and is at conservative rates, for instance:- On Field and Main Lines 5%, on City Plants 3% and somewhat higher rates on automobiles, teaming investment and such property subject to rapid deterioration.

Wish to note also the additions to Investment as shown on Page 5, $1,894,743.65, and that in spite of such expenditures the amount of gas which the Company was able to produce, purchase and sell, was greatly below 1918 deliveries. The Plant was actually worth less as a Gas Plant at the end of the year than at the beginning, the decline in the supply more than overcoming all the money reinvested. The exhaustion of Gas is constantly lessening the value of the tangible investment beyond mere wear and tear, and in spite of maintenance expenditures, it is not possible to avoid depreciation due to either of these causes.

Form No. 3. U—A.

Gas and Oil.

A part of the report of the Hope Natural Gas Company.

THE OPERATING AND MAINTENANCE AND OTHER EXPENSES as shown below should not include expenditures for additions to plant, dividends or any amount for depreciation.

Operating and Maintenance Expenses, Interest, Etc., for the year ending December 31, (Fully itemize.)	Entire Plant	West Va.
General Expenses:		
Salaries and Expenses of General Officers	$ 80,631.84	$
Salaries and Expenses of General Office Employees	324,359.41	
Miscellaneous Expenses of General Office (Office Supplies, Etc.)	29,462.40	
Leagl Expenses		
Sick and Disability	78,659.74	
Prospecting and Lease Expenses:		
Salaries	56,295.12	
Purchase of Leases	—	
Rental of Leases	836,787.74	
Drilling unproductive Wells, Labor & Casing	1,782,319.18	
Production Expenses:		
Superintendent and Salaries	65,573.18	
Royalties	883,572.14	
Operating Gas Wells & Field Lines	926,287.85	
Operating Oil Wells	991,875.16	
Repairs to Gas Wells & Field Lines	1,971,442.74	
Repairs to Oil Wells	—	
Transportation Expenses:		
Superintendence and Salaries	3,414.45	
Operating Transportation Lines	56,407.00	
Operating Pump Stations	1,069,779.77	
Operating Pressure Stations	120,237.11	
Repairs of Transportation Lines	151,356.19	
Repairs of Pumping Station Equipment	617,199.85	
Carried Forward to Form No. 3 U.—A.—Continued	10,055,640.85	

Form No. 3—U.—A.—Continued.

Gas and Oil.

A part of the report of Hope Natural Company.

Brought forward from Form No. 3 U.—A.	$ 10,055,640.85	$
Taxes:		
License or Charter Taxes	7,690.00	
General Property Taxes	537,780.20	
Federal Excess Profits Tax	160,940.98	
Federal Income Tax		
Other Federal Taxes Capital Stock	47,656.00	
Miscellaneous Taxes (License Fee Public Service Comm	5,365.00	
Interest and Discount: (Special Excise Tax	19,999.21	
(War Taxes	8,508.14	
On Bonds and other Funded Debt		
On Unfunded Debt	17,825.50	
Gas Purchased	1,932,975.45	
Miscellaneous Expense which can not be set out under the above headings:		
(Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.)		
(Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
City Plant Expense	109,541.70	
Telephone & Telegraph Lines	20,758.73	
Cancelled & Surrendered Leases	152,496.96	
Tools and Supplies	20,342.69	
Teams Maintaining	372,440.16	
Drilling and Cleaning Out Tools	1,561,196.10	
Gasoline	1,145,742.34	
Gasoline Royalties	9,007.29	
Coal and Butane	94,507.19	
Insurance	45,136.58	
Annual Dues	3,500.00	
Miscellaneous	48,525.65	
Profit & Loss Suspense Accts	341,196.60	
Totals	16,709,423.09	

What amount, if any, should be charged off for depreciation? $ $ 1,688,767.92

What is considered a fair rate of depreciation? See Note Page 3½

What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above?

See Note Page 3½

Form No. 4—U

Public Utility

A part of the report of Hope Natural Gas Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA. ALL	
	Dollars	Cts.	Dollars	Cts.
New Lines and Fittings	945,330.06			
" " " L.F. & F. Rights of Way	4,557.84			
Pipe and Equipment in Wells	326,126.96			
Buildings	1,392.09			
Telephone & Telegraph Lines	1,400.19			
Gas Compressing Stations	532,621.03			
Measuring Stations	11,159.58			
Leaseholds	73,612.28			
Natural Gas Meters	35,747.47			
Miscellaneous	6,879.14			
Oil Properties	454,557.80			
Drilling & Cleaning Out Tools	228,764.25			
Teaming	37,492.41			
Gasoline	507,204.93			
Coal	257,356.22			
West Union Plant	48.24			
Producer Gas Plant	413,841.71			
Butane	3,897.31			
Total	1,894,743.85			

Form No. 5.

Gas and Oil:

A part of the report of Hope Natural Gas Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	TIME USED
2	817.485	None	14.18
3	416.860		10.48
4	360.387		9.75
4½	2.129		20.00
4½	.320		20.00
4-7/8	7.969		14.94
5	11.448		12.97
5-3/16	14.395		6.29
5-5/8	5.383		17.47
6	652.727		7.09
6¼	4.025		16.65
6-5/8	78.598		5.10
8	143.785		7.76
8¼	9.482		6.24
10	386.624		8.27
12	116.653		9.41
13	.364		10.35
14	8.476		9.11
16	101.914		8.55
18	74.873		13.51
20	62.494		7.44
24	.009		1.00
36	.030		1.00

TOTAL MILAGE. 3,276.428

Form No. 6

Gas and Oil

A part of the report of Hope Natural Gas, Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?

Total in all states	690,093.993
In West Virginia	690,093.993

How many acres of developed gas leases?

Total in all states	326,419.79
In West Virginia	326,419.79

How many producing gas wells were owned at the beginning of the year?

Total in all states	3,357
In West Virginia	3,357

How many producing gas wells were drilled during the year?

Total in all states	154½
In West Virginia	154½

How many "dry" wells were drilled during the year?

Total in all states	36
In West Virginia	36

How many gas wells were purchased during the year?

Total in all states Purchased and Transferred from Oil	20
In West Virginia	20

How many gas wells were abandoned during the year?

Total in all states	154½
In West Virginia	154½

How many gas wells were sold during the year?

Total in all states Sold and Transferred from Gas to Oil	29
In West Virginia	29

How many producing gas wells were owned at the end of the year?

Total in all states	3348
In West Virginia	3348

How many gas wells were in use at the end of the year?

Total in all states	Don't know
In West Virginia	"

What was the average rock pressure for the year of the gas wells owned?

Total in all states	"
In West Virginia	"

What was the total daily capacity at the end of the year of the gas wells owned?

Total in all states	"
In West Virginia	"

What was the total average daily delivery of gas, from wells owned, for the year?

Total in all states Average per well per day 129,584,636 ÷ 3348	38,704 cu.ft.
In West Virginia " "	38,704 cu.ft.

Form No. 6—A.

Gas and Oil

A part of the report of Hope Natural Gas Company.

If this company sells gas directly to consumers, how many does it supply?

Total number in all states — Free Gas to Lessors — 1,750

Industrial — 795

Domestic — 17,336

In west Virginia — Free — 1,750

Industrial — 795

Domestic — 17,336

To what cities and towns is gas supplied? Parkersburg, Sistersville, Mannington, Williamstown, Friendly, St. Marys, Pine Grove, Smithfield, Littleton, Fairview & Others.

To what gas companies, if any, is gas sold? See below

How many cubic feet of gas were sold during the year?

Total number in all states — 67,245,432,000

To other gas companies

Name of company Clarksburg Lts & Ht Co., Light Fuel & Power Co., Kenner Oil & Gas Co., Comet Oil & Gas Co., East Ohio Gas Co, Peoples Nat'l Gas Co., The River Gas Co., Manufacturers Lts & Ht Co., Fayette County Gas Co., Reserve Gas Co. West Va. Heat & Light Co., Monongahela Valley Traction Co., Godfrey L. Cabot's

Other Companies — 55,203,791 M cu. ft

To industrial consumers — 10,228,825 "

To domestic consumers — 2,512,816 "

In West Virginia

To other gas companies

Name of company

Other Companies — 55,203,791 M cu. ft

To industrial consumers — 10,228,825 "

To domestic consumers — 2,512,816 "

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states — .1865 cents.

To other gas companies

Name of company

Same as above

Other companies — .1870 "

To industrial consumers — .1754 "

To domestic consumers — .2206 "

In West Virginia — "

To other gas companies

Name of company

Same as above

Other Companies — .1870 "

To industrial consumers — .1754 "

To domestic consumers — .2206 "

Form No. 6—B.

Gas and Oil

A part of the report of Hope Natural Gas Company.

If this company purchases gas, from whom or what company or companies does it purchase?

See List Attached

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states	
From other gas companies.	
Name of Companies.	
See List Attached	
From all other sources	20,647,040,000
Total in West Virginia	20,647,040,000
From other gas companies.	
Name of Companies.	
See List Attached	
From all other sources	20,164,183,000

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states	.0940 cents
To other gas companies.	
Name of Companies.	
See List Attached	"
To other persons or individuals	.0940 "
In West Virginia	"
To other gas companies.	
Name of Companies.	
See List Attached	"
To other persons or individuals	.0940 "

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.
1	20		
2	18	33,570,565 M	Ohio
2	10		
2	16	8,094,124 M	Penna.
1	12		

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.
None	None	None	None

Does this company pipe gas through its lines for other persons or companies? No

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? Sites for Compressing Station, Storage Lots, Warehouse Lots, etc.

COMPANIES AND INDIVIDUALS FROM WHOM GAS WAS PURCHASED

Adlia Oil Company
American Oil & Dev. Co.,
Amn. Pet. & Nat. Gas Corpn.,
Anderson and Company,
C. A. Barron et al,
Beacon O. & G. Prodn. Corpn.,
Louis Bennett Estate,
Betts & Braden Company
Blackshere O. & G. Co.
H. P. Boone O. & G. Co.
G. I. Bunnell et al,
Chas. P. Butler,
Cabin Run & Lynn Camp O. & G. Co.
Godfrey L. Cabot
Carnegie Nat. Gas Co.,
Carr & Bowser,
Carter Oil Company,
Champion O. & G. Co.
Clarksburg & Morgantown O. & G. Co.
R. J. & A. B. Collins,
Comet Oil & Gas Co.,
Commonwealth Petroleum Co.,
Conservative O. & G. Co.,
Continental O. & G. Co.,
C. E. Crislip,
Crude Oil Company,
J. J. Cummings et.al,
Thos. J. Davis
E. S. Deison et al,
Demo Oil & Gas Co.,
Determan & Gum,
Eagle District Gas Co.,
Eastern Petroleum Co.,
Edwards & Edmiston,
Empire Gas Co.,
K. C. Farrow,
Jake Fisher,
W. H. Fisher et al,
Ira Fittro et al,
G. & G. Oil Co.,
Nathan Goff,
Greenwood Oil Co.
W. Dexter Gribble,
Ira Haught,
Hays & Satterfield,
Henaghan & Hanlon,
High Grade Oil Co.,
Home Gas Co.,
Horner & Schaffner,
Jackson Oil Co.
Johnson Oil Co.
M. H. King et al
A. E. Lamp et al,
Liberty Oil & Gas Co.,
J. T. Locke et al,
D. C. Loughery,
R. T R. T. Lowndes,
Maxwell & Jarvis,
J. H. McDermott Oil Co.,
H. E. McGinnis et al,
McKinley & Fisher,
W. H. Meservie et al,
Middle Is. O. & G. Co.
Mill Fork O. & G. Co.
Mineral Springs Oil Co.
R. S. Monroe,
A. B. Moore,
Myers Stone Oil Co.
Nay & Kinzer
Neal Oil & Gas Co.
Nina Oil & Gas Co.
Wm. S. O'Brien, Trustee,
Ohio Valley O. & G. Co.
T. J. Parrish
Peoples Natural Gas Co.
Piel & Strohmeyer,
Phila. Co. of W. Va.
Pgh. & W. Va. Gas Co.
Producers Gas Co.,
Purinton Oil Co.
Randolph & Lowther,
Reserve Gas Company,
Richter Oil Co.
R. T. Rinehart,
Riverside Eastern O. Co.,
Ruth, Stout & Strong,
Salem Fork O. & G. Co.
Schaffner Brothers,
Shinns Run O. & G. Co.
Simpson Creek O. & G. Co.
South Penn Oil Co.,
Steel & Allman O. & G. Co.
Morton Stein, Trustee,
Stony Run O. & G. Co.
Strother Bros. & Ward,
R. L. Strother et al,
W. L. Strothers et al,
Two Mile Oil Company,
The Oil & Gas Co.
Wellington Thomas,
T. P. Townsell et al,
United Fuel Gas Co.,
Vesper Gas Co.,
Victoria Oil Co.
H. B. Walker, Trustee,
J. R. Westfall & F. E. Pritchard,
S. M. Whan,
Clark White,
W. W. Wilson et al,
Wiser Oil Co.

Form No. 7

Gas and Oil

A part of the report of Hope Natural Gas Company.

How many acres of undeveloped oil leases are controlled by the company making this report?

Total: Don't know

In West Virginia: "

How many acres of developed oil leases?

Total: 12,355.94

In West Virginia: 12,355.24

How many producing oil wells were owned at the beginning of the year?

Total: 323

In West Virginia: 323

How many producing oil wells were drilled during the year? Drilled 82, Purchased 1½

Total: 105½

Transferred from G. to Oil 22

In West Virginia: 105½

How many oil wells were abandoned during the year? Abandoned 5, Sold 8½

Total: 19½

Transferred from Oil to Gas 11

In West Virginia: 19½

How many producing oil wells were owned at the end of the year?

Total: 409

In West Virginia: 409

What was the total average daily production of oil for last year?

Total: 782.30

In West Virginia: 782.30

What was the total average daily production of oil for this year?

Total: 840.06

In West Virginia: 840.06

What was the total production of oil for the month of December, this year?

Total: 23,794.77

In West Virginia: 23,794.77

What was the total production of oil for the year?

Total: 306,620.14

In West Virginia: 306,620.14

What was the average price per barrel received for oil sold during the year?

Total: 4.24

In West Virginia: 4.24

If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?

Total: No

In West Virginia: "

What was the total number of barrels of oil transported through the pipe lines of this company for the year?

Total: No 9

In West Virginia: "

What does this company charge for transporting oil through its pipe lines? "

PAGE 10.

Form No. 8—U.

Public Utility

A part of the report of Hope Natural Gas Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-136.
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property Returned by Company	Assessed by Bd. of Pub. Works
BARBOUR COUNTY					
Elk	13,900.13	6	11.57	$ 51,420.29	$ 61,350.00
Philippi	6,197.80	-	-	2,788.88	2,788.00
Pleasants	25,586.23	-	-	11,513.80	11,514.00
Union	18,744.02	-	2.48	21,369.50	21,340.00
	64,427.88	6	14.20	$ 87,092.47	$ 96,993.00
BRAXTON COUNTY					
Birch	18,978.25	-	1.26	26,221.45	26,221.00
Otter	7,951.50	-	-	7,156.35	7,156.00
Town of Burnsville	-	-	-	7,953.04	7,953.00
Salt Lick	15,523.00	40	29.95	243,395.36	309,395.00
	42,452.75	40	31.21	$284,726.10	$350,725.00
BROOKE COUNTY					
Town of Colliers	5.00	-	2.01	$ 5,662.67	$ 5,663.00
Cross Creek	1,842.00	9	9.51	36,065.35	57,515.00
	1,847.00	9	11.52	$ 41,728.02	$ 63,178.00
CALHOUN COUNTY					
Town of Grantsville	-	-	-	$102,799.09	$102,799.00
Center	13,297.38	10	19.87	515,579.10	533,729.00
Lee	23,949.20	1	5.35	35,282.73	38,583.00
Sheridan	13,318.75	7½	4.42	26,331.39	38,706.00
Sherman	38,090.48	22	46.24	325,982.48	431,562.00
Washington	36,271.78	19	21.44	137,356.31	173,656.00
	124,927.79	59½	97.32	$1143,331.10	$1319,055.00
CLAY COUNTY					
Buffalo	4,854.00	-	-	$ 18,719.77	$ 18,720.00
Otter	2,415.00	-	-	2,173.50	2,173.00
	7,269.00	-	-	$ 20,893.27	$ 20,893.00

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of Hope Natural Gas Company.

DODDRIDGE COUNTY					
Central	5,750.61	29	37.50	$357,644.97	$459,945.00
Cove	5,012.00	18	26.06	147,082.74	180,065.00
Grant	14,586.77	121	69.65	494,715.15	697,665.00
Greenbrier	8,882.06	91	64.72	671,135.58	892,236.00
Independent	-	-	-	27,636.62	27,637.00
McClelland	14,014.23	108	85.56	575,080.02	759,890.00
New Milton	10,568.00	15	11.46	132,445.42	175,345.00
South West	755.00	5	7.55	61,996.18	70,246.00
Town of West Union	-	-	4.38	38,376.92	38,377.00
West Union	6,441.26	62	50.89	490,479.30	586,279.00
	65,010.15	449	357.77	$2976,792.81	$3877,695.00
GLADER COUNTY					
Center	34,567.91	14	9.57	$ 86,012.67	$ 110,763.00
DeKalb	24,793.01	40	25.05	196,665.62	267,964.00
Town of Layopelis	-	-	1.02	308.94	309.00
Glenville	13,305.68	13	18.94	135,216.79	156,667.00
Troy	22,803.50	40½	39.06	285,132.63	373,883.00
	95,490.10	107½	93.64	$703,334.65	$ 909,586.00
KANAWHA COUNTY					
Jefferson	1.29	-	-	$ 500.00	$ 500.00
HARRISON COUNTY					
Clark	2,532.62	40	37.37	$460,754.89	$ 555,005.00
Clay	11,912.23	82	60.42	436,315.15	580,215.00
Town of Clarksburg	-	-	-	63,608.87	63,609.00
Coal	4,373.75	60	36.52	811,148.38	916,748.00
Town of Lumberport	-	-	-	93,286.90	93,286.00
Eagle	17,309192	227	116.47	936,016.96	1324,117.00
Elk	21,991.75	54	28.89	224,001.58	313,102.00
Grant	19,011.52	191	114.06	953,267.44	1276,017.00
Sardis	12,079.91	142	97.23	895,935.75	1146,736.00
Town of Bridgeport	-	-	-	43,959.88	43,960.00
Simpson	19,471.71	57	35.74	253,539.96	350,861.00
Town of Salem	-	-	-	29,187.67	29,188.00
Ten Mile	7,811.08	46	41.56	581,721.23	627,423.00
Union	14,383.19	160	105.67	1298,972.72	1619,073.00
	130,647.68	1059	693.93	$7035,707.38	$8918,360.00
LEWIS COUNTY					
Collins Settlement	13,863.67	13	20.91	$ 79,871.10	$ 101,321.00
Court House	18,630.87	134	116.35	1009,173.58	$1246,774.00
Town of Weston	-	-	-	66,350.92	66,351.00
Freemans Creek	17,672.49	148	116.45	1125,254.10	11399,154.00
Hackers Creek	24,149.51	146	91.97	894,064.71	1135,911.00
Skin Creek	17,122.00	3	10.19	58,642.05	63,592.00
	91,438.54	444	355.87	$3233,356.41	$4013,103.00

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of Hope Natural Gas Company.

MARION COUNTY					
Fairmont	1,707.00	6	5.21	$ 25,460.61	$ 35,361.00
Grant	4,212.00	11	5.33	32,062.23	50,213.00
Lincoln	12,737.76	154	141.14	1270,904.67	1524,006.00
City of Mannington	-	-	13.90	210,392.09	210,393.00
Mannington	9,955.17	84	130.53	499,320.04	672,570.00
Town of Fairview	-	-	5.54	88,309.29	88,309.00
Paw Paw	5,344.75	55	45.17	249,769.78	340,519.00
Union	6,036.25	-	-	3,018.12	3,016.00
Winfield	7,648.25	2	1.72	22,991.53	26,292.00
	47,639.18	312	348.34	$2402,228.16	$2950,679.00
MARSHALL COUNTY					
Clay	-	-	13.61	$ 106,971.96	$ 106,972.00
Franklin	1.43	-	26.41	235,248.07	235,248.00
Liberty	1,628.00	4	8.35	44,276.96	50,877.00
Meade	8,256.43	40	44.29	265,098.10	352,748.00
	9,884.86	44	92.86	$ 651,595.09	$ 725,845.00
MONONGALIA COUNTY					
Battelle	9,315.33	56	75.13	$ 411,456.58	$ 535,206.00
Cass	479.00	3	7.94	32,211.58	37,161.00
Clay	4,826.72	41½	54.30	277,966.42	374,493.00
Clinton	3,359.00	-	-	6,010.20	6,010.00
Grant	6,274.50	28	17.77	104,910.92	152,761.00
Morgan	3,050.00	-	-	5,490.00	5,490.00
Union	14,000.00	-	-	32,267.20	32,267.00
	41,284.55	138½	155.14	$ 870,313.71	$1143,388.00
NICHOLAS COUNTY					
Hamilton	245.00	-	-	$ 220.50	$ 221.00
PLEASANTS COUNTY					
Grant-	866.38	-	5.05	$ 7,226.24	$ 7,226.00
Jefferson	3,873.50	22	34.96	198,982.86	240,233.00
Lafayette	50.00	1	2.20	2,759.66	4,410.00
McKinley	-	-	-	141.70	142.00
Town of St. Marys	-	-	6.61	10,795.79	10,796.00
Washington	-	-	7.10	7,033.90	7,034.00
Union	54.00	-	.29	108.37	108.00
	4,843.88	23	56.21	$ 227,048.32	$ 269,949.00
RITCHIE COUNTY					
Town of Pennsboro	-	-	-	$ 211.01	$ 211.00
" " Ellenboro	-	-	-	9.12	9.00
Clay	7,234.63	36	52.49	284,347.25	363,547.00
Grant-	21,695.38	25	70.06	445,549.16	506,599.00
Murphy	37,903.70	116	123.35	921,270.57	1151,271.00
Union	23,968.50	21	26.59	283,900.34	323,500.00
	91,012.11	198	272.29	$1935,287.25	$2345,137.00
ROANE COUNTY					
Smithfield	6.00	-	-	$ 300.00	$ 300.00
Spencer	794.00	-	-	397.00	397.00
Reedy	972.00	-	-	486.00	486.00
	1,772.00	-	-	$ 1,183.00	$ 1,183.00

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of ~~Hope Natural Gas~~ Company.

TAYLOR COUNTY					
Booths Creek	7,281.00	10	6.76	$ 58,765.64	$ 75,244.00
Court House	1,481.60	-	-	7,090.60	7,091.00
Flemington	5,517.00	2	-	11,925.50	15,226.00
	14,279.60	12	6.76	$ 77,759.94	$ 97,561.00
TYLER COUNTY					
Centerville	7,385.50	40	29.99	$ 265,738.11	$ 351,118.00
Ellsworth	3,460.00	17	37.68	108,757.05	136,457.00
Town of Paden City	-	-	.70	4,486.11	4,486.00
" " Sistersville	-	-	12.76	25,786.89	25,787.00
Lincoln	1,056.00	4	24.27	47,269.24	53,869.00
McElroy	7,772.41	61	73.84	699,864.45	805,289.00
Meade	632.00	1	-	3,245.00	4,895.00
Town of Friendly	-	-	1.57	1,996.25	1,996.00
Union	45.00	1	4.06	3,257.27	4,987.00
	20,340.91	124	184.87	$1158,482.92	$1390,886.00
USHER COUNTY					
Banks	262.00	2	6.75	$ 7,531.49	$ 10,831.00
Buckhannon	2,766.00	-	-	691.50	692.00
Meade	-	-	2.95	1,967.29	1,967.00
Warren	19,806.00	-	-	4,951.50	4,952.00
	22,834.00	2	9.68	$ 15,141.78	$ 18,462.00
WETZEL COUNTY					
Town of Wileyville	-	-	.68	$ 437.75	$ 438.00
Center	11,762.34	23	40.11	278,923.40	321,823.00
Church	1,098.00	19	14.52	88,071.34	102,721.00
Town of Littleton	-	-	2.36	49,414.95	49,415.00
Clay	2,097.45	7	17.28	104,128.69	118,979.00
Town of Smithfield	-	-	5.03	58,274.77	58,275.00
" " Pine Grove	-	-	2.63	4,146.37	4,146.00
Grant	52,660.27	163	178.22	2895,953.22	3164,635.00
Green	11,637.55	87	102.68	686,953.23	832,153.00
Town of Paden City	.08	-	8.16	13,193.17	13,193.00
Magnolia	-	-	14.02	164,536.40	164,538.00
Proctor	15,470.50	12	39.43	368,427.40	396,477.00
	74,926.17	311	427.52	$4691,562.67	$5226,811.00
WIRT COUNTY					
Burning Springs	8,816.18	5	2.09	$ 26,279.38	$ 36,179.00
Clay	3,709.55	-	-	3,709.55	3,710.00
Elizabeth	4,300.70	-	-	4,300.70	4,301.00
Newark	10.56	-	-	1,056.00	1,056.00
Reedy	783.50	-	-	783.50	784.00
Spring Creek	3,234.09	-	-	9,550.61	9,551.00
Tucker	6,910.82	-	-	6,910.82	6,911.00
	27,765.40	5	2.09	$ 52,590.56	$ 62,492.00
WOOD COUNTY					
Clay	-	-	9.74	$ 8,563.82	$ 8,564.00
Harris	778.50	-	-	778.50	779.00
Lubeck	224.00	-	6.52	6,442.12	6,442.00
Town of Parkersburg	-	-	69.41	169,836.93	169,837.00
Parkersburg	-	-	31.17	50,180.29	50,180.00
Slate	1,285.01	-	-	1,285.01	1,285.00
Steele	6,237.26	-	-	6,237.26	6,237.00
Tygart	1,056.00	-	8.53	132,951.10	132,951.00
Union	94.00	-	26.71	82,608.15	82,608.00
Walker	10,648.82	-	1.27	16,399.32	16,399.00
Town of Williamson	-	-	13.03	24,732.07	24,732.00
Williams	-	-	24.03	47,285.92	47,286.00
	20,302.99	-	190.41	$ 547,300.49	$547,300.00
Totals.....	1,001,622.85	5333½	3401.45	$28,156,196.80	$34,350,000.00

Form No. 9 U.

Public Utility.

A part of the report of the Hope Natural Gas Company.

West Va. EXPLANATORY REMARKS 1920

The Unit prices used on pipe and materials are approximately those approved some years ago by Tax Commissioners Townsend and Dillon; the same prices substantially have been used each year since that time, and have formed a fair guide together with a relatively equal rate on leaseholds for several years for the division of taxes if not for the ascertainment of true and actual value of unit prices in a going concern.

State of Pennsylvania }
County of Allegheny } ss

I, THE UNDERSIGNED, R. D. Beardsley, Treasurer
Name of Officer. *Official Title.*

of the Hope Natural Gas Company Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value*, to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the beforementioned property would sell if voluntarily offered for sale upon such terms as such property is usualy sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

R. D. Beardsley.

Treasurer
Official Title.

SUBSCRIBED AND SWORN TO before me this 26th day of March 1920

G. A. Kinley.

My Commision Expires March 25, 1921.
Notary Public.

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

PAGE ---

Pgh & W. Va. Report Bd. Pub. Wks., W. Va. Ex. 10

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility:

A part of the report of the Pittsburgh & West Virginia Gas Company.

1. Name of company making this report Pittsburgh and West Virginia Gas Company.
2. Nature of company, whether person or persons, association or corporation Corporation
3. Organized under the laws of what state West Virginia
4. Location of Principal Office 435 Sixth Avenue, Pittsburgh, Penna.
5. Location of Principal Place of Business in West Virginia Union National Bank Bldg., Clarksburg, W. Va.
6. Name of President and his address in full A. W. Thompson, 435 Sixth Avenue, Pittsburgh, Penna.
7. Name of Secretary and his address in full W. B. Carson, 435 Sixth Avenue, Pittsburgh, Penna.
8. Name of General Manager and his address in full W. L. McCloy, 435 Sixth Avenue, Pittsburgh, Penna.
9. Name of Chief Officer or Managing Agent in W. Va., and his address in full John F. McNary, Clarksburg, West Virginia.
10. Name of Tax Agent and his address in full None
11. Name and full address of officer to whom correspondence regarding this report should be addressed

W. E. McCloy.	General Manager	Pittsburgh, Penna.
(Name)	*(Title)*	*(Address)*

12. Date of annual meeting of stockholders Third Wednesday in June,
13. The books of the company are closed for the year on what date December 31st.
14. If a consolidated company, name the constituent companies Not consolidated.

REMARKS.

Number of pages of your report. This is PAGE 1.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of Pittsburgh and West Virginia Gas Company.

What is the amount of the authorized capital stock?	$ 8,000,000.00
How much of the capital stock has been issued?	$ 6,000,000.00
How many shares of common stock issued?	$ 37,500.
How many shares of preferred stock issued?	$ 22,500.
What is the par value, per share, of the common stock?	$ 100.00
What is the par value, per share, of the preferred stock?	$ 100.00
What is the market value, per share, of the common stock	$ 100.00
What is the market value, per share, of the preferred stock?	$ 100.00
If stock is not on the market, at what is it valued per share?	$ 100.00
How much of the stock was paid for in cash?	$ 3,300,000.00

What was the consideration for stock issued, but not paid for in cash? Property

If any part of the stock was not paid for in cash, was the consideration equivalent to cash? Yes

How much bonus stock, if any, was issued? $ None

If stock is not worth par, how do you account for the fact that it is not?

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
Monongahela Natural Gas Co.	$150,000	750,000	6%	750,000
Capital Stock,	each Oct.			
	1st 1919			
Totals	to 1923	750,000		750,000

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
Plant Investment & Working Capital	Demand	2,350,000.00	6%	2,350,000.00
Loan from Philadelphia Co.				
Totals		2,350,000.00		2,350,000.00

Accounts receivable, December 31, 1919 $ 2,477,921.81

This company ~~[illegible]~~ or was acquired by the present owners ~~[illegible]~~ Philadelphia Co.
(month) January (day) First (year) 1906

Investment. (By present owners.)

Stock issued (money value)	$ 5,700,000.00	
Amount realized from sale of bonds	$ 1,500,000.00	
Earnings put into plant	$ 1,386,675.68	
	$	
Total investment or cost (entire plant)		$ 8,586,675.68
What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds?		$
What would be the approximate cost of reproducing the entire plant new?		Do not know
What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia?		$ "
What is the total value of the entire plant, as shown by the books of the Company?		$ 8,586,675.68
What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company?		$ 7,036,675.68

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 3—U.

Public Utility.

A part of the report of Pittsburgh and West Virginia Gas Company.

What were the total gross earnings (including all sums earned or charged ,whether actually received or not, and its proportion of the gross receipts for business done by it in connection with other companies or firms), of the Company, Co-partnership, Association or Corporation making this report, for the year ending

December 31, 1919 in all States? $ 6,216,430.54

in West Virginia $ 6,216,430.54

How much of the gross earnings resulted from business actually done in West Virginia? $ 6,216,430.54

How much of the total gross earnings should properly be credited to West Virginia to give the state a fair share of earnings? $ 6,216,430.54

If this company operates outside of West Virginia, how, or upon what principle were the earnings apportioned, as between this state and other states?

Does not Operate outside of West Virginia

What were the total operating and maintenance expenses including interest and taxes in all states? $ 3,844,354.64

What were the total operating and maintenance expenses including interest and taxes in West Virginia? $ 3,844,354.64

("Operating and maintenance expenses" is to be understood to mean the actual expenses of operation, and actual expenditures for maintenance. Expenditures for new work (peramnent improvements and additions), and dividends are not to be included as operating expenses.)

If this company operates outside of West Virginia, how, or upon what principle were the operating expenses apportioned as between this state and other states?

Does not operate outside of West Virginia

What were the net earnings in West Virginia for the year ending December 31, 1919? $ 2,372,075.90

What were the total net earnings, in all states, for the year ending December 31, 1919? $ 2,372,075.90

What dividends were declared during the year on common stock? 8 per cent; amount $ 300,000.00

What dividends were declared during the year on preferred stock? 6 per cent; amount $ 135,000.00

When were the dividends declared on common stock? Dec. 18, 1919 Preferred Stock? April 1st, 1919 Oct. 1st, 1919

Interest paid on Funded Debt during the year $ 6,830.36

Interest paid on Unfunded Debt during the year $ 136,942.12

(There should appear on each sheet of this report *some notation* to indicate that the information desired or questions asked have not been overlooked. The word "none" may be used against any particular item or items, where that word expresses the *facts*. If, for any reason, for any item, the exact amount cannot be reported, such an amount as is approximately correct must be reported. In such case, refer by note to "remarks" at the bottom of the sheet on which a diviation occurs, where a brief explanation should be given why specific data called for cannot be returned *exactly as requested*.)

REMARKS.

3.U-A
Form No. ~~3-U-A~~ Continued

Public Utility

A part of report of Pittsburgh and West Virginia Gas Company

	Entire Plant	West Va.
PROSPECTING AND LEASE EXPENSES:		
Purchase of Leases	$ 26,639.16	
Rent on Gas Leases,	207,447.77	
Drilling Unproductive Wells,	221,137.81	
Miscellaneous,	5,066.88	
	$460,291.62	$460,291.62
PRODUCTION EXPENSES:		
Superintendence,	36,243.03	
Gas Wells Royalties,	345,132.69	
Operating Gas Wells,	115,065.55	
Repairs of Gas Wells,	365,868.22	
Drilling Gas Wells,	443,361.33	
Repairs of Buildings and Fixtures used in Production,	1,844.49	
	1,307,515.31	1,307,515.31
GAS PURCHASED:	814,523.87	814,523.87
TRANSPORTATION EXPENSES:		
Superintendence,	33,976.74	
Operating Transportation Lines	57,826.51	
" Compressing Stations,	191,760.23	
" Pressure Stations,	36,751.06	
Labor Laying Well Connecting Lines,	80,799.39	
Repairs of Transportation Lines,	78,663.62	
Repairs of Compressing Station Equipment	68,904.72	
Repairs of Compressing Station Buildings and Fixtures,	24,544.23	
Repairs of Miscellaneous Buildings and Fixtures,	3,712.81	
Miscellaneous Maintenance Expenses,	1,511.98	
	578,451.29	578,451.29
DISTRIBUTION EXPENSES:		
Superintendence,	2,737.06	
Operating Lines,	1,782.26	
Operating Meters, Regulators and Services,	27,474.50	
Operating Pressure Stations,	1,619.01	
Repairs of Distribution Lines and Services	9,793.54	
Repairs of Meters,	5,925.65	
Repairs of Regulators,	54.86	
Repairs of Buildings,	81.02	
Miscellaneous Maintenance Expenses,	6.23	
	49,474.13	49,474.13
COMMERCIAL EXPENSES:		
Salaries and Expenses,	832.06	
Billing and Collection,	14,307.55	
Stationery, Printing and Postage,	880.70	
Transportationcof Employes,	1,260.27	
Advertising	50.00	
Miscellaneous Expenses,	892.92	
	18,223.50	18,223.50
GENERAL EXPENSES:		
Salaries and Expenses of General Officers,	20,918.51	
Salaries and Expenses of General Office Clerks,	39,951.41	
General Office Supplies and Expenses	12,375.58	
General Legal Expenses,	4,905.82	
Pensions and Gratuities,	6,577.80	
Miscellaneous General Expenses,	4,103.03	
Injuries and Damages,	3,632.43	
Insurance,	3,971.65	
Stationery, Printing and Postage,	4,999.38	

Form No. 3—U.—A.—Continued.

Gas and Oil.

A part of the report of Pittsburgh and West Virginia Gas Company.

Brought forward from Form No. 3 U.—A.	$	$
Taxes:		
License or Charter Taxes		
General Property Taxes		
Federal Excess Profits Tax		
Federal Income Tax		
Other Federal Taxes		
Miscellaneous Taxes		
Interest and Discount:		
On Bonds and other Funded Debt		
On Unfunded Debt		
Gas Purchased		
Miscellaneous Expense which can not be set out under the above headings: (Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.) (Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
Totals		

What amount, if any, ~~should be~~ was charged off for depreciation? $ 314,328.51 $ 314,328.51

What is considered a fair rate of depreciation?

What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above?

Pipe Lines, $105,966.06; Gas Wells Materials, $163,075.16; Compressing stations, $41,335.06; Measuring Stations, $612.26; Telephone Lines $3,339.27

Form No. 4—U

Public Utility

A part of the report of Pittsburgh and West Virginia Gas Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA.	
	Dollars	Cts.	Dollars	Cts.
Gas Wells Purchased	3,729	.72	3,729	.72
Gas Wells Drilled,	209,580	.81	209,580	.81
Transportation Pipe Lines,	48,024	.91	48,024	.91
Distribution Pipe Lines,	448	.62	448	.62
Well Connecting Lines,	82,708	.81	82,708	.81
Suction Pipe Lines,	16,435	.42	16,435	.42
Measuring Stations,	7,517	.90	7,517	.90
Meters,	8,271	.49	8,271	.49
Regulators,	2,069	.61	2,069	.61
Telephone Lines,	11,029	.57	11,029	.57
Real Estate,	1,664	.50	1,664	.50
Buildings	1,299	.38	1,299	.38
Compressing Station,	194,992	.91	194,992	.91
Total	587,773	.65	587,773	.65

Form No. 5.

Gas and Oil:

A part of the report of Pittsburgh and West Virginia Gas Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	TIME USED
1"	1.14	None	11 to 21 years
2"	57.05	"	"
3"	55.08	"	"
4"	109.69	"	"
4-7/8"	.64	"	"
5-3/16"	15.86	"	"
6"	355.24	"	"
6-5/8"	18.86	"	"
7-5/8"	2.37	"	"
8"	127.74	"	"
8-1/4"	13.20	"	"
10"	152.35	"	"
12"	115.58	"	"
16"	186.31	"	"

TOTAL MILAGE. 1,211.12

Form No. 6

Gas and Oil

A part of the report of Pittsburgh and West Virginia Gas, Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?

Total in all states	209,127 3/4
In West Virginia	209,127 3/4

How many acres of developed gas leases?

Total in all states	108,198½
In West Virginia	108,198½

How many producing gas wells were owned at the beginning of the year?

Total in all states	1,217
In West Virginia	1,217

How many producing gas wells were drilled during the year?

Total in all states	67
In West Virginia	67

How many "dry" wells were drilled during the year?

Total in all states	29
In West Virginia	29

How many gas wells were purchased during the year?

Total in all states	5
In West Virginia	5

How many gas wells were abandoned during the year?

Total in all states	50
In West Virginia	50

How many gas wells were sold during the year?

Total in all states	1
In West Virginia	1

How many producing gas wells were owned at the end of the year?

Total in all states	1,238
In West Virginia	1,238

How many gas wells were in use at the end of the year?

Total in all states	1,200
In West Virginia	1,200

What was the average rock pressure for the year of the gas wells owned?

Total in all states	186
In West Virginia	186

What was the total daily capacity at the end of the year of the gas wells owned?

Total in all states	
In West Virginia	

What was the total average daily delivery of gas, from wells owned, for the year?

Total in all states	
In West Virginia	

Form No. 6—A.

Gas and Oil

A part of the report of Pittsburgh and West Virginia Gas Company.

If this company sells gas directly to consumers, howmany does it supply?

Total number in all states

Industrial 86

Domestic 4,250

In west Virginia

Industrial 86

Domestic 4,250

To what cities and towns is gas supplied? Same as last year.

To what gas companies, if any, is gas sold? Equitable Gas Co., Hope Natural Gas Co. and Glenville Natural Gas Company.

How many cubic feet of gas were sold during the year?

Total number in all states 26,871,561,100

To other gas companies

Name of company Equitable Gas Company 23,193,406,000

Hope Natural Gas Company. 300,400,000

Monongahela Valley Traction Co. 253,633,000

Glenville Natural Gas Company. 1,423,000

Drillers. (Estimated) 22,687,500

To industrial consumers 2,545,661,500

To domestic consumers 554,350,100

In West Virginia

To other gas companies

Name of company Equitable Gas Company 23,193,406,000

Hope Natural Gas Company. 300,400,000

Monongahela Valley Traction Co. 253,633,000

Glenville Natural Gas Co. 1,423,000

Drillers. (Estimated) 22,687,500

To industrial consumers 2,545,611,500

To domestic consumers 554,350,100

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states 21.484 cents.

To other gas companies

Name of company Equitable Gas Company 21. "

Hope Natural Gas Company 8.74 "

Monongahela Valley Traction Company. 23. "

Glenville Natural Gas Company. 10. "

Drillers. (Estimated) 10. "

"

To industrial consumers 26.043 "

To domestic consumers 27.533 "

In West Virginia "

To other gas companies

Name of company Equitable Gas Company 21. "

Hope Natural Gas Company 8.74 "

Monongahela Valley Traction Company 23. "

Glenville Natural Gas Company. 10. "

Drillers (Estimated) 10. "

"

To industrial consumers 26.043 "

To domestic consumers 27.533 "

Form No. 7

Gas and Oil

A part of the report of Pittsburgh and West Virginia Gas Company.

How many acres of undeveloped oil leases are controlled by the company making this report?

Total The Company owns no leasehold oil or oil rights.

In West Virginia None

How many acres of developed oil leases?

Total

In West Virginia

How many producing oil wells were owned at the beginning of the year?

Total

In West Virginia

How many producing oil wells were drilled during the year?

Total

In West Virginia

How many oil wells were abandoned during the year?

Total

In West Virginia

How many producing oil wells were owned at the end of the year?

Total

In West Virginia

What was the total average daily production of oil for last year?

Total

In West Virginia

What was the total average daily production of oil for this year?

Total

In West Virginia

What was the total production of oil for the month of December, this year?

Total

In West Virginia

What was the total production of oil for the year?

Total

In West Virginia

What was the average price per barrel received for oil sold during the year?

Total

In West Virginia

If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?

Total

In West Virginia

What was the total number of barrels of oil transported through the pipe lines of this company for the year?

Total

In West Virginia

What does this company charge for transporting oil through its pipe lines?

Gas Sold to Equitable Gas Company,	$4,870,615.26
Hope Natural Gas Company,	26,272.91
Monongahela Valley Traction Co.	58,335.59
Glenville Natural Gas Company,	142.30
Domestic Consumers,	152,528.31
Industrial Consumers,	662,959.99
Drillers,	2,268.75
Rental from Real Estate and Buildings,	2,036.95
Miscellaneous Operating Revenue,	75.95
Interest and Discount,	40,347.69
Dividends on Stocks Owned,	400,000.00
Miscellaneous Income,	846.84
Totals,	$ 6,216,430.54

This Company purchased gas during the year ended December 31st. 1919, from the following companies and individuals;

NAME	ADDRESS
The Associated Gas Company,	Clarksburg, W. Va.
Virgil I. Allen,	Centerpoint, W. Va.
The Alkire Oil & Gas Company,	Buckhannon, W. Va.
Browns' Creek Oil & Gas Company.	Clarksburg, W. Va.
Burnsville Gas Company,	Burnsville, W. Va.
A. J. Broderick,	Clarksburg, W. Va.
The Cayton Oil & Gas Company,	Weston, W. Va.
Clarksburg Light & Heat Company,	Clarksburg, W. Va.
Coletrane Oil & Gas Company,	Haywood, W. Va.
The Commercial Coal & Coke Company,	Clarksburg, W. Va.
H. B. Curtin,	"
Geo. L. Dufour & Company,	Huntington, W. Va.
Geo. L. Dufour, et.al.,	Weston, W. Va.
Eastern Petroleum Company,	Salem, W. Va.
Eastern Petroleum Company,	1417 Penn's Bldg., Phila. Pa
Curtis B. Fleming,	Fairmont, W. Va.
Jake Fisher, et.al.,	Burnsville, W. Va.
Sheridan R. Griffin,	Clarksburg, W. Va.
Nathan Goff,	"
Boyd E. Hornor,	"
Hugh Jarvis,	"
The Keystone Oil Co. of New York,	66 Broadway, New York City.
Catherine B. Latstetter, et.al.,	Clarksburg, W. Va.
N. S. Lobaugh, et.al.,	"
R. T. Lowndes,	"
Martin Brothers,	Haywood, W. Va.
W. Brent Maxwells,	Clarksburg, W. Va.
H. H. Mittong,	Lumberport, W. Va.
Fred A. McFarlin,	Adamston, W. Va.
Edward McSweeney,	Lee, Va.
J. C. McWhorter,	Buckhannon, W. Va.
Oakland Oil Company,	Crafton, Pa.
J. W. Overholt & Company,	Mt. Pleasant, Pa.
I. F. Overholt, et.al.,	Mt. Pleasant, Pa.
Producers Gas Company,	Clarksburg, W. Va.
The Robinson Oil & Gas Company,	"
Arthur Sheets & Company,	"
South Penn Oil Company,	Pittsburgh, Pa.
Underwood Oil Company,	"
United Fuel Gas Company,	Charleston, W. Va.
J. Carl Vance and L. S. Hornor,	Clarksburg, W. Va.
J. L. Walton,	"
T. A. Whelan and Frank Alfred,	Weston, W. Va.
Ernest S. Swiger, et.al.,	Clarksburg, W. Va.
T. M. Wise and Criss Oil & Gas Company,	Mannington, W. Va.
Herbert Woolard,	Clarksburg, W. Va.
Wayland Oil & Gas Company,	Charleston, W. Va.

Store Expense,	52,629.52	
Stable and Automobile Expenses,	51,307.43	
Engineering,	5,166.32	
Operation and Maintenance of Telephone System,	22,611.77	
Shop Expense,	5,976.53	
Laboratory Expense,	1,301.38	
	239,648.56	239,648.56
TAXES:		
General Property,	117,901.72	
Federal Income and Excess Profits Tax	8,093.69	
State Excise Tax,	1,999.36	
Public Service Commission Tax,	1,800.00	
State License Tax,	1,750.00	
Automobile License Tax,	442.50	
	131,987.27	131,967.27
RENT OF LEASED PROPERTY	100,000.00	100,000.00
INTEREST ON UNFUNDED DEBT	136,942.12	136,942.12
INTEREST ON FUNDED DEBT	6,830.36	6,830.36
UNCOLLECTIBEL CUSTOMERS' BILLS	466.61	466.61
Totals,	$ 3,844,354.64	$3,844,354.64

QUANTITY OF GAS PURCHASED FROM OTHER GAS COMPANIES, AND AVERAGE PRICE PER M CUBIC FEET PAID FOR SAME.

	In All States Cu. Ft.	Average Price (Cents)	In West Va. (Cu. Ft.)
The Associated Gas Company,	78,444,000	7.31-	78,444,000
The Alkire Oil and Gas Company,	6,806,000	6.	6,806,000
Browns' Creek Oil and Gas Company,	6,090,000	7.38+	6,090,000
Brunsville Gas Company,	145,103,000	8.	145,103,000
The Cayton Oil and Gas Company,	111,130,000	8.	111,130,000
Clarksburg Light and Heat Company	26,946,000	10.	26,946,000
Coletrane Oil and Gas Company,	28,152,000	6.	28,152,000
Eastern Petroleum Company,	102,456,000	8.	102,456,000
Keystone Oil Company of New York,	38,330,000	6.63+	38,330,000
Oakland Oil Company,	14,180,000	8.	14,180,000
Producers Gas Company,	76,524,000	9.	76,524,000
Robinson Oil and Gas Company,	24,674,000	8.	24,674,000
South Penn Oil Company	29,416,000	6.5	29,416,000
Underwood Oil Company,	4,025,000	10.	4,025,000
United Fuel Gas Company	6,217,020,000	11.13-	6,217,020,000
Criss Oil & Gas Co. and T. M. Wise,	22,247,000	8.	22,247,000
Wayland Oil and Gas Company,	37,939,000	5.	37,939,000
Totals,	6,969,482,000		6,969,482,000

Form No. 6—B.

Gas and Oil

A part of the report of Pittsburgh and West Virginia Gas Company.

If this company purchases gas, from whom or what company or companies does it purchase?

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states	
From other gas companies. Name of Companies.	
See Statement Attached.	6,969,482,000
From all other sources	1,158,842,000
Total in West Virginia	8,128,324,000
From other gas companies. Name of Companies.	
See Statement Attached.	6,969,482,000
From all other sources	1,158,842,000

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states	10. + cents
To other gas companies. Name of Companies.	
See Statement Attached	"
	"
	"
	"
To other persons or individuals	5.5- "
In West Virginia	10 + "
To other gas companies. Name of Companies.	
	"
See Statement Attached.	"
	"
	"
To other persons or individuals	5.5 - "

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.

Does this company pipe gas through its lines for other persons or companies? No

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? Listed in returns under Districts in which located.

Form No. 8—U.

Public Utility

A part of the report of Pittsburgh and West Virginia Gas Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-57
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property Returned by Company	Total Value all Property Assessed by Bd. of Pb. Wks.
BARBOUR COUNTY					
Elk	2,047.00	-	-	$ 1,023.50	$ 1,027.59
Pleasants	422.00	-	-	211.00	211.84
Union	358.00	-	-	179.00	179.72
	2,827.00	-	-	$ 1,413.50	$ 1,419.15
BRAXTON COUNTY					
Birch	12,989.00	6	-	$ 23,359.87	$ 23,453.31
Holly	3,619.50	-	-	1,809.75	1,816.99
Kanawha	365.50	-	-	182.75	183.48
Otter	15,085.00	-	-	7,602.50	7,632.91
Salt Lick	13,439.50	41	33.88	295,776.76	296,959.87
Town of Burnsville	-	-	-	125,665.32	126,167.98
	45,498.50	47	33.88	$ 454,396.95	$ 456,214.54
DODDRIDGE COUNTY					
Central	2,935.50	17	32.27	$ 458,104.48	$ 459,936.90
Cove	3,755.00	8	5.62	32,890.33	33,021.89
Grant	1,644.00	16	12.12	121,184.64	121,669.38
Greenbrier	1,801.00	18	23.30	193,780.27	194,555.39
Independence	-	-	.39	4,628.54	4,647.05
McClellan	2,040.00	12	30.64	345,617.66	347,000.13
New Milton	1,402.00	-	-	723.50	726.39
South West	11,271.75	48	19.87	188,597.06	189,351.46
West Union	3,857.50	21	17.39	180,752.19	181,475.20
Town of Industrial	-	-	.31	547.96	550.15
	28,706.75	140	141.91	$1,526,826.63	$1,532,933.94
GILMER COUNTY					
Center	9,570.00	-	1.30	$ 20,362.99	$ 20,444.44
DeKalb	11,113.25	-	-	8,828.43	8,863.74
Glenville	20,765.50	23	18.96	175,888.24	176,591.79
Glenville Independent	267.00	-	-	133.50	134.03
Troy	11,500.75	4	2.91	43,329.73	43,303.06
	53,216.50	27	23.17	$ 248,542.89	$ 249,337.06
HARRISON COUNTY					
Clark	181.00	9	29.56	$ 211,985.29	$ 212,833.23
Clay	2,330.25	28	33.35	154,345.40	154,962.78
Coal	775.50	6	10.71	59,414.69	59,652.35
Eagle	5,362.00	69	63.71	379,418.49	380,736.16
Elk	609.00	7	4.63	25,773.00	25,876.09
Grant	840.25	18	22.22	117,809.40	118,280.64
Sardis	1,929.50	29	29.52	183,376.06	184,109.86
Simpson	1,491.00	7	2.34	21,775.03	21,862.14
Ten Mile	-	-	14.91	138,898.86	139,454.46
Union	1,696.00	31	40.21	307,361.13	308,590.57
Town of Clarksburg	-	-	.58	35,168.20	35,308.87
" " Enterprise	-	-	1.39	3,124.94	3,137.44
" " Lumberport	59.00	3	2.22	11,423.06	11,468.78
" " Shinnston	-	-	1.82	28,349.47	28,462.87
Totals.....	15,273.50	207	257.17	$1,678,223.05	$1,684,735.94

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of Pittsburgh and West Virginia Gas Company.

LEWIS COUNTY					
Collins Settlement,	14,780.25	3	.43	$ 15,737.44	$ 15,800.39
Court House	17,612.25	132	94.06	964,121.13	967,977.62
Freemans Creek	7,469.75	63	73.40	634,122.28	636,658.77
Hackers Creek	2,869.00	40	21.32	149,532.85	150,130.90
Skin Creek	5,042.75	2	.30	8,925.65	8,961.35
Town of Weston	-	-	-	41,722.75	41,889.64
	47,774.00	240	189.51	$1,814,162.10	$1,821,418.67
MARION COUNTY					
Fairmont	1,258.50	11	4.05	$ 33,385.99	$ 37,535.53
Grant	773.25	8	10.55	49,931.64	50,131.37
Lincoln	4,506.50	65	79.37	714,660.20	717,518.84
Mannington	3,102.50	41	18.66	145,251.45	145,802.46
Paw Paw	763.25	10	11.04	108,727.59	109,362.50
Union	124.00	-	10.99	25,109198	25,210.42
Winfield	807.00	-	-	403.50	405.11
Town of Worthington	-	-	.67	2,781.04	2,792.16
	11,335.00	135	135.33	$1,084,251.39	$1,088,758.39
MARSHALL COUNTY					
Liberty	256.00	-	-	$ 2,201.94	$ 2,210.75
MONONGALIA COUNTY					
Battelle	3,606.50	25	19.76	$ 101,779.72	$ 102,186.84
Cass	94.00	-	-	47.00	47.19
Clay	4,964.50	30	37.14	360,675.75	$ 362,118.45
	8,662.00	55	56.90	$ 462,502.47	$ 464,352.48
PLEASANTS COUNTY					
Lafayette	128.00	-	-	$ 64.00	$ 64.26
RITCHIE COUNTY					
Clay	19,167.75	92	53.85	$ 416,223.67	$ 417,898.60
Union	13,759.50	7	2.12	29,631.59	29,750.02
	32,927.25	99	55.97	$ 445,865.26	$ 447,648.62
TAYLOR COUNTY					
Booths Creek	5,969.00	34	26.49	$ 178,755.86	$ 179,470.88
Court House	646.00	4	5.81	25,954.68	26,058.50
Fetterman	1,661.50	-	5.22	17,608.89	17,679.36
Flemington	864.00	1	10.00	11,169.00	11,213.67
Knottsville	-	-	.60	325.20	326.50
Town of Bluesville	-	-	.06	964.02	967.88
" " Grafton	-	-	29.05	79,942.30	80,262.06
Pruntytown Independent	236.00	1	4.98	11,971.23	12,019.20
	9,376.50	40	82.21	$ 326,691.27	$ 327,998.05
TYLER COUNTY					
Centerville	4,732.00	32	23.17	$ 183,635.08	$ 184,369.62
McElroy	6,943.75	54	37.29	383,126.94	384,659.45
	11,775.75	86	60.46	$ 566,762.02	$ 569,029.07
UPSHUR COUNTY					
Banks	5,905.00	-	-	$ 2,952.50	$ 2,964.32
Buckhannon	3,628.00	-	-	1,814.00	1,821.25
Meade	6,237.00	-	-	3,118.50	3,130.97
Union	4,502.00	-	-	2,251.00	2,260.00
Warren	7,640.50	-	-	3,820.25	3,835.54
Washington	1,732.00	-	-	866.00	869.46
	29,644.50	-	-	$ 14,822.25	$ 14,881.54

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of Pittsburgh and West Virginia Company.

		WEBSTER COUNTY			
Holly	405.00	-	-	$ 202.50	$ 203.31
		WETZEL COUNTY			
Center	270.00	1	12.66	$110,212.54	$110,550.39
Church	5,667.00	89	56.56	419,716.47	421,395.34
Clay	756.00	4	16.48	166,485.28	167,151.22
Grant	11,719.75	64	80.43	674,572.07	677,270.36
Green	1,284.00	6	7.94	70,537.84	70,819.99
Town of Hundred	-	-	.51	90,129.56	90,490.08
" " Pine Grove	-	-	.51	1,012.80	1,016.85
	19,687.75	164	175.09	$1,532,666.56	$1,538,794.23
Totals,	317,494.00	1240	1211.60	$10,159,594.78	$10,200,000.00

Public Utility.

A part of the report of the Pittsburgh and West Virginia Gas Company.

EXPLANATORY REMARKS

State of Pennsylvania }
County of Allegheny } ss

I, *THE UNDERSIGNED*, A. W. Thompson, President
Name of Officer. *Official Title.*

of the Pittsburgh and West Virginia Gas Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value*, to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the beforementioned property would sell if voluntarily offered for sale upon such terms as such property is usualy sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

A. W. Thompson

President
Official Title.

SUBSCRIBED AND SWORN TO before me this 29th day of March 1920

W. A. Martin,

Notary Public

My Commission Expires March 25, 1921.
Notary Public.

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

United Fuel Report Bd. Pub. Wks. W. Va. Ex. 11

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility:

A part of the report of the United Fuel Gas Company.

1. Name of company making this report United Fuel Gas Company

2. Nature of company, whether person or persons, association or corporation Corporation

3. Organized under the laws of what state West Virginia

4. Location of Principal Office Quarrier and Dunbar Streets.
Charleston, West Virginia

5. Location of Principal Place of Business in West Virginia Charleston, West Virginia

6. Name of President and his address in full F. W. Crawford.
52 West Gay Street, Columbus, Ohio.

7. Name of Secretary and his address in full L. A. Seyffert
Charleston, West Virginia

8. Name of General Manager and his address in full H. A. Wallace
Charleston, West Virginia

9. Name of Chief Officer or Managing Agent in W. Va., and his address in full
H. A. Wallace, Charleston, West Virginia

10. Name of Tax Agent and his address in full None

11. Name and full address of officer to whom correspondence regarding this report should be addressed

L. A. Seyffert	Secretary and Treasurer	Charleston, W. Va.
(Name)	*(Title)*	*(Address)*

12. Date of annual meeting of stockholders Second Tuesday in February

13. The books of the company are closed for the year on what date December 31.

14. If a consolidated company, name the constituent companies

REMARKS.

306

Number of pages of your report. This is
PAGE 1.

United Fuel Report Bd. Pub. Wks. W. Va. Ex. 11

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of United Fuel Gas Company.

What is the amount of the authorized capital stock? $ 10,000,000.

How much of the capital stock has been issued? $ 10,000,000.

How many shares of common stock issued? $ 100,000.

How many shares of preferred stock issued? $ None

What is the par value, per share, of the common stock? $ 100.

What is the par value, per share, of the preferred stock? $ None

What is the market value, per share, of the common stock $ No Market

What is the market value, per share, of the preferred stock? $ -

If stock is not on the market, at what is it valued per share? $ -

How much of the stock was paid for in cash? $ -

What was the consideration for stock issued, but not paid for in cash? Property

If any part of the stock was not paid for in cash, was the consideration equivalent to cash? Yes

How much bonus stock, if any, was issued? $ None

If stock is not worth par, how do you account for the fact that it is not?

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
Construction of Plant; and underlying Bonds of purchased Companies	1936	10,447,000	6%	-
Totals				

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
				2,262,795.87
Totals				

Accounts receivable, December 31, $1,542,140.49

This company began business or was acquired by the present owners or operators _____ (month) _____ (day) _____ (year) _____

Investment. (By present owners.)

Stock issued (money value) $ _____

Amount realized from sale of bonds $ _____

Earnings put into plant $ _____

$ _____

Total investment or cost (entire plant) $ _____

What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds? $ _____

What would be the approximate cost of reproducing the entire plant new? _____

What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia? $ _____

What is the total value of the entire plant, as shown by the books of the Company? $26,499,036.95 (Cost)

What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company? $ _____

Form No. 3. U—A.

Gas and Oil.

A part of the report of the United Fuel Gas Company.

THE OPERATING AND MAINTENANCE AND OTHER EXPENSES as shown below should not include expenditures for additions to plant, dividends or any amount for depreciation.

Operating and Maintenance Expenses, Interest, Etc., for the year ending December 31, (Fully itemize.)	Entire Plant	West Va.
General Expenses:		
Salaries and Expenses of General Officers	$ 90,935.32	$
Salaries and Expenses of General Office Employees	70,342.88	
Miscellaneous Expenses of General Office (Office Supplies, Etc.)		
Leagl Expenses	42,244.73	
Miscellaneous	6,452.50	
Prospecting and Lease Expenses:		
Salaries and Expenses	50,713.11	
Purchase of Leases		
Rental of Leases	573,803.87	
Drilling unproductive Wells		
Production Expenses:		
Superintendent and Salaries	11,982.75	
Royalties	159,363.63	
Operating Gas Wells and Lines	225,909.93	
Operating Oil Wells	80,518.17	
Repairs to Gas Wells and Lines	116,086.21	
Repairs to Oil Wells	50,788.86	
Transportation Expenses:		
Superintendence and Salaries	4,167.30	
Operating Transportation Lines	49,611.02	
Operating Pump Stations	203,341.68	
Operating Pressure Stations		
Repairs of Transportation Lines	45,663.58	
Repairs of Pumping Station Equipment	66,630.09	
Carried Forward to Form No. 3 U.—A.—Continued	1,848,555.63	

Form No. 3—U.—A.—Continued.

Gas and Oil.

A part of the report of United Fuel Gas Company.

Brought forward from Form No. 3 U.—A.	$ 1,848,555.63	$
Taxes:		
License or Charter Taxes	21,551.83	
General Property Taxes	291,478.98	
Federal Excess Profits Tax	558,372.15	
Federal Income Tax		
Other Federal Taxes	21,267.24	
Miscellaneous Taxes	8,171.87	
Interest and Discount:		
On Bonds and other Funded Debt	626,657.50	
On Unfunded Debt	9,378.09	
Gas Purchased	450,872.28	
Miscellaneous Expense which can not be set out under the above headings: (Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.) (Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
Distribution and Commercial Expense	195,283.34	
Gasoline Expense	384,436.28	
Tank Car "	8,942.80	
Carbon Black Expense	19,954.94	
Profit and Loss Adjustments	172,047.32	
Totals	4,597,570.25	

depletion and

What amount, if any, should be charged off for depreciation? $ 3,850,321.88 $

What is considered a fair rate of depreciation?

What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above?

Form No. 4—U

Public Utility

A part of the report of United Fuel Gas Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA.	
	Dollars	Cts.	Dollars	Cts.
Clendenin Gasoline Station				
Barren Creek Carbon Black Plant				
Additions to:				
Kermit Compressor Station				
Buff Lick " "				
Porter " "				
Walgrove " "				
16.5 Gas Wells) Including necessary				
21.1 Oil ") lines and equipment				
Total	1,074,185.16			

Form No. 5.

Gas and Oil:

A part of the report of United Fuel Gas Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	*TIME USED
2"	173.86	44.32	9.67
2½"	.30		17.00
3"	127.34	51.08	10.62
4"	237.71	45.00	7.47
4-7/8"		.23	
5-3/16"	.47		4.02
5-3/4"	3.05	2.95	1.99
6"	121.80	24.54	8.27
6½"	.39	.52	4.26
6-5/8"	3.03	1.70	4.35
8"	115.45	19.39	12.00
8½"	.88	.35	5.11
10"	115.96	77.40	11.02
12"	14.45	25.85	7.62
14"	45.72	5.77	13.72
15"	.46		7.57
16"	78.18	7.40	8.63
18"	24.25	.04	9.52
20"	88.51	.04	6.56
24"	..08		5.38
30"	.05		8.00
	1,151.94	306.58	
Less than 2"	4.81	5.23	
	1,156.75	311.81	

Average number of years used in West Virginia.

TOTAL MILAGE. 1,156.75 311.81

United Fuel Report Bd. Pub. Wks. W. Va. Ex. 11

Form No. 6

Gas and Oil

A part of the report of United Fuel Gas, Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?	
Total in all states	740,144.97
In West Virginia	653,166.04
How many acres of developed gas leases?	
Total in all states	66,640.70
In West Virginia	62,336.60
How many producing gas wells were owned at the beginning of the year?	
Total in all states	656.4
In West Virginia	606.4
How many producing gas wells were drilled during the year?	
Total in all states	15.5
In West Virginia	15.5
How many "dry" wells were drilled during the year?	
Total in all states	6.5
In West Virginia	6.5
How many gas wells were purchased during the year?	
Total in all states	10.5
In West Virginia	10.5
How many gas wells were abandoned during the year?	
Total in all states	15.5
In West Virginia	10.5
How many gas wells were sold during the year?	
Total in all states	10.1
In West Virginia	10.1
How many producing gas wells were owned at the end of the year?	
Total in all states	656.8
In West Virginia	611.8
How many gas wells were in use at the end of the year?	
Total in all states	656.8 See Letter
In West Virginia	611.8 5/6/20
What was the average rock pressure for the year of the gas wells owned?	
Total in all states	265 "
In West Virginia	265
What was the total daily capacity at the end of the year of the gas wells owned?	
Total in all states	
In West Virginia	
What was the total average daily delivery of gas, from wells owned, for the year?	
Total in all states	
In West Virginia	

Form No. 6—A.

Gas and Oil

A part of the report of United Fuel Gas Company.

If this company sells gas directly to consumers, how many does it supply?

Total number in all states

Industrial 218

Domestic 36,305

In west Virginia

Industrial 169

Domestic 24,528

To what cities and towns is gas supplied? Ironton, O.; Huntington & Charleston, W. Va.; Ashland & Catlettsburg, Ky.; Sundry small towns in Ky., Ohio & W. Va.

To what gas companies, if any, is gas sold? Columbia Gas & El. Co.; Ohio Fuel Supply Co. Cent. Ky. Nat. Gas Co.; Louisville Gas & El. Co.; Hope Nat. Gas Co.; Pgh. & W. Va. Gas Co.; Charleston-Dunbar Nat. Gas Co.; Falling Rock Canl. Coal Co.

How many cubic feet of gas were sold during the year?

Total number in all states 51,650,275

To other gas companies

Name of company	
Falling Rock Cannel Coal Co.	18,668
Columbia Gas & El. Co.	7,301,647
The Ohio Fuel Supply Co.	9,455,428
Cent. Ky. Nat. Gas Co.	1,668,696
Louisville Gas & El. Co.	2,704,920
Portsmouth Gas Co.	1,439,085
Hope Natural Gas Co.	7,461,440
Pgh. & W. Va. Gas Co.	6,222,967
Charleston-Dunbar Nat. Gas Co.	55,385

To industrial consumers 9,494,580

To domestic consumers 5,827,559

In West Virginia

To other gas companies

Name of company	
Columbia Gas & El. Co.	7,301,647
The Ohio Fuel Supply Co.	9,455,428
Hope Natural Gas Co.	7,461,440
Pittsburgh & West Va. Gas Co.	6,222,967
Charleston-Dunbar Nat. Gas Co.	55,385
Falling Rock Carmel Coal Co.	18,668

To industrial consumers 6,986,926

To domestic consumers 4,336,112

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states .1216 cents.

To other gas companies

Name of company (See Above) .1018 "

" "

" "

" "

" "

" "

To industrial consumers .1492 "

To domestic consumers .1983 "

" "

In West Virginia

To other gas companies (See Above) .0926 "

Name of company " "

" "

" "

" "

" "

" "

To industrial consumers .1091 "

To domestic consumers .1728 "

Form No. 6—B.

Gas and Oil

A part of the report of United Fuel Gas Company.

If this company purchases gas, from whom or what company or companies does it purchase?
See attached list

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states—See attached list	12,086,690
From other gas companies.	
Name of Companies.	
From all other sources	
Total in West Virginia	11,412,463
From other gas companies.	
Name of Companies.	
From all other sources—See attached list	

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states	.0373 cents
To other gas companies.	
Name of Companies.	
	"
	"
	"
	"
To other persons or individuals	"
In West Virginia—See attached list	.0359 "
To other gas companies.	
Name of Companies.	
	"
	"
	"
	"
To other persons or individuals	"

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

	Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.
(B)	1	10"		Kentucky
(B.19)	1	10"		"
(B.M.22)	1	16"		"
(F)	1	14"		Ohio & Ky.
(G)	1	10"		"
	1	(6" M.P. line at Huntington)		Ohio

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

	Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.
(B)	1	10"		Kentucky
(B.M.23)	1	10"		"

Does this company pipe gas through its lines for other persons or companies? No

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? See Real Estate list on Form 8-U continued.

Form No. 8—U Continued

Public Utility

A part of report of United Fuel Gas Company.

1919		1919
GAS PURCHASED	Rate	M. Cu. Ft.
Ohio		
Welch & Lowman	.0300	14,432
Kentucky:		
John Murphy		
Ohio Oil, Gas & Dist. Co.		
Union Gas & Oil Co.	.0620	659,795
West Virginia:		
Anderson Oil & Gas Co.		
Belvard Oil & Gas Co.		
Blackshere Oil & Gas Co.		
Blue Creek Con. Oil Co.		
Carter Oil Co.		
Central Wayne Oil & Gas Co.		
Charleston-Clendenin Oil & Gas Co.		
Charleston-Dunbar Natural Gas Co.		
Clendenin Oil & Gas Co.		
Columbian Carbon Co.		
Crawford, J. E.		
DePue Gas Co.		
East Lynn Oil & Gas Co.		
Eastern Petroleum Co.		
Empire Petroleum Co.		
Fisher Oil Co.		
Gascoal Oil Co.		
Greenleaf & Starcher		
J. O. Jackson Co.		
Kanawha City Oil & Gas Co.		
Koontz, L.		
Latty Oil & Gas Co.		
Little Sycamore Oil & Gas Co.		
McCray, D. D.		
McCormick, David et al		
Meteor Carbon Co.		
Navajo Gas Co.		
Ohio Cities Gas Co. & Fisher Oil Co.		
Ohio Fuel Oil Co.		
Ohio Fuel Oil Co. & Suffey Gillespie Oil Co.		
Ohio Oil, Gas & Dist. Co.		
O'Connell Oil Co.		
Owens Bottle Machine Co.		
Pelham Oil & Gas Co.		
Priddie Oil & Gas Co.		
Sahley & Skaff		
Sayer Gas Co.		
Silman, Peter		
South Penn Oil Co.		
Stanton, E. C.		
Stonewall Oil & Gas Co.		
Wayland Oil & Gas Co.	.0359	11,412,463
Sun Oil Co.		
Cabin Creek Gas Co.		
Grand Total.....	.0373	12,086,690

Form No. 7

Gas and Oil

A part of the report of United Fuel Gas Company.

How many acres of undeveloped oil leases are controlled by the company making this report?	
Total	533.00
In West Virginia	533.00
How many acres of developed oil leases?	
Total See Form 6 for Oil & Gas leases	None
In West Virginia	"
How many producing oil wells were owned at the beginning of the year?	
Total	140.5
In West Virginia	139.5
How many producing oil wells were drilled during the year?	
Total Drilled and purchased	24.6
In West Virginia	24.6
How many oil wells were abandoned during the year?	
Total abandoned and sold	2.5
In West Virginia	2.5
How many producing oil wells were owned at the end of the year?	
Total	162.6
In West Virginia	161.6
What was the total average daily production of oil for last year?	
Total	753.18 Bbls.
In West Virginia	751.77 "
What was the total average daily production of oil for this year?	
Total	647.42 "
In West Virginia	646.97 "
What was the total production of oil for the month of December, this year?	
Total	18,258.50 "
In West Virginia	18,245.44 "
What was the total production of oil for the year?	
Total	236,308.83 "
In West Virginia	236,143.02 "
What was the average price per barrel received for oil sold during the year?	
Total	4.545
In West Virginia	4.546
If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?	
Total	None
In West Virginia	"
What was the total number of barrels of oil transported through the pipe lines of this company for the year?	
Total	"
In West Virginia	"
What does this company charge for transporting oil through its pipe lines?	"

United Fuel Report Bd. Pub. Wks. W. Va. Ex. 11

Form No. 8—U.

Public Utility

A part of the report of United Fuel Gas Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-84
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property Returned by Company	Total Value all Property Assessed by Bd. of Pub. Wks.
BOONE COUNTY					
Crook	12,168.00	-	-	$ 12,168.00	$ 19,408.00
Peytonia	1,670.00	-	-	1,670.00	2,663.00
Scott	19,345.34	4	-	31,442.32	50,150.00
Sherman	12,601.55	-	-	11,101.55	17,706.00
Washington	1,699.00	1	-	3,539.00	5,645.00
	47,483.89	5	-	$ 59,920.87	$ 95,572.00
BRAXTON COUNTY					
Rosedale	-	-	-	$ 101.76	$ 163.00
Otter	-	-	-	46.81	73.00
Salt Lick	-	-	-	52.08	83.00
				$ 200.65	$ 319.00
CABELL COUNTY					
City of Barboursville	-	-	3.92	$ 5,649.18	$ 9,010.00
Barboursville	-	-	6.64	52,284.52	83,393.00
Culloden	-	-	-	8.25	13.00
Grant	9,364.40	-	20.32	265,763.86	423,892.00
Guyandotte	-	-	7.29	36,633.87	58,435.00
City of Huntington	-	-	109.29	327,829.10	522,887.00
" " Milton	-	-	-	81.20	129.00
Union	66.50	-	-	66.50	105.00
	9,430.90	-	147.46	$ 688,316.48	$ 1,097,864.00
CALHOUN COUNTY					
Washington	-	-	10.48	$ 125,583.30	$ 200,305.00
CLAY COUNTY					
Buffalo	230.00	-	-	$ 291.83	$ 464.00
Henry	20,327.67	-	-	54,378.45	86,733.00
Otter	666.00	-	-	666.00	1,062.00
Pleasants	7,744.50	-	-	5,441.88	8,678.00
Union	16,498.28	16	25.60	291,149.35	464,387.00
	45,466.45	16	25.60	$ 351,927.49	$ 561,324.00
FAYETTE COUNTY					
Falls	9,048.00	-	-	$ 9,048.00	$ 14,432.00
Kanawha	473.36	-	-	473.36	754.00
	9,521.36	-	-	$ 9,521.36	$ 15,186.00
GILMER COUNTY					
Center	19.50	-	13.40	$ 164,155.77	$ 261,829.00

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of ~~United Fuel Gas~~ Company.

JACKSON COUNTY					
City of Ravenswood,	-	-	3.84	$ 9,171.38	$ 14,628.00
Ravenswood	1,840.22	-	17.95	206,592.29	329,514.00
City of Ripley	-	-	2.83	4,199.75	6,697.00
Ripley	8,761.50	-	5.00	19,575.48	31,226.00
Union	534.50	-	-	534.50	852.00
Washington	19,295.50	30.30	28.94	195,572.21	311,937.00
	22,431.72	30.30	58.56	$ 435,645.61	$ 694,854.00
KANAWHA COUNTY					
Big Sandy	46,828.51	117	97.31	$1460,174.86	$ 2328,978.00
Cabin Creek	36,155.84	25	26.55	821,775.28	1310,731.00
City of Charleston	-	-	91.57	346,482.04	552,639.00
Charleston	2,173.95	-	11114	27,318.30	43,572.00
City of Clendennin	-	3	7.89	87,217.02	139,378.00
" " East Bank	-	-	2.96	2,522.28	4,023.00
Elk	111,403.79	24	94.18	766,344.85	1232,175.00
Jefferson	497.50	-	2.11	22,500.31	35,888.00
Loudon	24,840.00	1	13.91	54,266.65	86,554.00
Malden	24,700.11	2	7.87	68,185.46	108,755.00
Poca	16,225.37	2	13.25	63,497.34	101,278.00
City of S. Charleston	-	-	9.70	19,679.40	31,388.00
Union	5,344.74	-	21.89	491,447.39	783,858.00
Washington	5,503.00	-	-	5,428.00	8,658.00
	273,672.81	174	400.33	$4236,839.18	$ 6767,875.00
LINCOLN COUNTY					
Carroll	136.00	-	2.59	$ 31,049.42	$ 49,523.00
Duval	11,283.45	1	-	38,507.60	61,419.00
Jefferson	10,983.00	1	-	12,245.00	19,534.00
Laurel Hill	397.00	-	-	198.50	316.00
Sheridan	125.00	-	-	125.00	199.00
Union	2,683.50	-	-	1,871.00	2,984.00
Washington	657.00	1	-	1,628.50	2,597.00
	26,264.95	3	2.59	$ 85,625.02	$ 136,572.00
LOGAN COUNTY					
Chapmansville	2,986.50	5	17.88	$ 103,709.78	$ 165,416.00
City of Logan	-	-	3.69	12,042.45	19,207.00
Logan	1,366.00	1	5.71	18,397.75	29,345.00
	4,352.50	6	27.28	$ 134,149.98	$ 213,968.00
MASON COUNTY					
Arbuckle	204.00	-	-	$ 204.00	$ 325.00
Clendenin	667.00	-	-	667.00	1,064.00
Cooper	124.50	-	-	124.50	198.00
Hannan	1,097.00	-	-	1,097.00	1,750.00
Union	942.00	-	-	942.00	1,502.00
	3,034.50	-	-	$ 3,034.50	$ 4,839.00
MINGO COUNTY					
Hardee	58.00	-	-	$ 63.25	$ 100.00
Harvey	3,639.17	-	5.83	61,318.08	97,802.00
City of Kermit	61.00	4	5.03	171,261.40	273,161.00
Lee	-	-	3.39	9,821.16	15,664.00
Maynard	61.50	-	8.03	23,305.27	37,174.00
Warfield	8,014.00	15	24.29	152,685.17	243,533.00
City of Williamson	-	-	11.16	32,941.37	52,541.00
	11,833.67	19	57.73	$ 451,395.70	$ 719,975.00

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of United Fuel Gas Company.

	PUTNAM COUNTY				
Buffalo	265.00	-	-	$ 265.00	$ 423.00
Curry	6,176.75	1	12.16	130,061.32	207,447.00
Curry Sub #1	140.00	-	3.40	19,048.25	30,382.00
Grant-	-	-	-	166.81	265.00
City of Hurricane	2.00	-	3.18	5,820.64	9,283.00
Pocatalico	2,608.00	-	14.72	69,739.96	111,234.00
Scott	377.50	-	10.65	59,620.70	95,094.00
Teays Valley	10,096.00	1	3.24	35,519.03	56,653.00
Union	23.00	-	-	289.00	464.00
	19,688.25	2	47.35	$320,530.71	$ 511,245.00
	RALEIGH COUNTY				
Clear Fork	21,700.77	-	-	$ 21,700.77	$ 34,756.00
Marsh Fork	39,136.45	-	-	39,136.45	62,423.00
Trap Hill	4,782.55	-	-	4,782.55	7,627.00
Town	981.18	-	-	981.18	1,565.00
	66,600.95		-	$ 66,600.95	$ 106,371.00
	ROANE COUNTY				
City of Alvord	-	-	1.02	$ 1,020.58	$ 1,627.00
Curtis	17,171.74	65.5	44.33	505,829.74	806,797.00
Geary	51,832.80	126	93.46	703,339.47	1121,826.00
Harper	8,056.02	2	6.63	18,622.96	29,702.00
City of Reedy	-	-	2.04	2,042.76	3,258.00
Reedy	2,061.50	-	5.97	7,455.71	11,899.00
Smithfield	25,048.14	27.5	32.24	115,598.56	184,379.00
City of Spencer	-	1	5.06	82,094.39	130,940.00
Spencer Ind.	-	-	4.08	3,884.26	6,195.00
Spencer	19,136.23	51.5	34.23	228,165.90	363,923.00
Walton	23,297.96	81	67.09	494,622.07	788,922.00
	146,604.39	354.5	296.15	$2162,676.40	$3449,468.00
	WAYNE COUNTY				
Butler	8,463.00	-	9.02	$ 66,494.46	$ 106,058.00
City of Ceredo	-	-	3.48	7,860.99	12,537.00
Ceredo	-	-	20.96	79,164.74	126,267.00
City of East Lynn	-	-	1.59	1,541.80	2,458.00
" " Fort Gay	-	-	2.15	4,799.71	7,654.00
Grant	120.00	-	-	120.00	199.00
City of Kenova	-	-	12.66	36,149.89	57,658.00
Lincoln	2,952.00	-	3.64	25,392.12	40,500.00
Stonewal	16.00	-	10.00	30,906.30	49,295.00
Union	82.00	2	1.58	6,080.04	9,698.00
City of Wayne	-	-	-	69.06	110.00
	11,633.00	2	65.08	$ 258,579.11	$ 412,434.00
Totals,	698,038.84	611.8-1152.01		$9555,647.58	$15,250,000.00

Form No. 9 U.

Public Utility

A part of the report of the United Fuel Gas Company

1919 EXPLANATORY REMARKS 1919

Prices on Pipe Lines are based on actual cost, including all material, labor constructing, rights of way, etc., less five per cent. per year for each year lines have been laid.

Other material is priced at approximately 75 per cent. of cost when new.

Material in stock at cost, Buildings, compressor stations, etc. are included at cost less depreciation.

Office furniture and horses and wagons are priced at 50 per cent. of cost.

State of West Virginia }
County of Kanawha } ss

I, THE UNDERSIGNED, L. A. Seyffert *Name of Officer.* Secretary and Treasurer *Official Title.*

of the United Fuel Gas Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value* to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the before-mentioned property would sell if voluntarily offered for sale upon such terms as such property is usually sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

L. A. Seyffert,

Secretary and Treasurer
Official Title.

SUBSCRIBED AND SWORN TO before me this 30th day of March 1920

D. C. Jay,

My commission expires March 2, 1925.
Notary Public

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

Reserve Report Bd. Pub. Wks., W. Va. Ex. 12.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility:

A part of the report of the Reserve Gas Company.

1. Name of company making this report Reserve Gas Company
2. Nature of company, whether person or persons, association or corporation Corporation
3. Organized under the laws of what state West Virginia
4. Location of Principal Office 424 Sixth Avenue, Pittsburgh, Pa.
5. Location of Principal Place of Business in West Virginia Empire Building, Clarksburg, West Virginia
6. Name of President and his address in full George H. Jones 26 Broadway, New York City.
7. Name of Secretary and his address in full Christy Payne, 424 Sixth Avenue, Pittsburgh, Pa.
8. Name of General Manager and his address in full John H. Corrin 424 Sixth Avenue, Pittsburgh, Pa.
9. Name of Chief Officer or Managing Agent in W. Va., and his address in full J. J. Evans, General Superintendent, Clarksburg, West Virginia
10. Name of Tax Agent and his address in full Christy Payne, 424 Sixth Avenue, Pittsburgh, Pa.
11. Name and full address of officer to whom correspondence regarding this report should be addressed

Christy Payne	Secretary	424 6th Ave. Pittsburgh, Pa.
(*Name*)	(*Title*)	(*Address*)

12. Date of annual meeting of stockholders Second Tuesday in April
13. The books of the company are closed for the year on what date December 31st.
14. If a consolidated company, name the constituent companies No.

REMARKS.

322

Number of pages of your report. This is
PAGE 1.

Reserve Report Bd. Pub. Wks. W. Va. Ex. 12

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of Reserve Gas Company.

What is the amount of the authorized capital stock? $ 4,000,000.00
How much of the capital stock has been issued? $ 4,000,000.00
How many shares of common stock issued? $ 40,000.
How many shares of preferred stock issued? $
What is the par value, per share, of the common stock? $ 100.00
What is the par value, per share, of the preferred stock? $
What is the market value, per share, of the common stock $
What is the market value, per share, of the preferred stock? $
If stock is not on the market, at what is it valued per share? Book Value is $ 156.66
How much of the stock was paid for in cash? $ 4,000,000.00

What was the consideration for stock issued, but not paid for in cash?

If any part of the stock was not paid for in cash, was the consideration equivalent to cash?

How much bonus stock, if any, was issued? None $

If stock is not worth par, how do you account for the fact that it is not?

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
	None			
Totals				

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
Current Bills, Etc.				311,577.14
Totals				

Accounts receivable, December 31, 1919 $ 410,385.45

This company began business or was acquired by the present owners or operators
(month) April (day) 16th (year) 1902

Investment. (By present owners.)

Stock issued (money value)	$ 4,000,000.00	
Amount realized from sale of bonds	$	
Earnings put into plant	$ 3,432,557.81	
	$	
Total investment or cost (entire plant)		$ 7,432,557.81

What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds? $ 7,432,557.81
What would be the approximate cost of reproducing the entire plant new? Impossible to answer on account of leaseholds owned.
What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia? $ Do.
What is the total value of the entire plant, as shown by the books of the Company? $ 5,203,166.81
What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company? $ 5,203,166.81

3½%, 4%, 4½% and 3 3/4% U.S. Liberty Bonds to a par value of $347,450.00 have been deducted for assessment purposes from the above answers.

Reserve Report Bd. Pub. Wks., W. Va. Ex. 12.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 3—U.

Public Utility.

A part of the report of Reserve Gas Company.

What were the total gross earnings (including all sums earned or charged, whether actually received or not, and its proportion of the gross receipts for business done by it in connection with other companies or firms), of the Company, Co-partnership, Association or Corporation making this report, for the year ending

December 31, 1919 in all States? $ 3,578,069.34

in West Virginia $ 3,578,069.34

How much of the gross earnings resulted from business actually done in West Virginia? $ 3,578,069.34

How much of the total gross earnings should properly be credited to West Virginia to give the state a fair share of earnings? $ 3,578,069.34

If this company operates outside of West Virginia, how, or upon what principle were the earnings apportioned, as between this state and other states? None

What were the total operating and maintenance expenses including interest and taxes in all states? $ 2,408,878.55

What were the total operating and maintenance expenses including interest and taxes in West Virginia? $ 2,408,878.55

("Operating and maintenance expenses" is to be understood to mean the actual expenses of operation, and actual expenditures for maintenance. Expenditures for new work (peramnent improvements and additions), and dividends are not to be included as operating expenses.)

If this company operates outside of West Virginia, how, or upon what principle were the operating expenses apportioned as between this state and other states? None

What were the net earnings in West Virginia for the year ending December 31, ? $1,169,190.79

What were the total net earnings, in all states, for the year ending December 31, ? $1,169,190.79

What dividends were declared during the year on common stock? 15 per cent; amount $ 600,000.00

What dividends were declared during the year on preferred stock? ---- per cent; amount $ None

When were the dividends declared on common stock? 3/22/19-12/20/19 Preferred Stock? $ None

Interest paid on Funded Debt during the year $ None

Interest paid on Unfunded Debt during the year $ 1,853.00

(There should appear on each sheet of this report *some notation* to indicate that the information desired or questions asked have not been overlooked. The word "none" may be used against any particular item or items, where that word expresses the *facts*. If, for any reason, for any item, the exact amount cannot be reported, such an amount as is approximately correct must be reported. In such case, refer by note to "remarks" at the bottom of the sheet on which a diviation occurs, where a brief explanation should be given why specific data called for cannot be returned *exactly as requested*.)

REMARKS.

Form No. 8—U Continued

Public Utility

A part of report of Reserve Gas Company

WEST VA. 1920

"NOTE FOR FOOT OF PAGE NO. 3"

The company suffered a decline of 21.12% in the rock pressure of its gas fields during the year 1919 and has deducted from Earnings, a Depletion of $891,513.14 in its return for Federal Income and Excess Profit Taxes. This depletion item is not deducted from the earnings on Page 3 of this return; nor has any account been taken of depletion in any of the statements rendered herein. On Page 4½ the amount of this depreciation is shown to be $322,419.43 for the year 1919; this depreciation is applied only to tangible property such as Pipe Lines and Compressing Stations and not to Leaseholds; and is at conservative rates, for instance;- On Field and Main Lines 5%, on City Plants 3% and somewhat higher rates on Automobiles, Teaming Investment and such property subject to rapid deterioration.

Wish to note also the additions to Investment as shown on Page 5, $870,210.19 and that in spite of such expenditures, the amount of gas which the company was able to produce, purchase and sell was greatly below 1918 deliveries, The plant was actually worth less as a gas plant at the end of the year thmat the beginning, the decline in the supply more than overcoming all the money reinvested. The exhaustion of gas is constantly lessening the value of the tangible investment beyond mere wear and tear and in spite of maintenance expenditures, it is not possible to avoid depreciation due to either of these causes.

Reserve Report Bd. Pub. Wks. W. Va. Ex. 12.

Form No. 3. U—A.

Gas and Oil.

A part of the report of the Reserve Gas Company.

THE OPERATING AND MAINTENANCE AND OTHER EXPENSES as shown below should not include expenditures for additions to plant, dividends or any amount for depreciation.

Operating and Maintenance Expenses, Interest, Etc., for the year ending December 31, (Fully itemize.)	Entire Plant	West Va.
General Expenses:		
Salaries and Expenses of General Officers	$ 10,000.00	$
Salaries and Expenses of General Office Employees	43,165.65	
Miscellaneous Expenses of General Office (Office Supplies, Etc.)		Same
Leagl Expenses	1,330.87	
Private Telephone Lines	1,587.34	
		Same
Prospecting and Lease Expenses:		
Salaries	2,748.85	
Purchase of Leases		
Rental of Leases	66,338.56	
Drilling ~~unproductive~~ Wells Labor & Teaming	332,181.50	
Production Expenses:		
Superintendent and Salaries	18,339.34	
Royalties	185,815.84	
Operating Gas Wells & Field Lines	117,437.62	
Operating Oil Wells	23,165.47	Same
Repairs to Gas Wells	350,934.72	
Repairs to Oil Wells	2,520.06	
Transportation Expenses:		
Superintendence and Salaries	2,022.50	
Operating Transportation Lines	20,336.54	
Operating Pump Stations	196,852.94	
Operating Pressure Stations	7,666.27	
Repairs of Transportation Lines	17,068.31	
Repairs of Pumping Station Equipment	239,935.14	Same
Carried Forward to Form No. 3 U.—A.—Continued	1,639,447.54	Same

Form No. 3—U.—A.—Continued.

Gas and Oil.

A part of the report of Reserve Gas Company.

Brought forward from Form No. 3 U.—A.	$ 1,639,447.54	$
Taxes:		
License or Charter Taxes	790.00	
General Property Taxes	107,593.07	
Federal Excess Profits Tax	39,389.71	
Federal Income Tax		Same
Other Federal Taxes	9,625.00	
Miscellaneous Taxes	8,852.89	
Interest and Discount:		
On Bonds and other Funded Debt		
On Unfunded Debt	1,853.00	
Gas Purchased	135,315.85	
Miscellaneous Expense which can not be set out under the above headings:		
(Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.)		
(Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
Sick and Disability	5,530.73	
City Plants, Salaries, Agents, etc.	3,252.28	
Cancelled & Surrendered Leases	1,314.09	
Miscellaneous Expense	9,565.10	
Cleaning Out Tools	29,747.81	
Gasoline	338,792.51	
Teams - Maintaining	45,688.37	
Coal Expense	26,711.84	
P. & L. Suspense Account	5,408.76	
Totals	2,408,878.55	

What amount, if any, should be charged off for depreciation? $ 322,419.43 $

What is considered a fair rate of depreciation?

What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above?

Reserve Report Bd. Pub. Wks., W. Va. Ex. 12.

Form No. 4—U

Public Utility

A part of the report of Reserve Gas Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA.	
	Dollars	Cts.	Dollars	Cts.
New Lines, Pipe, Fittings, etc.	179,645	.57		
Pipe & Equipment in Gas Wells	185,898	.38		
Leaseholds	4,574	.72		
Telegraph & Telephone Lines	269	.42		
Natural Gas Meters	4,757	.52		
Measuring Stations	1,573	.47		
Compressing Stations	259,068	.24		
Office Furniture	387	.79		
Buildings	5,011	.48		
Gasoline	120,726	.74		
Oil Investment	23,912	.22		
Drilling & Cleaning Out Tools	19,655	.56		
Teaming	6,218	.18		
Coal	61,655	.84		
Total	870,210	.19		

Reserve Report Bd. Pub. Wks., W. Va. Ex. -2

Form No. 5.

Gas and Oil:

A part of the report of Reserve Gas Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	TIME USED
2"	32.642	None	15.74 Yrs.
3"	31.207	"	11.40 "
4"	55.229	"	6.65 "
5-3/16"	8.875	"	4.60 "
6"	151.895	"	5.62 "
6¼"	2.552	"	2.98 "
6-5/8"	7.262	"	4.30 "
8"	15.324	"	7.32 "
8¼"	.814	"	8.64 "
10"	56.781	"	7.33 "
12"	90.758	"	10.58 "
16"	68.687	"	5.93 "
18"	3.620	"	5.63 "
20"	.010	"	9.00 "
24"	.017	"	3.84 "

TOTAL MILAGE. 525.676

Reserve Report Bd. Pub. Wks., W. Va. Ex. 12.

Form No. 6

Gas and Oil

A part of the report of Reserve Gas, Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?

Total in all states	4,663,875
In West Virginia	4,663,875

How many acres of developed gas leases?

Total in all states	51,467.82
In West Virginia	51,467.82

How many producing gas wells were owned at the beginning of the year?

Total in all states	688
In West Virginia	688

How many producing gas wells were drilled during the year?

Total in all states	51
In West Virginia	51

How many "dry" wells were drilled during the year?

Total in all states	1
In West Virginia	1

How many gas wells were purchased during the year?

Total in all states	4
In West Virginia	4

How many gas wells were abandoned during the year?

Total in all states	4
In West Virginia	4

How many gas wells were sold during the year?

Total in all states	4
In West Virginia	4

How many producing gas wells were owned at the end of the year?

Total in all states	735
In West Virginia	735

How many gas wells were in use at the end of the year?

Total in all states	Don't know
In West Virginia	"

What was the average rock pressure for the year of the gas wells owned?

Total in all states	"
In West Virginia	"

What was the total daily capacity at the end of the year of the gas wells owned?

Total in all states	"
In West Virginia	"

What was the total average daily delivery of gas, from wells owned, for the year?

Total in all states 57,686,327 ÷ 740	77,654
In West Virginia	77,654

Form No. 6—A.

Gas and Oil

A part of the report of Reserve Gas Company.

If this company sells gas directly to consumers, how many does it supply?

Total number in all states — Free Consumers 326

Industrial 53

Domestic 521

In west Virginia — Free Consumers 326

Industrial 53

Domestic 521

To what cities and towns is gas supplied? Wilsonburg, Camden, Reynoldsville and Country Districts

To what gas companies, if any, is gas sold? Union Natural Gas Corp'n and Hope Natural Gas Co

How many cubic feet of gas were sold during the year?

Total number in all states 22,178,819 M cu.ft

To other gas companies. 20,864,621 "

Name of company Same as above

To industrial consumers 1,235,769 M cu.ft

To domestic consumers 78,429 "

In West Virginia

To other gas companies 20,864,621 "

Name of company Union Natural Gas Corporation

Hope Natural Gas Company

To industrial consumers 1,235,769 M cu.ft

To domestic consumers 78,429 "

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states .0922 cents.

To other gas companies .0879 "

Name of company Same as above "

"

"

"

"

To industrial consumers .1500 "

To domestic consumers .2431 "

"

In West Virginia

To other gas companies .0879 "

Name of company "

Same as above "

"

"

"

To industrial consumers .1500 "

To domestic consumers .2431 "

Form. No. 6--B.

Gas and Oil

A part of the report of Reserve Gas Company.

If this company purchases gas, from whom or what company or companies does it purchase? See List Attached

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states	1,267,373 M cu.ft.
From other gas companies.	
Name of Companies.	
Weston Carbon Co.	205,617 M cu.ft.
H. H. Edinger	138,491 M cu.ft.
Ewing Oil Co.	160,746 M cu.ft.
	762,519 M cu.ft.
From all other sources	
Total in West Virginia	1,267,373 M cu.ft.
From other gas companies.	
Name of Companies.	
Weston Carbon Co.	205,617 M cu.ft.
H. H. Edinger	138,491 M cu.ft.
Ewing Oil Co.	160,746 M cu.ft.
	762,519 M cu.ft.
From all other sources	

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states	.1068 cents
To other gas companies.	
Name of Companies.	
Weston Carbon Co.	.0700 "
H. H. Edinger	.0739 "
Ewing Oil Co.	.0800 "
	"
	.1283 "
To other persons or individuals	"
In West Virginia	
To other gas companies.	
Name of Companies.	
Weston Carbon Co.	.0700 "
H. H. Edinger	.0739 "
Ewing Oil Co.	.0800 "
	"
	.1283 "
To other persons or individuals	

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.
2	16"	15,424,719 M cu.ft.	Ohio

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.
None	None	None	None

Does this company pipe gas through its lines for other persons or companies? No

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? Sites for Compressing Stations, etc.

Reserve Report Bd. Pub. Wks., W. Va. Ex. 12.

Form No. 8—U.

Public Utility

A part of the report of Reserve Gas Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

WEST VA. 1920

COMPANIES & INDIVIDUALS FROM WHOM GAS WAS PURCHASED

H. H. Edinger

Weston Carbon Company

Broaddus College

T. A. Whelan

Linn S. Horner, Trustee

Louis Bennett

Ewing Oil Company

L. Stephens

Sunburn Oil & Gas Company

Hope Natural Gas Company

Form No. 7

Gas and Oil

A part of the report of Reserve Gas Company.

How many acres of undeveloped oil leases are controlled by the company making this report?	
Total	Don't know of any
In West Virginia	"
How many acres of developed oil leases?	
Total	87.50
In West Virginia	87.50
How many producing oil wells were owned at the beginning of the year?	
Total	7
In West Virginia	7
How many producing oil wells were drilled during the year?	
Total	9
In West Virginia	6
How many oil wells were abandoned during the year?	
Total	1
In West Virginia	1
How many producing oil wells were owned at the end of the year?	
Total	12
In West Virginia	12
What was the total average daily production of oil for last year?	
Total	17.171
In West Virginia	17.171
What was the total average daily production of oil for this year?	
Total	29.88
In West Virginia	29.88
What was the total production of oil for the month of December, this year?	
Total	702.17
In West Virginia	702.17
What was the total production of oil for the year?	
Total	10,906.13
In West Virginia	10,906.13
What was the average price per barrel received for oil sold during the year?	
Total	4.17
In West Virginia	4.17
If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?	
Total	No
In West Virginia	"
What was the total number of barrels of oil transported through the pipe lines of this company for the year?	
Total	None
In West Virginia	"
What does this company charge for transporting oil through its pipe lines?	"

PAGE 10.

Reserve Report Bd. Pub. Wks., W. Va. Ex. 12.

Form No. 8—U.

Public Utility

A part of the report of Reserve Gas Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-29
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property Returned by Company	Assessed by Bd. of Pub. Wks.
DODDRIDGE COUNTY					
Cove	-	-	18.72	$ 138,751.27	$ 199,720.56
South West	60.00	-	15.86	117,931.28	168,052.82
	60.00	-	34.58	$ 256,682.55	$ 367,773.38
HARRISON COUNTY					
Clark	3,962.03	55	22.29	$ 210,052.53	$ 299,324.86
Coal	2,584.81	48	33.65	813,053.45	1158,601.17
Grant	641.50	11	3.44	33,131.28	47,215.07
Ten Mile	-	-	1.96	2,613.15	3,723.74
Union	15,665.31	225	84.27	903,861.22	1288,032.24
	22,853.65	339	145.61	$1962,711.63	$2796,897.08
LEWIS COUNTY					
Court House	3,757.38	61	22.62	$ 212,840.76	$ 303,298.08
Town of Weston	-	-	-	99,915.38	142,679.42
Freeman's Creek	28,454.61	320	207.35	2915,284.89	4154,280.97
Hackers Creek	993.85	15	5.81	54,988.50	78,358.61
	33,205.84	396	235.79	$3283,029.53	$4678,617.08
PLEASANTS COUNTY					
Grand	-	-	9.09	$ 85,023.60	$ 121,158.63
Jefferson	-	-	13.93	113,542.51	161,798.08
	-	-	23.02	$ 198,566.11	$ 282,956.71
RITCHIE COUNTY					
Town of Ellenboro	-	-	1.37	$ 10,426.87	$ 14,858.29
Clay	-	-	27.64	206,660.73	294,491.54
Grant	-	-	19.86	146,997.02	209,470.75
Union	-	-	11.11	82,055.27	116,928.76
	-	-	59.98	$ 446,139.89	$ 635,749.34
WOOD COUNTY					
Union	-	-	6.56	$ 63,014.20	$ 89,795.24
Williams	-	-	12.65	104,007.84	148,211.17
	-	-	19.21	$ 167,022.04	$ 238,006.41
Total	56,119.49	735	518.19	$6314,151.75	$9000,000.00

Public Utility

A part of the report of the Reserve Gas Company.

EXPLANATORY REMARKS

The Unit prices used on pipe and materials are approximately those approved some years ago by Tax Commissioners Townsend and Dillon; the same prices substantially have been used each year since that time, and have formed a fair guide, together with a relatively equal rate on leaseholds for several years, for the division of taxes if not for the ascertainment of true and actual value of unit prices in a going concern.

State of Pennsylvania } ss
County of Allegheny }

I, THE UNDERSIGNED, R. D. Beardsley Treasurer
Name of Officer. *Official Title.*

of the Reserve Gas Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value* to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the before-mentioned property would sell if voluntarily offered for sale upon such terms as such property is usually sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

R. D. Beardsley

Treasurer
Official Title.

SUBSCRIBED AND SWORN TO before me this 25th day of March 1920

C. A. Kinley.

My Commission Expires March 25, 1921.
Notary Public

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

PAGE.....

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility:

A part of the report of the Carnegie Natural Gas Company.

1. Name of company making this report Carnegie Natural Gas Company

2. Nature of company, whether person or persons, association or corporation Corporation

3. Organized under the laws of what state Pennsylvania

4. Location of Principal Office Pittsburgh, Pa.

5. Location of Principal Place of Business in West Virginia Moundsville, Marshall Co., W. Va.

6. Name of President and his address in full D. M. Clemson, Carnegie Building, Pittsburgh, Pa.

7. Name of Secretary and his address in full W. W. Blackburn, Carnegie Building, Pittsburgh, Pa.

8. Name of General Manager and his address in full S. W. Neale, Carnegie Building, Pittsburgh, Pa.

9. Name of Chief Officer or Managing Agent in W. Va., and his address in full

10. Name of Tax Agent and his address in full Have none

11. Name and full address of officer to whom correspondence regarding this report should be addressed

H. L. Smith (*Name*) Auditor (*Title*) Pittsburgh, Pa. (*Address*)

12. Date of annual meeting of stockholders Second Tuesday in February

13. The books of the company are closed for the year on what date December 31st.

14. If a consolidated company, name the constituent companies

REMARKS.

Number of pages of your report. This is PAGE 1.

Carnegie Report Bd. Pub. Wks., W. Va. Ex. 13

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of Carnegie Natural Gas Company.

What is the amount of the authorized capital stock?	$ 300,000.00
How much of the capital stock has been issued?	$ 300,000.00
How many shares of common stock issued?	$ 6,000
How many shares of preferred stock issued?	$ None
What is the par value, per share, of the common stock?	$ 50.00
What is the par value, per share, of the preferred stock?	$ -
What is the market value, per share, of the common stock	$ Not on Market
What is the market value, per share, of the preferred stock?	$ -
If stock is not on the market, at what is it valued per share?	$ -
How much of the stock was paid for in cash?	$ All

What was the consideration for stock issued, but not paid for in cash?

If any part of the stock was not paid for in cash, was the consideration equivalent to cash?

How much bonus stock, if any, was issued? $ None

If stock is not worth par, how do you account for the fact that it is not?

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
None				
Totals				

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
Current Accounts Payable				1,302,098.33
Totals				

Accounts receivable, December 31, $ 326,412.01

This company began business or was acquired by the present owners or operators March 10th, 1886 and licensed to transact business in West Virginia, April 13th, 1900 (Yr)

Investment. (By present owners.)

Stock issued (money value)	$ 300,000.00	
Amount realized from sale of bonds	$ None	
Earnings put into plant	$ 4,245,238.00	
	$	
Total investment or cost (entire plant) Book Value		$ 4,545,238.00

What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds? Cannot tell, did not keep separate record

What would be the approximate cost of reproducing the entire plant new? Cannot tell

What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia? $ "

What is the total value of the entire plant, as shown by the books of the Company? $ 4,545,238.00

What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company? No Separate Account Kept. $

338

Carnegie Report Bd. Pub. Wks., W. Va. Ex. 13

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 3—U.

Public Utility.

A part of the report of Carnegie Natural Gas Company.

What were the total gross earnings (including all sums earned or charged ,whether actually received or not, and its proportion of the gross receipts for business done by it in connection with other companies or firms), of the Company, Co-partnership, Association or Corporation making this report, for the year ending

December 31, in all States? $3,316,055.77

in West Virginia $2,345,970.96

How much of the gross earnings resulted from business actually done in West Virginia? $2,345,970.96

How much of the total gross earnings should properly be credited to West Virginia to give the state a fair share of earnings? $2,345,970.96

If this company operates outside of West Virginia, how, or upon what principle were the earnings apportioned, as between this state and other states?

Earnings were charged with estimated amount of gas passing through Pump Stations in West Virginia. Estimated for W.Va. 11,240,988,256 Cu. Ft.

What were the total operating and maintenance expenses including interest and taxes in all states? $3,016,330.80

What were the total operating and maintenance expenses including interest and taxes in West Virginia? $2,261,407.24

("Operating and maintenance expenses" is to be understood to mean the actual expenses of operation, and actual expenditures for maintenance. Expenditures for new work (peramnent improvements and additions), and dividends are not to be included as operating expenses.)

If this company operates outside of West Virginia, how, or upon what principle were the operating expenses apportioned as between this state and other states?

Operating Expenses shown are actual

What were the net earnings in West Virginia for the year ending December 31, ? $ 84,563.72

What were the total net earnings, in all states, for the year ending December 31, ? $ 299,724.97

What dividends were declared during the year on common stock? None per cent; amount $ None

What dividends were declared during the year on preferred stock? None per cent; amount $ "

When were the dividends declared on common stock? Preferred Stock? $ -

Interest paid on Funded Debt during the year $ None

Interest paid on Unfunded Debt during the year $ "

(There should appear on each sheet of this report *some notation* to indicate that the information desired or questions asked have not been overlooked. The word "none" may be used against any particular item or items, where that word expresses the *facts*. If, for any reason, for any item, the exact amount cannot be reported, such an amount as is approximately correct must be reported. In such case, refer by note to "remarks" at the bottom of the sheet on which a diviation occurs, where a brief explanation should be given why specific data called for cannot be returned *exactly as requested*.)

REMARKS.

Form No. 3. U—A.

Gas and Oil.

A part of the report of the Carnegie Natural Gas Company

THE OPERATING AND MAINTENANCE AND OTHER EXPENSES as shown below should not include expenditures for additions to plant, dividends or any amount for depreciation.

Operating and Maintenance Expenses, Interest, Etc., for the year ending December 31, (Fully itemize.)	Entire Plant	West Va.
General Expenses:		
Salaries and Expenses of General Officers	$ 35,498.30	$ 29,818.57
Salaries and Expenses of General Office Employees	48,199.35	28,350.33
Miscellaneous Expenses of General Office (Office Supplies, Etc.)	33,383.20	23,728.70
Leagl Expenses	2,258.64	1,913.14
	119,339.49	83,810.74
Prospecting and Lease Expenses:		
Salaries	7,352.90	7,052.07
Purchase of Leases	4,410.13	2,116.52
Rental of Leases	125,045.01	65,135.00
Drilling unproductive Wells	290,080.30	223,413.84
	426,888.34	297,717.43
Production Expenses:		
Superintendent and Salaries	258,959.68	202,123.93
Royalties	198,053.52	153,045.45
Operating Gas Wells		
Operating Oil Wells	1,084,710.18	837,827.26
Repairs to Gas Wells		
Repairs to Oil Wells	144,234.64	120,564.36
	1,685,958.02	1,313,561.00
Transportation Expenses:		
Superintendence and Salaries	100,498.25	59,119.51
Operating Transportation Lines		
Operating Pump Stations	34,234.32	27,687.06
Operating Pressure Stations		
Repairs of Transportation Lines	109,899.18	94,955.05
Repairs of Pumping Station Equipment	49,321.66	35,259.30
	293,953.41	217,020.92
Carried Forward to Form No. 3 U.—A.—Continued	2,526,139.26	1,912,110.09

Form No. 3—U.—A.—Continued.

Gas and Oil.

A part of the report of Carnegie Natural Gas Company.

Brought forward from Form No. 3 U.—A.	$ 2,526,139.26	$ 1,912,110.09
Taxes: War Income Tax,	32,491.40	27,292.77
License or Charter Taxes	283.76	283.76
General Property Taxes	88,982.92	76,511.69
Federal Excess Profits Tax		
Federal Income Tax	53,507.47	44,946.27
Other Federal Taxes	175,265.55	149,034.49
Miscellaneous Taxes		
Interest and Discount:		
On Bonds and other Funded Debt		
On Unfunded Debt		
Gas Purchased	109,060.69	27,335.81
Miscellaneous Expense which can not be set out under the above headings: (Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.) (Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
A * Depreciation.	205,865.30	172,926.85
* A - Have made charge to our Profit and Loss for 1919 of $205,865.30 for estimated general depreciation for 1919. $127,500.00 of which is estimated to be applicable to West Virginia investments as set forth above.		
* B - Opinions differ as to what would be a fair basis. We think average life of wells would be fairest and most equitable basis.		
* C - Uncertainties of the business, abandonment of wells and the rather short life of wells, etc.		
Totals	3,016,330.80	2,261,407.24

What amount, if any, should be charged off for depreciation? $ $

B What is considered a fair rate of depreciation?

C What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above?

Form No. 4—U

Public Utility

A part of the report of Carnegie Natural Gas Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA.	
	Dollars	Cts.	Dollars	Cts.
40" Main Pipe Line,	127,338.	93		
20" Main Pipe Line,	13,562.	03		
Booster Station, Masontown,	6,296.	03		
Gasoline Plant, Lone Pine,	11,906.	27		
Gasoline Plant, Hundred,	8,914.	83	8,914.	83
Gasoline Plant, Woodruff,	13,878.	55	13,878.	55
	181,896.	64	22,793.	38
Total				

Carnegie Report Bd. Pub. Wks., W. Va. Ex. 13

Form No. 5.

Gas and Oil:

A part of the report of Carnegie Natural Gas Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	TIME USED
1"	2.696	.275	
2"	51.227	12.779	
3"	82.104	27.408	
4"	80.685	21.680	
5"	.043	3.143	
6"	91.764	56.484	
8"	21.794	33.601	
10"	86.060	57.742	
12"	95,296	97.302	
16"	-	79.916	
20"	-	11.381	
24"	-	23,375	
40"	-	9.000	
TOTAL MILAGE.	511.669	434.086	

Form No. 6

Gas and Oil

A part of the report of Carnegie Natural Gas Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?

Total in all states	89,108
In West Virginia	43,171

How many acres of developed gas leases?

Total in all states	79,817
In West Virginia	33,921

How many producing gas wells were owned at the beginning of the year?

Total in all states	774
In West Virginia	542

How many producing gas wells were drilled during the year?

Total in all states	71
In West Virginia	52

How many "dry" wells were drilled during the year?

Total in all states	23
In West Virginia	17

How many gas wells were purchased during the year?

Total in all states	None
In West Virginia	None

How many gas wells were abandoned during the year?

Total in all states	28
In West Virginia	23

How many gas wells were sold during the year?

Total in all states	None
In West Virginia	None

How many producing gas wells were owned at the end of the year?

Total in all states	817
In West Virginia	571

How many gas wells were in use at the end of the year?

Total in all states	809
In West Virginia	530

What was the average rock pressure for the year of the gas wells owned?

Total in all states	No Record Kept
In West Virginia	"

What was the total daily capacity at the end of the year of the gas wells owned?

Total in all states	"
In West Virginia	"

What was the total average daily delivery of gas, from wells owned, for the year?

Total in all states	"
In West Virginia	"

Form No. 6—A.

Gas and Oil

A part of the report of Carnegie Natural Gas Company.

If this company sells gas directly to consumers, how many does it supply?

Total number in all states

Industrial 6 Manufacturers 20 Well Contractors

Domestic 1,659

In west Virginia

Industrial 12 Well Contractors

Domestic 392

To what cities and towns is gas supplied? None

To what gas companies, if any, is gas sold? Equitable Gas Company, Hope Natural Gas Company, Manufacturers Light & Heat Company & Jennings Oil Company.

How many cubic feet of gas were sold during the year?

Total number in all states 13,402,307,275

To other gas companies

Name of company

To industrial consumers 13,064,297,558

To domestic consumers 338,009,717

In West Virginia

To other gas companies

Name of company	
Hope Natural Gas Company	161,793,000
Monongahela Valley Traction Co.	303,498,000
Manufacturers Light & Heat Co.	423,000
Wetzel Gas Company	7,318,017
Jennings Oil Company.	100,355
	473,132,372

To industrial consumers 265,463,360

To domestic consumers 142,968,217

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states .143 cents.

To other gas companies

Name of company "

" "

" "

" "

" "

" "

To industrial consumers .142 "

To domestic consumers .194 "

In West Virginia .16 "

To other gas companies "

Name of company "

" "

" "

" "

" "

To industrial consumers .12 "

To domestic consumers .072 "

Form No. 6—B.

Gas and Oil

A part of the report of Carnegie Natural Gas Compa

If thatcompany purchases gas, from whom or what company or companies does it purchase?

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states	779,868,968
From other gas companies. Name of Companies.	
Equitable Gas Company	45,522,000
Peoples Natural Gas Company	118,279,000
Imperial Oil & Gas Company	262,163,565
W. H. Eddy Oil Company	28,553,264
From all other sources	325,351,132
Total in West Virginia	334,356,371
From other gas companies. Name of Companies.	
Imperial Oil & Gas Company	262,163,565
W. H. Eddy Company.	28,553,264
From all other sources	43,639,542

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states	.14 cents
To other gas companies. Name of Companies.	
	.183 "
	"
	"
	"
To other persons or individuals	.10 "
In West Virginia	.08 "
To other gas companies. Name of Companies.	
	.079 "
	"
	"
	"
To other persons or individuals	.10 "

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.
4	10	5,447,807,000	Penna.
2	12	4,367,483,000	

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.
-	-	-	-

Does this company pipe gas through its lines for other persons or companies? No

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? All properties are listed on Form 8 u.

Form No. 7

Gas and Oil

A part of the report of Carnegie Natural Gas Company.

How many acres of undeveloped oil leases are controlled by the company making this report?	
Total	None; Acreage held is supposed to be Gas Territory
In West Virginia	" " " " "
How many acres of developed oil leases?	
Total	11,495.75
In West Virginia	10,797.75
How many producing oil wells were owned at the beginning of the year?	
Total	105
In West Virginia	101
How many producing oil wells were drilled during the year?	
Total	38
In West Virginia	31
How many oil wells were abandoned during the year?	
Total	None
In West Virginia	None
How many producing oil wells were owned at the end of the year?	
Total	143
In West Virginia	132
What was the total average daily production of oil for last year?	
Total	328,249
In West Virginia	276,025
What was the total average daily production of oil for this year?	
Total	383,202
In West Virginia	340,515
What was the total production of oil for the month of December, this year?	
Total	10,627.19
In West Virginia	9,348.08
What was the total production of oil for the year?	
Total	126,769
In West Virginia	111,189
What was the average price per barrel received for oil sold during the year?	
Total	433
In West Virginia	433
If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?	
Total	None
In West Virginia	"
What was the total number of barrels of oil transported through the pipe lines of this company for the year?	
Total	None
In West Virginia	"
What does this company charge for transporting oil through its pipe lines?	None Transported

Form No. 8—U.

Public Utility

A part of the report of Carnegie Natural Gas Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-39
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property. Returned by Company	Assessed by Bd. of Public Wks.
CALHOUN COUNTY					
Sherman	134.75	-	-	$ 1,681.86	$ 1,681.86
Lee	100.00	-	-	100.00	100.00
	234.75	-	-	$ 1,781.86	$ 1,781.86
DODDRIDGE COUNTY					
Central	866.00	22	5.09	$ 76,708.29	$ 115,204.00
Cove	328.00	1	-	1,928.00	3,678.00
Grant	300.00	7	7.16	44,691.51	56,941.01
McClelland	4,894.50	58	38.40	225,315.38	326,805.38
New Milton	451.50	-	-	451.50	451.50
South West	6,136.00	22	8.98	56,818.79	95,318.79
West Union	662.50	9	9.27	50,237.09	65,987.09
	13,638.50	119	68.90	$ 456,150.56	$ 664,385.77
GILMER COUNTY					
Center	7,950.00	7	-	$ 22,239.09	$ 34,489.09
DeKalb	924.37	-	-	924.37	924.37
Glenville	2,146.00	-	-	2,146.00	2,146.00
Troy	1,772.50	3	-	6,572.85	11,822.85
	12,792.87	10	-	$ 31,882.31	$ 49,382.31
HARRISON COUNTY					
Clark	-	-	.95	$ 6,361.90	$ 6,361.90
Clay	122.00	3	2.85	8,864.12	14,114.12
Coal	-	-	1.74	11,626.70	11,626.70
Eagle	1,537.75	38	25.73	174,787.59	240,287.57
Grant	22.00	1	4.71	27,954.80	29,704.80
Sardis	880.50	22	11.66	88,779.27	127,279.27
Union	24.00	2	10.44	48,554.78	52,054.78
	2,586.25	66	58.08	$ 366,929.16	$ 481,429.14
LEWIS COUNTY					
Freeman's Creek	3,529.00	10	4.25	$ 22,947.05	$ 40,447.05
Hackers Creek	792.00	16	9.43	49,543.43	77,043.43
	4,321.00	26	13.68	$ 72,490.48	$ 117,490.48
MARION COUNTY					
Fairmont	200.00	2	.07	$ 3,272.68	$ 6,772.68
Grant	200.00	1	1.96	3,574.04	5,324.04
Lincoln	1,342.50	30	40.59	314,551.66	366,051.66
Mannington	5,122.25	53	31.22	198,288.95	291,038.95
Paw Paw	1,773.00	19	18.80	72,794.77	106,044.77
	8,637.75	105	92.64	$ 592,482.10	$ 775,232.10

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of Carnegie Natural Gas Company.

MARSHALL COUNTY						
Cameron	558.00	2	-	$ 12,501.01	$	16,001.01
Liberty	2,443.00	49	28.35	239,713.52		325,463.52
Meade	291.00	-	-	1,259.39		1,259.39
Webster	630.00	-	-	630.00		630.00
	3,922.00	51	28.35	$ 254,103.92	$	343,353.92
MONONGALIA COUNTY						
Battelle	1,555.00	16	10.57	$ 68,152.15	$	95,652.15
Cass	169.00	2	7.45	41,077.94		44,577.94
Clay	2,622.50	28	22.67	154,792.45		202,792.45
Grant	3,301.25	10	7.94	35,246.51		52,746.51
	7,647.75	56	48.63	$ 299,269.05	$	395,769.05
RITCHIE COUNTY						
Clay	3,866.50	48	29.80	$ 181,320.10	$	264,320.10
Murphy	265.00	2	-	4,083.20		7,583.20
Union	8,372.00	13	7.04	47,292.80		70,042.80
	12,503.50	63	36.84	$ 232,696.10	$	341,946.10
TYLER COUNTY						
Centerville	2,066.25	27	19.97	$ 100,312.60	$	147,562.60
Ellsworth	1,392.00	9	5.92	34,233.55		49,983.55
McElroy	969.00	9	14.61	86,188.14		101,938.14
Meade	500.00	-	-	500.00		500.00
	4,927.25	45	40.50	$ 221,234.27	$	299,984.29
WETZEL COUNTY						
Center	1,007.00	3	5.09	$ 29,566.83	$	34,816.83
Clay	3,165.75	18	11.54	65,751.90		97,251.90
Church	4,635.50	91	58.05	536,499.41		695,749.41
Grant	5,588.75	48	41.19	320,467.46		404,467.46
Greene	772.50	2	8.20	41,615.38		45,115.38
Proctor	1,844.00	-	-	1,844.00		1,844.00
	17,013.50	162	124.07	$ 995,744. 98	$	1279,244.98
Total,	88,225.12	703	511.69	$3,524,764.79	$	4,750,000.00

Public Utility.

A part of the report of the Carnegie Natural Gas Company.

EXPLANATORY REMARKS

State of Pennsylvania }
County of Allegheny } ss

I, *THE UNDERSIGNED*, H. L. Smith, Auditor
Name of Officer. *Official Title.*

of the Carnegie Natural Gas Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value*, to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the beforementioned property would sell if voluntarily offered for sale upon such terms as such property is usualy sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

H. L. Smith.

Auditor.
Official Title.

SUBSCRIBED AND SWORN TO before me this 31st day of March 1920

Henry T. Hamilton

My Commission Expires March 3, 1923.
Notary Public.

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

PAGE .....

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility:

A part of the report of the Columbia Gas and Electric Company.

1. Name of company making this report Columbia Gas and Electric Company
2. Nature of company, whether person or persons, association or corporation Corporation
3. Organized under the laws of what state West Virginia
4. Location of Principal Office Charleston, West Va.
5. Location of Principal Place of Business in West Virginia Charleston, West Va.
6. Name of President and his address in full A. B. Leach
   62 Cedar Street, New York City
7. Name of Secretary and his address in full Polk Laffoon
   S. W. Cor. 4th & Plum Sts. Cincinnati, O.
8. Name of General Manager and his address in full
9. Name of Chief Officer or Managing Agent in W. Va., and his address in full
   R. G. Altizer Charleston, West Va.
10. Name of Tax Agent and his address in full
    R. G. Altizer, Charleston, West Va.
11. Name and full address of officer to whom correspondence regarding this report should be addressed

Polk Laffoon	Sec'y. Treas.	4th & Plum, Cincinnati, O.
(Name)	*(Title)*	*(Address)*

12. Date of annual meeting of stockholders Last Saturday in March
13. The books of the company are closed for the year on what date December 31st.
14. If a consolidated company, name the constituent companies

REMARKS.

This report includes not only the property of the Columbia Gas and Electric Company, but also that of the Cincinnati Gas Transportation Company, a West Virginia Corporation, all the property of the latter being operated by the Columbia Gas and Electric Company as lessee.

Number of pages of your report. This is
PAGE 1.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of Columbia Gas and Electric Company.

What is the amount of the authorized capital stock?	$ 50,000,000
How much of the capital stock has been issued?	$ 50,000,000
How many shares of common stock issued?	$ 500,000
How many shares of preferred stock issued?	$
What is the par value, per share, of the common stock?	$ 100.00
What is the par value, per share, of the preferred stock?	$
What is the market value, per share, of the common stock	$ 62.50
What is the market value, per share, of the preferred stock?	$
If stock is not on the market, at what is it valued per share?	$
How much of the stock was paid for in cash?	$

What was the consideration for stock issued, but not paid for in cash?

Stock issued for property & securities in other companies.

If any part of the stock was not paid for in cash, was the consideration equivalent to cash? Yes

How much bonus stock, if any, was issued? All issued as above $

If stock is not worth par, how do you account for the fact that it is not?

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
Property & securities acquired	1927	13,277,000	5%	87% of Par
Totals				

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
Stocks acquired		2,617,168.33	5%	
Totals				

Accounts receivable, December 31 $ 315,538.33

This company began business or was acquired by the present owners or operators

(month) January (day) first (year) 1907

Investment. (By present owners.)

Stock issued (money value)	See above	$
Amount realized from sale of bonds		$
Earnings put into plant		$
		$
Total investment or cost (entire plant)		$

What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds? $ 3,059,954.85

What would be the approximate cost of reproducing the entire plant new?

What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia? $

What is the total value of the entire plant, as shown by the books of the Company? $ 6,003,254.94 *

What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company? $

*Note: These figures represent book value only, from which actual depreciation has not been deducted.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 3—U.

Public Utility.

A part of the report of Columbia Gas and Electric Company.

What were the total gross earnings (including all sums earned or charged ,whether actually received or not, and its proportion of the gross receipts for business done by it in connection with other companies or firms), of the Company, Co-partnership, Association or Corporation making this report, for the year ending

December 31, in all States? $ 5,847,942.58

in West Virginia $ Cannot divide

How much of the gross earnings resulted from business actually done in West Virginia? $ Cannot divide

How much of the total gross earnings should properly be credited to West Virginia to give the state a fair share of earnings? $ 3,070,958.79

If this company operates outside of West Virginia, how, or upon what principle were the earnings apportioned, as between this state and other states? Cannot divide

What were the total operating and maintenance expenses including interest and taxes in all states? $ 3,320,702.19

What were the total operating and maintenance expenses including interest and taxes in West Virginia? $ 2,673,220.75

("Operating and maintenance expenses" is to be understood to mean the actual expenses of operation, and actual expenditures for maintenance. Expenditures for new work (peramnent improvements and additions), and dividends are not to be included as operating expenses.)

If this company operates outside of West Virginia, how, or upon what principle were the operating expenses apportioned as between this state and other states?

What were the net earnings in West Virginia for the year ending December 31, ? $ 397,738.04

What were the total net earnings, in all states, for the year ending December 31, ? $ 2,527,240.32

What dividends were declared during the year on common stock? 4 per cent; amount $ 2,000,000.00

15th Feb.-May-Aug-Nov

What dividends were declared during the year on preferred stock? ---- per cent; amount $

When were the dividends declared on common stock? Preferred Stock? $

Interest paid on Funded Debt during the year $ 583,763.61

Interest paid on Unfunded Debt during the year $ 130,825.00

(There should appear on each sheet of this report *some notation* to indicate that the information desired or questions asked have not been overlooked. The word "none" may be used against any particular item or items, where that word expresses the *facts*. If, for any reason, for any item, the exact amount cannot be reported, such an amount as is approximately correct must be reported. In such case, refer by note to "remarks" at the bottom of the sheet on which a diviation occurs, where a brief explanation should be given why specific data called for cannot be returned *exactly as requested*.)

REMARKS.

Form No. 3. U—A.

Gas and Oil.

A part of the report of the Columbia Gas and Electric Company

THE OPERATING AND MAINTENANCE AND OTHER EXPENSES as shown below should not include expenditures for additions to plant, dividends or any amount for depreciation.

Operating and Maintenance Expenses, Interest, Etc., for the year ending December 31, (Fully itemize.)	Entire Plant	West Va.
General Expenses:		
Salaries and Expenses of General Officers	$ 26,050.02	$ 26,050.02
Salaries and Expenses of General Office Employees		
Miscellaneous Expenses of General Office (Office Supplies, Etc.)	2,640.73	2,640.73
Leagl Expenses	6,512.61	6,512.61
Relief and Pensions	988.24	988.24
Injuries and damages	259.74	259.74
Expense General	28,077.59	28,077.59
Prospecting and Lease Expenses:		
Salaries and Expenses	5,021.67	5,021.67
Purchase of Leases		
Rental of Leases	19,621.84	19,621.84
Drilling unproductive Wells		
Production Expenses:		
Superintendent and Salaries	11,617.73	11,617.73
Royalties	58,627.21	58,627.21
Operating Gas Wells and Field Lines	32,342.56	32,342.56
Operating Oil Wells		
Repairs to Gas Wells and Field Lines	23,751.83	23,751.83
Repairs to Oil Wells		
Transportation Expenses:		
Superintendence and Salaries	2,087.96	2,087.96
Operating Transportation Lines	14,262.25	14,262.25
Operating Pump Stations	6,458.22	6,458.22
Operating Pressure Stations	59,826.17	59,826.17
Repairs of Transportation Lines	52,239.77	52,239.77
Repairs of Pumping Station Equipment	54,588.91	54,588.91
Carried Forward to Form No. 3 U.—A.—Continued	404,975.05	404,975.05

Form No. 3—U.—A—Continued

Gas and Oil.

A part of the report of Columbia Gas and Electric Company.

Brought forward from Form No. 3 U.—A.	$ 404,975.05	$ 404,975.05
Taxes:		
License or Charter Taxes	8,630.00	8,630.00
General Property Taxes	135,107.40	65,826.81
Federal Excess Profits Tax		
Federal Income Tax	28,542.23	28,542.23
Other Federal Taxes (Capital Stock)	17,814.21	17,814.21
Miscellaneous Taxes	13,401.48	13,098.63
Interest and Discount:		
On Bonds and other Funded Debt	583,763.61	583,763.61
On Unfunded Debt	130,825.00	130,825.00
Gas Purchased	600,986.84	600,986.84
Miscellaneous Expense which can not be set out under the above headings: (Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.) (Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
Pipe Line Rental	598,229.17	598,229.17
Rental Kentucky Properties	577,898.00	
Sinking Fund	220,529.20	220,529.20
Totals	3,320,702.19	2,673,220.75

What amount, if any, should be charged off for depreciation? $ $ 55/ ,727.95

What is considered a fair rate of depreciation?

What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above? Obsolescence and depreciation not covered by the maintenance charges.

Form No. 4—U

Public Utility

A part of the report of Columbia Gas and Electric Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA.	
	Dollars	Cts.	Dollars	Cts.
Wells	117,324.	40	117,324.	40
Field Lines	32,191.	61	32,191.	61
Trunk Lines	156.	54		
Compressor Stations	1,231.	01	1,231.	01
Gasoline Manufactur Equipment	60,569.	40		
Leases	13,127.	22	13,127.	22
Miscellaneous	898.	33	898.	33
Total	225,498.	51	164,772.	57

Form No. 5.

Gas and Oil:

A part of the report of Columbia Gas and Electric Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	TIME USED
LINES LEASED FROM THE CINCINNATI GAS TRANSPORTATION COMPANY			
20"	-	123.50	10-1/2 years
18"	32.70	-	"
12"	14.00	.67	"
10"	1.20	-	"
8"	10.00	1.10	"
	57.90	125.27	
LINES OWNED BY THE COLUMBIA GAS AND ELECTRIC COMPANY			
1"	.38		
1½"	.04		
2"	20.31		
3"	40.47		From Two Months
3½"	3.71		
4"	23.40		to
4-7/8"	.28		
5-3/16"	.55		10½ Years
5-3/4"	3.52		
6"	20.53		
6½"	3.61		
6-5/8"	.95		
8"	6.21		
10"	.16		
12"	.64		
	124.76		

TOTAL MILAGE. 182.66 125.27

Form No. 6

Gas and Oil

A part of the report of Columbia Gas and Electric, Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?

Total in all states	220,707
In West Virginia	180,933

How many acres of developed gas leases?

Total in all states	29,237
In West Virginia	28,737

How many producing gas wells were owned at the beginning of the year?

Total in all states	239
In West Virginia	238

How many producing gas wells were drilled during the year?

Total in all states	11
In West Virginia	11

How many "dry" wells were drilled during the year?

Total in all states	1
In West Virginia	1

How many gas wells were purchased during the year?

Total in all states	6
In West Virginia	6

How many gas wells were abandoned during the year?

Total in all states	NONE
In West Virginia	NONE

How many gas wells were sold during the year?

Total in all states	NONE
In West Virginia	NONE

How many producing gas wells were owned at the end of the year?

Total in all states	255
In West Virginia	254

How many gas wells were in use at the end of the year?

Total in all states	227
In West Virginia	227

What was the average rock pressure for the year of the gas wells owned?

Total in all states	307 Pds.
In West Virginia	307 Pds.

What was the total daily capacity at the end of the year of the gas wells owned?

Total in all states	121,148,552 cu. ft.
In West Virginia	121,148,552 cu. ft.

What was the total average daily delivery of gas, from wells owned, for the year?

Total in all states	15,547,197
In West Virginia	15,547,197

Form No. 6—A.

Gas and Oil

A part of the report of Columbia Gas and Electric Company

If this company sells gas directly to consumers, how many does it supply?

Total number in all states

Industrial

Domestic 330

In west Virginia

Industrial

Domestic 286

To what cities and towns is gas supplied? Branchland, Griffithsville, West Hamlin, Kenova, W. Va Foster, Cold Springs, Dover and Kebo, Kentucky

To what gas companies, if any, is gas sold? The Union Gas & Elec. Co. Cinti, O. Union Light, Ht. & Pr. Co. Covington, Ky. Maysville (Ky.) Gas Co. Bracken Co. Gas Co., Foster, Ky.

How many cubic feet of gas were sold during the year? Martha Gas Co. Martha, W. Va.

Total number in all states 13,272,231 Ms

To other gas companies

Name of company The Union Gas and Electric Co. 10,233,481 Ms

The Union Light Heat & Power Co. 2,690,566 Ms

Maysville Gas Co. 259,952 Ms

Bracken County Gas Co. 2,522 Ms

Martha Gas Co. 2,113 Ms

To industrial consumers 49,850 Ms

To domestic consumers 33,747 Ms.

In West Virginia

To other gas companies

Name of company Martha Gas Co. 2,113 Ms

To industrial consumers

To domestic consumers

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states cents.

To other gas companies

Name of company The Union Gas and Electric Company .2275

The Union Light, Heat & Power Company .229 "

Maysville Gas Company .18 "

Bracken County Gas Co. .35 "

Martha Gas Company .20 and .25 "

"

To industrial consumers .10 "

To domestic consumers .203 "

In West Virginia "

To other gas companies

Name of company Martha Gas Company .20 and .25 "

"

"

"

"

"

To industrial consumers .10 "

To domestic consumers .203 "

Form No. 6—B.

Gas and Oil

A part of the report of Columbia Gas and Electric Company.

If this company purchases gas, from whom or what company or companies does it purchase? The United Fuel Gas Co., Empire Petroleum Co. Guyan River Coal Co. Li coln N.t. Gas Co. Herman Moore- C.L. Dixon & Co.- Meabon & McClure- Nye Development Co. Mill Branch Gas Co. C. J. Henderson- Milton Randolph- Laurel Development Co.- Putnam Oil & Gas Co.- West Va. Land & Oil Co.& Atlas Gas Corp.

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states ..... 9,949,498 Ms.

From other gas companies.

Name of Companies.

United Fuel Gas Co.	7,301,649 Ms.
Laurel Development Co.	776,504 Ms.
Empire Petroleum Co.	260,696 Ms.
Putnam Oil and Gas Co.	164,631 Ms.
From all other sources Lincoln Natural Gas Co.	487,000 Ms.
	959,018 Ms.

Total in West Virginia .....

From other gas companies.

Name of Companies.

All of the above

From all other sources .....

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states ..... 6.043 cents

To other gas companies.

Name of Companies.

The United Fuel Gas Company	7. "
Laurel Development Co.	4 & 4½ "
Empire Petroleum Co.	4 & 5 "
Putnam Oil & Gas Co.	4 "
Lincoln Natural Gas Co.	5
To other persons or individuals	2 to 5 "

In West Virginia ..... "

To other gas companies.

Name of Companies.

All of the above

To other persons or individuals ..... "

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.
1	20"	15,624,225 Ms.	Ky. and Ohio

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.
			None

Does this company pipe gas through its lines for other persons or companies? No

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? See page 11

Form No. 7

Gas and Oil

A part of the report of Columbia Gas and Electric Company.

How many acres of undeveloped oil leases are controlled by the company making this report?	NONE
Total	
In West Virginia	
How many acres of developed oil leases?	
Total	
In West Virginia	
How many producing oil wells were owned at the beginning of the year?	
Total	
In West Virginia	
How many producing oil wells were drilled during the year?	
Total	
In West Virginia	
How many oil wells were abandoned during the year?	
Total	
In West Virginia	
How many producing oil wells were owned at the end of the year?	
Total	
In West Virginia	
What was the total average daily production of oil for last year?	
Total	
In West Virginia	
What was the total average daily production of oil for this year?	
Total	
In West Virginia	
What was the total production of oil for the month of December, this year?	
Total	
In West Virginia	
What was the total production of oil for the year?	
Total	
In West Virginia	
What was the average price per barrel received for oil sold during the year?	
Total	
In West Virginia	
If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?	
Total	
In West Virginia	
What was the total number of barrels of oil transported through the pipe lines of this company for the year?	
Total	
In West Virginia	
What does this company charge for transporting oil through its pipe lines?	

Form No. 8—U Continued

Public Utility

A part of report of Columbia Gas and Electric Company

REAL ESTATE AND IMPROVEMENTS

COUNTY	DISTRICT	ACRES	IMPROVEMENTS	COST
Cabell	Grant	86/100	Dwelling	325.00
		1/7	"	350.00
Lincoln	Carroll	87/100	"	400.00
	Duval	1/2	"	1,845.00
	Sheridan	1/2	"	450.00
		2-52/100	Branchland Compressor Stations & Buildings	176,154.62
			Supt.'s House at Branchland Compressor	200.00
		ⓧ 23/56	Dwellings	800.00
Putnam	Curry	Land is rented	Compressor Sta. and building only	46,672.36
Wayne	Ceredo	47/100	Approach to Pipe Line crossing	125.00
		8- 1/3	Compressor Station and Buildings	508,228.84

Note:ⓐ Compressor Stations in Lincoln and Wayne Counties have been operated 9 1/2 years. The present value is less than the above mentioned cost. Compressor Station in Putnam County was erected during 1917 on land rented from owner on 20 year lease.

Note:- The legal title to the above real estate, except 2/7 of an acre, Sheridan District, (included in 23.56 marked thus ⓧ) which is in the Columbia Gas and Electric Company is in the Cincinnati Gas Transportation Company, but is leased, operated and controlled by the Columbia Gas and Electric Company under written lease by the terms of which the Columbia Company is to pay all the taxes.

Form No. 8—U.

Public Utility

A part of the report of Columbia Gas and Electric Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-15
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property Returned by Company	Total Value all Property Assessed by Bd. of Pub. Wks.
		CABELL COUNTY			
Grant			16.80		$515,248.00
Barboursville			1.75		66,000.00
Guyandotte			4.80		192,500.00
McComas			8.07		291,500.00
	-	-	31.42	-	$1,065,248.00
		LINCOLN COUNTY			
Carroll			35.97		$ 454,352.00
Duval			3.99		152,248.00
Sheridan			57.70		2,242,368.00
Laurel Hill			22.10		624,380.00
Jefferson			-		131,604.00
Union			1.06		49,692.00
	-	-	120.82	-	$3,654,644.00
		PUTNAM COUNTY			
Curry			3.31		$ 122,292.00
Scott			-		12,100.00
	-	-	3.31	-	$ 134,392.00
		WAYNE COUNTY			
Ceredo			9.25		$1,293,600.00
Union			1.56		60,500.00
Grant			1.08		87,284.00
Lincoln			-		49,692.00
Stonewall			12.95		154,640.00
	-	-	24.84	-	$1,645,716.00
Total	209,670	254	180.39	-	$6,500,000.00

Note:- Detail of "Acreage of Oil and Gas Territory" and "Number of Wells" by Districts and Counties not available.

Columbia G. & E. Report Bd. Pub. Wks., W. Va. Ex.14

Form No. 9 U.

Public Utility.

A part of the report of the Columbia Gas and Electric Company.

EXPLANATORY REMARKS

State of Ohio }
County of Hamilton } ss

I, *THE UNDERSIGNED*, Polk Laffoon *Name of Officer.* Secretary *Official Title.*

of the Columbia Gas and Electric Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value*, to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the beforementioned property would sell if voluntarily offered for sale upon such terms as such property is usualy sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

Polk Laffoon.

Secretary
Official Title.

SUBSCRIBED AND SWORN TO before me this 11th day of February 1920

Wm. G. Krohne.

Notary Public
Notary Public.

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

PAGE .....

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 1—U.

Public Utility.

A part of the report of the Manufacturers Light & Heat Company of Pa. Company.

1. Name of company making this report The Manufacturers Light & Heat Company
2. Nature of company, whether person or persons, association or corporation Corporation
3. Organized under the laws of what state Pennsylvania
4. Location of Principal Office 248 Fourth Avenue, Pittsburgh, Pa.
5. Location of Principal Place of Business in West Virginia 1417 Chapline Street, Wheeling, W. Va.
6. Name of President and his address in full John E. Gill, 248 Fourth Avenue, Pittsburgh, Pa.
7. Name of Secretary and his address in full H. E. Seibert, 248 Fourth Avenue, Pittsburgh, Penna.
8. Name of General Manager and his address in full H. A. Quay, 248 Fourth Avenue, Pittsburgh, Penna.
9. Name of Chief Officer or Managing Agent in W. Va., and his address in full H. C. Vankirk, 1417 Chapline St., Wheeling, W. Va.
10. Name of Tax Agent and his address in full None
11. Name and full address of officer to whom correspondence regarding this report should be addressed

G. W. Ratcliffe	Treasurer	248 Fourth Ave. Pittsburgh, Pa.
(Name)	*(Title)*	*(Address)*

12. Date of annual meeting of stockholders Fourth Tuesday in February
13. The books of the company are closed for the year on what date December 31st.
14. If a consolidated company, name the constituent companies

The Manufacturers Light & Heat Co. - Canonsburg Light & Fuel Co.
Fort Pitt Gas Company
Relief Gas Co.
Mutual Benefit Gas Co.
Waynesburg Natural Gas Co.
Wheeling Natural Gas Co.
Ohio Valley Gas Co.
Manufacturers Gas Co.
Cameron Gas & Oil Co.
Blacksville Oil & Gas Co.
Citizens Natural Gas Co. of Waynesburg
Tri State Gas Co.
Manufacturers Light & Heat Co. of W.Va.
Big Meadows Gas Co.
Venture Oil Co.

REMARKS

Number the pages of your report. This is PAGE 1.

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 2-U

Public Utility.

A part of the report of The Manufacturers Light & Heat Company.

What is the amount of the authorized capital stock?	$ 25,000,000.00
How much of the capital stock has been issued?	$ 23,000,000.00
How many shares of common stock issued?	$ 460,000
How many shares of preferred stock issued?	$ None
What is the par value, per share, of the common stock?	$ 50.00
What is the par value, per share, of the preferred stock?	$ None
What is the market value, per share, of the common stock	$ 59.75
What is the market value, per share, of the preferred stock?	$ None
If stock is not on the market, at what is it valued per share?	$ ---
How much of the stock was paid for in cash?	$ 22,530,400.00

What was the consideration for stock issued, but not paid for in cash? Property

If any part of the stock was not paid for in cash, was the consideration equivalent to cash? Yes

How much bonus stock, if any, was issued? $ None

If stock is not worth par, how do you account for the fact that it is not? See Above

FUNDED DEBT

FOR WHAT ISSUED	Date of Maturity	Principal Outstanding Dollars	Rate of Interest	Total Market or Actual Value on December 31 Dollars
Cash	Oct. 1,1920	348,000.	6%	348,000.
Totals				

UNFUNDED DEBT

FOR WHAT INCURRED				Amount
Material and Supplies				
Security Deposits				
Unpaid Dividends, etc.				
Totals				2,433,143.16

Accounts receivable, December 31, $ 1,106,116.23

This company began business or was acquired by the present owners or operators (month) April (day) 21st (year) 1903

Investment. (By present owners.)

Stock issued (money value)	$ 23,000,000.00	
Amount realized from sale of bonds	$ 10,500,000.00	
Earnings put into plant	$	
	$	
Total investment or cost (entire plant)		$ 44,078,429.86

What is the actual cost of that part of the plant which is situate in West Virginia, including property of all kinds?	$ (See 8U)
What would be the approximate cost of reproducing the entire plant new?	44,078,429.86
What would be the approximate cost of reproducing that part of the plant which is situated in West Virginia?	$ 14,279,348.32
What is the total value of the entire plant, as shown by the books of the Company?	$ 30,083,755.74
What is the value of that part of the plant situate in West Virginia, as shown by the books of the Company?	$ 9,706,105.79

ALL QUESTIONS ON THIS SHEET MUST BE ANSWERED.

Form No. 3—U.

Public Utility.

A part of the report of The Manufacturers Light and Heat Company.

What were the total gross earnings (including all sums earned or charged, whether actually received or not, and its proportion of the gross receipts for business done by it in connection with other companies or firms), of the Company, Co-partnership, Association or Corporation making this report, for the year ending

December 31, 1919 in all States? $ 11,031,947.58

in West Virginia $ 2,441,556.70

How much of the gross earnings resulted from business actually done in West Virginia? $ 2,441,556.70

How much of the total gross earnings should properly be credited to West Virginia to give the state a fair share of earnings? $ 2,441,556.70

If this company operates outside of West Virginia, how, or upon what principle were the earnings apportioned, as between this state and other states?

Actual Earnings accrued from Sales of Gas to Consumers; the production of Oil and Gasoline within the State, and Income of Sundry Earnings within the State.

What were the total operating and maintenance expenses including interest and taxes in all states? $ 7,083,418.14

What were the total operating and maintenance expenses including interest and taxes in West Virginia? $ 1,627,390.48

("Operating and maintenance expenses" is to be understood to mean the actual expenses of operation, and actual expenditures for maintenance. Expenditures for new work (permanent improvements and additions), and dividends are not to be included as operating expenses.)

If this company operates outside of West Virginia, how, or upon what principle were the operating expenses apportioned as between this state and other states? Operating Expenses apportioned to West Virginia on the basis of its proportion of Gas delivered as to gas delivered entire system.

What were the net earnings in West Virginia for the year ending December 31, 1919 ? $ 814,166.22

What were the total net earnings, in all states, for the year ending December 31, 1919 ? $ 3,998,528.14

What dividends were declared during the year on common stock? 10 per cent; amount $ 2,253,040.00

What dividends were declared during the year on preferred stock? ____ per cent; amount $ None

When were the dividends declared on common stock? Quarterly Preferred stock? $ None

Interest paid on Funded Debt during the year $ 45,930.85

Interest paid on Unfunded Debt during the year $ None

(There should appear on each sheet of this report *some notation* to indicate that the information desired or questions asked have not been overlooked. The word "none" may be used against any particular item or items, where that word expresses the *facts*. If, for any reason, for any item, the exact amount cannot be reported, such an amount as is approximately correct must be reported. In such case, refer by note to "remarks" at the bottom of the sheet on which a deviation occurs, where a brief explanation should be given why specific data called for cannot be returned *exactly as requested*.)

REMARKS.

Gas and Oil.

Form No. 3. U—A.

A part of the report of the The Manufaturers Light and Heat Company.

THE OPERATING AND MAINTENANCE AND OTHER EXPENSES as shown below should not include expenditures for additions to plant, dividends or any amount for depreciation.

Operating and Maintenance Expenses, Interest, Etc., for the year ending December 31, (Fully itemize.)	Entire Plant	West Va.
General Expenses:		
Salaries and Expenses of General Officers	$ 75,856.60	$
Salaries and Expenses of General Office Employees	79,782.51	
Miscellaneous Expenses of General Office (Office Supplies, Etc.)		
Leagl Expenses	9,078.01	
Miscellaneous	88,738.22	
Prospecting and Lease Expenses:		
Salaries	49,628.49	
Purchase of Leases		
Rental of Leases	366,229.64	
Drilling All Wells	1,023,677.12	
Production Expenses:		
Superintendent and Salaries	2,714.24	
Royalties	255,024.82	
Operating Gas Wells	170,753.57	
Operating Oil Wells	110,957.66	
Repairs to Gas Wells	189,668.52	
Repairs to Oil Wells	88,097.37	
Miscellaneous	37,485.86	
Transportation Expenses:		
Superintendence and Salaries	1,410.77	
Operating Transportation Lines	45,989.73	
Operating Pump Stations	350,637.89	
Operating Pressure Stations	9,587.77	
Repairs of Transportation Lines	49,091.73	
Repairs of Pumping Station Equipment	39,280.48	
Carried Forward to Form No. 3 U.—A.—Continued	3,043,891.00	

Form No. 3—U.—A.—Continued.

Gas and Oil.

A part of the report of The Manufacturers Light & Heat Company.

Brought forward from Form No. 3 U.—A.	$ 3,043,891.00	$
Taxes:		
License or Charter Taxes	56,388.98	
General Property Taxes	208,377.80	
Federal Excess Profits Tax	102,000.00	
Federal Income Tax	294,000.00	
Other Federal Taxes	38,874.20	
Miscellaneous Taxes	2,100.84	
Interest and Discount:		
On Bonds and other Funded Debt	45,930.85	
On Unfunded Debt		
Gas Purchased	2,405,236.22	
Miscellaneous Expense which can not be set out under the above headings: (Fully itemize) Do not combine items if by so doing, the total to be entered on any line is in excess of $5000.) (Companies whose total expense for operation and maintenance does not exceed $5000, may itemize all of such expense hereunder if desired instead of using the form above.)		
DISTRIBUTION, OR CITY PLANT EXPENSE:		
Operating and Repairing Lines	156,383.13	
Reading, Operating and Repairing Meters	115,599.49	
Office Expense and Salaries	176,278.81	
Miscellaneous Distribution Expense	9,813.67	
Cleaning Out Tools Expense	87,994.17	
Gasoline Expense	240,831.91	
Drilling Tools Expense	74,412.48	
Shop Expense	20,945.81	
Miscellaneous	4,358.78	
Totals	7,083,418.14	1,627,390.48

What amount, if any, should be charged off for depreciation? $ 1,221,323.38 $ 410,363.98

What is considered a fair rate of depreciation? 2.83% 2.83%

What reason can be assigned for a charge-off for depreciation, considering the maintenance expense set out above?

Depletion, Obsolesence and Inadequacy.

Form No. 4—U

Public Utility

A part of the report of The Manufacturers Light & Heat Company.

All expenditures for additions and new work during the year for which this report is made should be reported hereon. If, for any reason, the exact amount expended cannot be reported, such an amount as is approximately correct should be reported. If there have been no such expenditures the word "None" should be written in the columns headed "Entire Plant" and "In West Va."

PERMANENT IMPROVEMENTS Expenditures for additions and new work for the year ending December 31. *Fully itemize, and do not include any part of the amount reported as operating and maintenance expense.*	ENTIRE PLANT		IN WEST VA.	
	Dollars	Cts.	Dollars	Cts.
Line Pipe	122,804	05	93,905	18
Oil and Gas Well Pipe	596,912	04	293,081	14
Other Equipment	138,843	41	74,351	04
Acreage Operated	59,422	14	39,809	35
Acreage Unoperated	160,231	85	59,155	05
Rights-of-Way	5,188	26	4,588	32
" " " Expense	311	75	311	75
Buildings-	13,026	26	11,063	13
Fittings	9,982	50	8,722	14
Other Material	110	41	8	20
Labor, Teaming and Freight	11,529	66	9,491	57
Gas Receivers and Regulators	1,865	45	263	00
Telegraph and Telephone Lines	396	30	419	46
Office Furniture	10,785	43	3,813	56
Tools	3,565	49	436	98
Natural Gas Meters	65,076	66	18,037	11
Boilers and Engines	73,896	71	51,820	17
Gas Compressing Stations	62,449	65	2,595	36
Pitot Tube Measuring Stations	1,735	80	1,464	92
Meter Installations	8,318	08	515	03
Service Lines	36,915	50	5,538	89
Derrick Material	6,654	68	8,674	10
Real Estate in Fee	17,879	82	3,356	16
Total				
Miscellaneous	2,949	85	1,398	05
Cleaning Out Tools	26,400	94	22,983	00
Omissions from Inventory	6,869	98	2,973	11
Gasoline Plants	65,498	37	32,580	34
Timber Rights	750	00	None	
Total	895,168	74	519,690	69

Form No. 5.

Gas and Oil:

A part of the report of The Manufacturers Light & Heat Company,

This sheet is intended to show the size, length and time in use, only, of the pipe line owned, leased or operated by the company making this report.

A complete statement showing the different sizes of pipe, the number of miles of each size and the average time in use, should be made on this sheet. Nothing else should be reported hereon.

SIZE	MILES IN WEST VIRGINIA	MILES OUTSIDE WEST VIRGINIA	TIME USED
1"	9.109	55.256	
1¼"	284	12.480	
1½"	2.262	12.163	
2"	101.585	418.615	
2½"	020	5.986	
3"	48.639	256.849	
3½"	.748	2.601	
3-3/4"	.562		
4"	147.169	587.502	
4½"	.121	2.689	
4-7/8"	1.900	18.555	
5"	.870	10.936	
5-3/16"	3.060	3.730	
5-5/8"	2.551	44.892	
6"	116.749	299.513	
6¼"	5.823	8.971	
6-5/8"	4.767	6.357	
7-5/8"	.005	25.385	
8"	84.473	364.966	
8¼"	.696	.610	
10"	159.196	248.654	
12"	42.886	46.888	
13"	.015	.042	
16"	54.537	32.467	
18"	None	.066	
20"	.025	29.575	
3½"	None	.066	
4½"	.405	1.757	
4-5/8"	None	.431	
5½"	None	.833	
8-5/8"	None	2.273	
9-5/8"	None	.615	
30"	None	.040	
Total Mileage	788.457	2,501,763	

TOTAL MILAGE.

Form No. 6

Gas and Oil

A part of the report of The Manufacturers Light and Heat Company.

How many acres of undeveloped gas leases are controlled by the Company making this report?

Total in all states	215,463,520 Acres
In West Virginia	94,280,290 "

How many acres of developed gas leases?

Total in all states Gas and Oil	132,028,800 "
In West Virginia	48,155,000

How many producing gas wells were owned at the beginning of the year?

Total in all states	1,199
In West Virginia	437

How many producing gas wells were drilled during the year?

Total in all states	77
In West Virginia	40

How many "dry" wells were drilled during the year?

Total in all states	22
In West Virginia	7

How many gas wells were purchased during the year?

Total in all states	1
In West Virginia	None

How many gas wells were abandoned during the year?

Total in all states	42
In West Virginia	16

How many gas wells were sold during the year?

Total in all states	None
In West Virginia	None

How many producing gas wells were owned at the end of the year?

Total in all states	1,235
In West Virginia	461

How many gas wells were in use at the end of the year?

Total in all states	1,189
In West Virginia	430

What was the average rock pressure for the year of the gas wells owned?

Total in all states No Rock Pressure Obtainable	
In West Virginia Unable to furnish information asked for	

What was the total daily capacity at the end of the year of the gas wells owned?

	Estimated
Total in all states	68,693,000 cu.ft.
In West Virginia	29,022,000 "

What was the total average daily delivery of gas, from wells owned, for the year?

Total in all states	34,495,000 cu.ft.
In West Virginia	14,779,000 "

Form No. 6—A.

Gas and Oil

A part of the report of The Manufacturers Light & Heat Company.

If this company sells gas directly to consumers, how many does it supply?

Total number in all states

Industrial 724

Domestic 119,547

In west Virginia

Industrial 162

Domestic 10,967

To what cities and towns is gas supplied? City of Wheeling, Towns of Chester, New Cumberland, Wellsburg, Moundsville, New Martinsville, Middlebourne and to Consumers in various residential taking districts in Hancock, Ohio, Brooke, Marshall, Wetzel, Tyler, Doddridge, Harrison and Monongalia counties; also various cities and towns in

To what gas companies, if any, is gas sold? See List under next Heading

Western Penna. & Eastern Ohio.

How many cubic feet of gas were sold during the year?

Total number in all states 27,222,918 M cu.ft.

To other gas companies

Name of company

Ambridge Gas Company.....	117,948 "
Slippery Rock Heat & Light Co.	15,304 "
Tidal Gas Co.	752 "
T. W. Phillips Oil & Gas Co.	17,437 "

To industrial consumers 14,194,713 M cu.ft.

To domestic consumers 12,876,764 "

In West Virginia

To other gas companies

Name of company None

To industrial consumers 3,941,964 M cu.ft.

To domestic consumers 1,452,353 "

What was the average price per thousand cubic feet received for gas sold during the year?

Total in all states 33.70 cents.

To other gas companies

Name of company

Ambridge Gas Company	22.68 "
Slippery Rock Heat & Light Co.	28.94 "
Tidal Gas Co.	10.00 "
T. W. Phillips Oil & Gas Co.	6.00 "

To industrial consumers 33.60 "

To domestic consumers 34.69 "

In West Virginia "

To other gas companies

Name of company None "

To industrial consumers 32.69 "

To domestic consumers 30.46 "

Form No. 6—B.

Gas and Oil

A part of the report of The Manufacturers Light & Heat Company.

If this company purchases gas, from whom or what company or companies does it purchase? (See Below)

If this company purchases gas, how many cubic feet were purchased during the year?

Total number in all states		14,633,026 M cu.ft.
From other gas companies.		
Name of Companies.	Waynesburg Home Gas Co.	188,885 "
	Peoples Natural Gas Co.	288,275 "
	Eastern Oil Company	122,815 "
	Eastern Petroleum Co.	230,288 "
	Southern Oil Company	61,337 "
	Hope Natural Gas Co.	12,268,311 "
From all other sources		1,473,115 "
Total in West Virginia		13,589,149 "
From other gas companies.		
Name of Companies.	Hope Natural Gas Co.	12,268,311 M cu.ft.
	Eastern Oil Co.	122,815 "
	Eastern Petroleum Co.	230,288 "
	Southern Oil Co.	61,337 "
From all other sources		906,398 "

If this company purchases gas, what was the average price per thousand cubic feet paid for same?

Total in all states		16.44 cents
To other gas companies.		
Name of Companies.	Waynesburg Home Gas Co.	10.00
	Peoples Natural Gas Co.	19.07 "
	Eastern Oil Co.	13.00 "
	Eastern Petroleum Co.	8.00 "
	Southern Oil Co.	10.00 "
	Hope Natural Gas Company	17.52 "
To other persons or individuals		9.70 "
In West Virginia		16.76 "
To other gas companies.		
Name of Companies.	Hope Natural Gas Co.	17.52 "
	Eastern Oil Co.	13.00 "
	Eastern Petroleum Co.	8.00 "
	Southern Oil Co.	10.00 "
To other persons or individuals		9.63 "

If this company has pipe lines leading from this state to other states, give the number of such lines, and the size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State to which piped.
See Form 9-U		See Form 9-U	

If this company has pipe lines leading from other states to this state, give the number of such lines, and size of pipe used and the quantity of gas piped, for the year ending December 31st,

Number.	Size of Pipe.	No. cubic feet piped.	State from which piped.
See Form 9-U		See Form 9-U	

Does this company pipe gas through its lines for other persons or companies? None

Does this company own any real estate which is used in connection with its gas business? Yes

If so, of what does it consist? See Form 8-U

Gas and Oil

A part of the report of The Manufacturers Light & Heat Company.

How many acres of undeveloped oil leases are controlled by the company making this report?	
Total	None
In West Virginia	None
How many acres of developed oil leases?	
Total	21,384,000 Acres
In West Virginia	8,375,000 "
How many producing oil wells were owned at the beginning of the year?	
Total	390
In West Virginia	135
How many producing oil wells were drilled during the year?	
Total	28
In West Virginia	13
How many oil wells were abandoned during the year?	
Total	2
In West Virginia	2
How many producing oil wells were owned at the end of the year?	
Total	420
In West Virginia	147
What was the total average daily production of oil for last year?	
Total	559.61 Bbls.
In West Virginia	124.16 "
What was the total average daily production of oil for this year?	
Total	560.59 "
In West Virginia	212.38 "
What was the total production of oil for the month of December, this year?	
Total	14,942.27 "
In West Virginia	5,055.21 "
What was the total production of oil for the year?	
Total	204,615.53 "
In West Virginia	77,520.74 "
What was the average price per barrel received for oil sold during the year?	
Total	$4.55
In West Virginia	$4.55
If this company transports oil through its pipe lines for other persons or companies, how many barrels were transported for the year, for such other persons or companies?	
Total	None
In West Virginia	"
What was the total number of barrels of oil transported through the pipe lines of this company for the year?	
Total	"
In West Virginia	"
What does this company charge for transporting oil through its pipe lines?	"

Form No. 8—U.

Public Utility

A part of the report of Manufacturers Light and Heat Company

On this sheet and on the following sheets designated "Form No. 8 U.—Continued" a complete itemized list together with the true and actual value of each item listed, of all property, both tangible and intangible including all money, credits and investments, owned or operated in this state, by the company making this report, must be given. This property must be listed by counties, magisterial districts, independent school districts and municipalities. Notice carefully the SAMPLE SHEETS sent with this report and follow the same as nearly as possible in listing the property of the company.

Condensed Summary of Pages 11-53
Valuations fixed by the Board of Public Works are also shown.

District	Acreage of Gas and Oil Territory	Number of Gas Wells	Miles of Pipe Line	Total Value all Property Returned by Company	Total Value all Property Assessed by Bd. of Pub. Wks.
HANCOCK COUNTY					
Town of Chester	-	-	12.56	$ 47,037.34	$ 82,409.00
Grant (including Newell)	702.00	11	20.88	165,069.66	289,202.00
Town of Congo	-	-	-	555.81	972.00
Poe	668.00	9	11.94	80,834.39	141,621.00
Clay	-	-	2.39	14,154.24	23,798.00
Town of New Cumberland	-	-	9.08	13,227.47	23,173.00
Butler (Inc. Weirton)	1.00	1	15.75	38,131.48	66,805.00
Town of Hollidays Cove	-	-	2.92	6,069.67	10,635.00
	1,371.00	21	83.40	$ 365,079.86	$638,615.00
BROOKE COUNTY					
Town of Hollidays Cove	-	-	1.49	$ 2,714.13	$ 4,755.00
Cross Creek	-	-	27.24	116,780.19	204,598.00
Town of Follansbee	-	-	9.64	31,783.20	55,684.00
" " Wellsburg	-	-	19.45	55,048.75	96,444.00
Buffalo	-	-	17.12	63,800.01	111,777.00
			74.94	$ 270,126.29	$473,258.00
OHIO COUNTY					
Liberty	-	-	3.80	$ 3,260.01	$ 5,711.00
Richland	794.50	-	12.87	85,261.16	149,377.00
Triadelphia	1,705.00	-	13.30	82,473.58	144,493.00
Warwood	-	-	7.95	17,982.35	31,504.00
Town of Wheeling	-	-	6.80	58,417.25	102,345.00
Ritchie	362.00	-	-	363.00	636.00
	2,862.50	-	43.72	$ 247,757.35	$434,066.00
MARSHALL COUNTY					
Town of McMechen	-	-	7.07	$ 14,398.86	$ 25,216.00
" " Benwood	-	-	1.98	14,575.73	25,535.00
" " Moundsville	-	-	22.84	55,265.81	96,826.00
Washington Ind.	-	-	1.78	12,163.39	21,309.00
Washington	673.00	-	13.39	81,429.10	142,663.00
Union	3,240.00	-	9.65	61,632.28	107,959.00
Liberty	23,509.44	106	59.08	709,911.21	1242,012.00
Town of Cameron	-	-	1.23	2,426.73	4,254.00
Cameron	9,710.00	27	29.26	222,990.94	390,678.00
Clay	4,450.00	-	14.66	214,610.67	375,997.00
" Ind.	-	-	.77	5,588.29	9,790.00
Franklin	4,137.00	15	11.73	72,411.00	126,864.00
Meade	7,142.60	35	34.28	264,598.25	463,576.00
Sand Hill	6,776.50	6	5.68	51,870.40	90,876.00
Webster	8,816.00	17	9.45	107,279.61	187,953.00
	68,454.54	192	222.85	$1890,148.29	$3311,508.00

FORM NO. 8—U CONTINUED

PUBLIC UTILITY

A part of report of Manufacturers Light and Heat Company.

TYLER COUNTY					
Ellsworth	7,311.50	50	38.61	$ 353,772.46	$ 444,608.00
McElroy	4,156.25	35	19.72	300,579.95	351,416.00
Lincoln	104.00	2	-	1,048.00	1,036.00
Franklin	45.00	-	-	45.00	79.00
Town of Middlebourne	-	-	24.46	21,724.38	38,060.00
	11,516.75	87	82.99	$ 477,169.71	$ 835,999.00
WETZEL COUNTY					
Town of Brooklyn	-	-	3.27	$ 5,106.68	$ 9,947.00
" " New Martinsville	-	-	11.78	35,171.54	40,597.00
" " Hundred	-	-	1.54	96,358.21	166,609.00
Magnolia	919.40	-	15.27	44,540.85	78,034.00
Proctor	4,750.00	18	38.56	250,173.92	443,560.00
Greene	5,896.80	38	45.13	499,956.37	875,000.00
Center	5,706.50	6	4.63	43,934.03	77,060.00
Church	7,183.00	61	46.90	431,954.40	756,363.00
Clay	3,234.75	9	6.60	46,965.84	80,563.00
Grant	2,736.00	13	8.30	43,055.23	74,433.00
	30,475.45	165	170.80	$1487,164.88	$2604,164.00
DODDRIDGE COUNTY					
Grant	1,780.00	13	13.04	$ 98,760.15	$ 159,011.00
McClellan	3,998.50	44	31.90	377,378.15	641,140.00
West Union	340.00	3	5.50	33,830.46	57,528.00
New Milton	25.00	1	.59	3,195.08	5,568.00
	6,143.50	61	50.83	$ 504,163.84	$ 863,297.00
MARION COUNTY					
Lincoln	98.00	-	3.03	$ 25,023.49	$ 43,840.00
Mannington	3,050.50	32	35.61	189,095.23	331,294.00
	3,148.50	32	38.64	214,118.72	375,134.00
HARRISON COUNTY					
Sardis	525.00	3	2.22	$ 19,169.94	$ 33,585.00
Enghe	110.00	-	-	110.00	192.00
	635.00	3	2.22	$ 19,279.94	$ 33,777.00
MONONGALIA COUNTY					
Town of Blacksville	-	-	1.23	$ 1,180.87	$ 2,067.00
Clay	5,354.00	8	6.59	43,493.25	76,200.00
Battelle	5,527.00	41	6.85	120,494.94	211,107.00
	5,881.00	49	14.67	$ 165,169.06	$ 289,374.00
KANAWHA COUNTY					
Poca	274.50	-	-	$ 274.50	$ 480.00
LOGAN COUNTY					
Logan	7,157.74	-	-	$ 7,157.74	$ 12,540.00
RALEIGH COUNTY					
Marsh Fork	1,867.50	-	-	$ 1,867.50	$ 3,271.00
MINGO COUNTY					
Hardee	285.00	-	-	$ 285.00	$ 500.00
Lee	1,378.00	-	-	1,378.00	2,414.00
Magnolia	915.00	-	-	915.00	1,603.00
	2,578.00	-	-	$ 2,578.00	$ 4,517.00
Total,	142,435.98	510	783.34	$5,652,055.68	$9,900,000.00

Form No. 9 U.

Public Utility.

A part of the report of the The Manufacturers Light & Heat Company.

EXPLANATORY REMARKS

Page 7 - Do not understand what meaning is to be taken from "Daily Capacity". The estimated gas production available from wells owned The Manufacturers Light & Heat Company, computed on the first minute raise above line pressure, showing number of cubic feet available under conditions existing per day at time gauges were taken on December 31st, 1919, was, all States, 68,693,000 cu.ft. Estimated West Virginia 29,022,000 cu.ft.

Page 9- Twenty-two lines cross the Ohio river between Chester in Hancock County, W. Va. and New Martinsville in Wetzel County, W. Va. Also pipe lines cross the state line between West Virginia and Pennsylvania at various points in all three states and the gas intermingles and flows through the entire system, sometimes in one direction, sometimes in the opposite direction, depending upon the demand in any particular locality.

State of Pennsylvania }
County of Allegheny } ss

I, *THE UNDERSIGNED*, G. W. Ratcliffe (*Name of Officer.*) Treasurer (*Official Title.*)

of the Manufacturers Light and Heat Company, on my oath say that the return as shown on this and the foregoing pages of this report, has been prepared from the original books, papers and records of said Company; that I have carefully examined the same, and declare the same and each page thereof to be a complete and correct statement of the business and affairs of said Company in respect to each and every matter and thing therein set forth, and that all property has been reported at its *True and Actual Value*, to the best of my knowledge, information and belief; the words "true and actual value" being understood by me to mean that price for which the beforementioned property would sell if voluntarily offered for sale upon such terms as such property is usualy sold and not the price which might be realized if said property was sold at a forced sale, and that there have been no expenditures for "additions and new work" either within or without the State of West Virginia except as shown on Form No. 4 U. of this report; and that the foregoing return includes all property owned, leased, or operated in the State of West Virginia by said Company during the period for which said return is made.

G. W. Ratcliffe

Official Title.

SUBSCRIBED AND SWORN TO before me this 30th day of April 1920

Harry H. Fowler

My Commission Expires December 10, 1923.

Notary Public.

(The return must be verified on the oath of the President, Vice-President, Secretary or Principal Accounting Officer.)

PAGE

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company. Combined for the Seven Companies.

1911-1912

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Inter-changes* M. Cu. Ft.	Used or Sold For Field Purposes M. Cu. Ft.	Net Supply for Public Service** M. Cu. Ft.
1919	150,161,299	63,603,888	213,765,187	39,286,137	10,052,709	164,426,341
1918	181,817,306	78,908,397	260,725,703	46,495,191	12,544,810	201,685,702
1917	204,937,744	84,085,282	289,023,026	51,876,889	13,628,360	223,517,777
1916	200,580,166	69,717,163	270,297,329	36,066,165	13,338,581	220,892,583
1915	144,212,788	59,015,904	203,228,692	22,944,046	9,590,151	170,694,495
1914	136,193,678	58,676,747	194,870,425	19,187,815	9,056,880	166,625,730
1913	127,430,264	65,538,986	192,969,250	16,597,392	8,474,112	167,897,746
1912	126,447,803	64,273,082	190,720,885	10,261,144	8,408,779	172,050,962
1911	110,251,007	57,124,743	167,385,830	12,622,222	7,332,362	147,431,246

W. Va. Exhibit No. 16, R.S.S. (Introduced at page 995, Record.)

* Interchanges represent sales to one or more of the seven companies.

** Gross Supply less Interchanges and Field Use.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, For the Year Ended December 31, 1919.

	Produced in W. Va. M. Cu. Ft. 1	Purchased in W. Va. M. Cu. Ft. 2	Gross Supply W. Va. M. Cu. Ft. 3	Inter-Changes* M. Cu. Ft. 4	Used or Sold for Field Purposes M. Cu. Ft. 5	Net Supply for Public Service** M. Cu. Ft. 6
1. Hope Natural Gas Company	47,771,177	19,826,093	67,597,270	12,282,187	6,156,619	49,158,464
2. Pittsburgh and West Virginia Gas Co.	18,735,935	8,137,609	26,873,544	411,750	22,689	26,439,105
3. United Fuel Gas Company	39,942,057	11,457,628	51,399,685	20,986,108	1,380,252	29,033,325
4. Reserve Gas Company	21,049,663	328,818	21,378,481	5,444,774	1,235,769	14,697,938
5. Carnegie Natural Gas Company	10,913,506	311,611	11,225,117	161,318	265,987	10,797,812
6. Columbia Gas and Electric Company	5,956,056	9,949,496	15,905,552	-	425,486	15,480,066
7. Manufacturers Light and Heat Co.	5,792,905	13,592,633	19,385,538	-	565,907	18,819,631
Totals	150,161,299	63,603,888	213,765,187	39,286,137	10,052,709	164,425,341

*Interchanges represent sales to one or more of the seven companies.

** Gross Supply less Interchanges and Field Use.

Statement Showing Supply of Natural Gas Produced and Acquired ... Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

For the Year Ended December 31, 1918.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Interchanges* M. Cu. Ft.	Used or Sold For Field Purposes M. Cu. Ft.	Net Supply for Public Service ** M. Cu. Ft.
1. Hope Natural Gas Company.....	58,146,971	28,164,183	86,311,154	12,166,754	8,724,128	65,420,272
2. Pittsburgh and West Virginia Gas Co...	22,959,495	10,600,161	33,559,656	167,578	57,465	33,334,613
3. United Fuel Gas Company.....	38,914,067	13,927,481	52,841,548	23,067,983	1,011,288	28,762,277
4. Reserve Gas Company.....	31,236,295	1,259,944	32,496,239	10,901,037	1,289,143	20,306,059
5. Carnegie Natural Gas Company.....	19,187,045	180,061	19,367,106	191,839	400,953	18,774,314
6. Columbia Gas and Electric Company.....	4,930,453	11,405,494	16,335,947	-	509,482	15,826,465
7. Manufacturers Light and Heat Company..	6,442,980	13,371,073	19,814,053	-	552,351	19,261,702
Totals.....	181,817,306	78,908,397	260,725,703	46,495,191	12,544,810	201,685,702

* Interchanges represent sales to one or more of the seven companies.

** Gross Supply less Interchanges and Field Use.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
For the Year Ended December 31, 1917.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Inter-changes* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company.....	73,969,909	30,857,468	104,827,377	14,687,008	90,140,369
2. Pittsburgh and West Virginia Gas Co..	27,630,141	10,298,839	37, 928,980	45,130	37,883,850
3. United Fuel Gas Company.....	44,187,876	12,546,398	56,734,276	24,732,329	32,001,947
4. Reserve Gas Company.....	31,161,590	2,154,866	33,316,456	12,412,422	20,904,034
5. Carnegie Natural Gas Company.....	16,840,765	234,594	17,075,359	-	17,075,359
6. Columbia Gas and Electric Company....	4,816,278	12,469,138	17,287,416	-	17,287,416
7. Manufacturers Light and Heat Co.....	6,329,183	15,523,979	21,853,162	-	21,853,162
Totals.....204, 937,744		84,085,282	289,023.026	51,876,889	237,146,137
Less Gas Used for Field Purposes....					13,628,360
Net Supply for Public Service.....					223,517,777

* Interchanges represent gas in one or more of the other companies.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
For the Year Ended December 31, 1916.

	Produced in W. Va. M. CU. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. CU. Ft.	Inter Changes* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company	61,318,666	26,261,531	107,580,197	14,215,484	93,364,713
2. Pittsburgh and West Virginia Gas Co.	34,006,677	4,835,484	38,842,161	57,274	38,784,887
3. United Fuel Gas Company	26,418,461	10,203,085	36,621,546	8,191,870	28,429,676
4. Reserve Gas Company	29,752,951	2,895,368	32,648,319	13,601,537	19,046,782
5. Carnegie Natural Gas Company	16,253,772	175,955	16,429,727	-	16,429,727
6. Columbia Gas and Electric Company	5,908,707	9,767,259	15,675,966	-	15,675,966
7. Manufacturers Light and Heat Company	6,920,332	15,578,481	22,499,413	-	22,499,413
Totals	200,580,166	69,717,163	270,297,329	36,066,165	234,231,164
Less Gas Used for Field Purposes					13,338,581
Net Supply for Public Service					220,892,583

383 • Interchanges represent sales to one or more of the seven companies.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
For the Year Ended December 31, 1915.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Interchanges* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company	46,350,733	20,918,491	67,269,224	9,445,951	57,823,273
2. Pittsburgh and West Virginia Gas Co.	31,362,582	5,993,692	37,356,274	86,247	37,270,027
3. United Fuel Gas Company	17,875,503	9,880,327	27,755,835	6,422,770	21,333,065
4. Reserve Gas Company	21,172,149	3,223,286	24,395,435	6,989,078	17,406,357
5. Carnegie Natural Gas Company	15,014,321	108,486	15,122,807	-	15,122,807
6. Columbia Gas and Electric Company	6,189,901	7,886,667	14,076,568	-	14,076,568
7. Manufacturers Light and Heat Co.	6,247,594	11,004,955	17,252,549	-	17,252,549
Totals	144,212,788	59,015,904	203,228,692	22,944,046	180,284,646
Less Gas Used for Field Purposes					9,590,151
Net Supply for Public Service					170,694,495

*Interchanges represent sales to one or more of the seven companies.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

For the Year Ended December 31, 1914.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Inter-changes* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company.....	43,788,747	26,604,201	70,392,948	5,105,293	65,287,655
2. Pittsburgh and West Virginia Gas Co...	23,604,193	3,912,964	27,517,157	21,533	27,495,624
3. United Fuel Gas Company.....	19,047,662	8,159,447	27,207,129	6,068,130	21,138,999
4. Reserve Gas Company.....	21,060,238	5,240,737	26,320,975	7,992,859	18,328,116
5. Carnegie Natural Gas Company.....	14,283,495	164,985	14,448,480	-	14,448,480
6. Columbia Gas and Electric Company.....	8,561,636	7,442,898	16,004,534	-	16,004,534
7. Manufacturers Light and Heat Co.....	5,827,687	7,151,515	12,979,202	-	12,979,202
Totals.....	136,193,678	58,676,747	194,870,425	19,187,815	175,682,610
Less Gas Used for Field Purposes.....					9,056,880
Net Supply for Public Service.....					166,625,730

385

* Interchanges represent sales to one or more of the seven companies.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company

For the Year Ended December 31, 1913.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Inter-changes* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company	48,395,235	31,077,215	79,472,450	2,924,339	76,548,111
2. Pittsburgh and West Virginia Gas Co.	10,390,792	11,816,729	22,207,521	76,768	22,130,753
3. United Fuel Gas Company	20,481,820	5,318,006	25,799,826	6,322,986	19,476,840
4. Reserve Gas Company	19,613,877	2,757,120	22,370,997	7,273,299	15,097,698
5. Carnegie Natural Gas Company	16,726,134	-	16,726,134	-	16,726,134
6. Columbia Gas and Electric Company	5,989,747	6,906,041	12,895,788	-	12,895,788
7. Manufacturers Light and Heat Co.	5,832,659	7,663,875	13,496,534	-	13,496,534
Totals	127,430,264	65,538,986	192,969,250	16,597,392	176,371,858
Less Gas Used for Field Purposes					8,474,112
Net Supply for Public Service					167,897,746

* Interchanges represent sales to one or more of the seven companies.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

For the Year Ended December 31, 1912.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Inter-changes* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company.....	46,825,414	32,014,727	78,840,141	-	78,840,141
2. Pittsburgh and West Virginia Gas Co.....:	18,862,144	10,422,948	29,285,092	47,145	29,237,947
3. United Fuel Gas Company.....	20,953,059	4,592,212	25,545,271	7,190,127	18,355,144
4. Reserve Gas Company.....	12,733,740	1,810,742	14,544,482	3,023,872	11,520,610
5. Carnegie Natural Gas Company.....	17,049,241	-	17,049,241	-	17,049,241
6. Columbia Gas and Electric Company.....	4,656,563	7,679,821	12,336,384	-	12,336,384
7. Manufacturers Light and Heat Company....	5,367,642	7,752,632	13,120,274	-	13,120,274
Totals.....	126,447,803	64,273,082	190,720,885	10,261,144	180,459,741
Less Gas Used for Field Purposes.....					8,408,779
Net Supply for Public Service.....					172,050,962

* Interchanges represent sales to one or more of the seven companies.

Statement Showing Supply of Natural Gas Produced and Acquired Within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.
For the Year Ended December 31, 1911.

	Produced in W. Va. M. Cu. Ft.	Purchased in W. Va. M. Cu. Ft.	Gross Supply W. Va. M. Cu. Ft.	Inter-changes* M. Cu. Ft.	Gross Supply less Interchanges M. Cu. Ft.
1. Hope Natural Gas Company	38,117,453	33,775,917	71,893,370	3,002,072	68,891,298
2. Pittsburgh and West Virginia Gas Co.	23,956,467	3,365,096	27,321,563	-	27,321,563
3. United Fuel Gas Company	16,763,561	3,991,567	20,755,128	7,452,831	13,302,297
4. Reserve Gas Company	9,611,927	1,840,062	11,451,589	2,167,319	9,284,270
5. Carnegie Natural Gas Company	13,369,946		13,369,946	-	13,369,946
6. Columbia Gas and Electric Company	3,796,172	6,880,292	10,676,464	-	10,676,464
7. Manufacturers Light and Heat Co.	4,645,961	7,271,809	11,917,770	-	11,917,770
Totals	110,261,087	57,124,743	167,385,830	12,622,222	154,763,608
Less Gas Used for Field Purposes					7,332,362
Net Supply for Public Service					147,431,246

* Interchanges represent sales to one or more of the seven companies.

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
Combined for the Seven Companies,
1910-1919.

	Developed	Undeveloped	Total
1919	689,305	1,866,720	2,556,025
1918	658,860	1,872,843	2,531,723
1917	618,559	2,152,500	2,771,059
1916	559,078	2,281,435	2,840,513
1915	509,414	2,045,032	2,554,446
1914	572,043	1,852,319	2,424,362
1913	533,593	2,055,968	2,589,561
1912	467,664	2,027,469	2,495,133
1911	351,428	2,382,846	2,734,274
1910	311,569	2,639,509	2,951,078

W. Va. Exhibit No. 17, R.E.S.
(Introduced at page 998, Record.)

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
December 31, 1919.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company	338,776	690,094	1,028,870
2. Pittsburgh and West Virginia Gas Company	108,198	209,128	317,326
3. United Fuel Gas Company	62,337	653,699	716,036
4. Reserve Gas Company	51,556	4,664	56,220
5. Carnegie Natural Gas Company	43,171	33,921	77,092
6. Columbia Gas and Electric Company	28,737	180,933	209,670
7. Manufacturers Light and Heat Company	56,530	94,281	150,811
Totals	689,305	1,866,720	2,556,025

891

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, December 31, 1918.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company	326,019	803,436	1,129,455
2. Pittsburgh and West Virginia Gas Company	106,226	214,962	321,188
3. United Fuel Gas Company	60,090	543,150	603,240
4. Reserve Gas Company	48,730	7,375	56,105
5. Carnegie Natural Gas Company	37,070	46,020	83,090
6. Columbia Gas and Electric Company	27,665	184,595	212,260
7. Manufacturers Light and Heat Company	53,080	73,305	126,385
Totals	658,880	1,872,843	2,531,723

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

December 31, 1917.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company	313,923	866,440	1,180,363
2. Pittsburgh and West Virginia Gas Company	99,490	232,073	331,563
3. United Fuel Gas Company	56,135	615,798	671,933
4. Reserve Gas Company	46,065	89,700	135,765
5. Carnegie Natural Gas Company	36,208	64,407	100,615
6. Columbia Gas and Electric Company	23,048	204,517	227,565
7. Manufacturers Light and Heat Company	43,690	79,565	123,255
Totals	618,559	2,152,500	2,771,059

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company,
and Manufacturers Light and Heat Company,
December 31, 1916.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company.....	286,147	984,348	1,270,495
2. Pittsburgh and West Virginia Gas Company.....	92,036	267,696	359,732
3. United Fuel Gas Company.....	48,070	668,595	716,665
4. Reserve Gas Company.....	42,826	12,901	55,727
5. Carnegie Natural Gas Company.....	32,915	66,523	99,438
6. Columbia Gas and Electric Company.....	20,966	204,776	225,742
7. Manufacturers Light and Heat Company.....	36,118	76,596	112,714
Totals.....	559,078	2,281,435	2,840,513

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
December 31, 1915.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company.....	262,574	675,841	938,415
2. Pittsburgh and West Virginia Gas Company.....	82,371	281,365	363,736
3. United Fuel Gas Company.....	42,471	729,986	772,457
4. Reserve Gas Company.....	20,246	15,640	55,886
5. Carnegie Natural Gas Company.....	30,304	59,684	89,988
6. Columbia Gas and Electric Company.....	19,424	216,357	235,781
7. Manufacturers Light and Heat Company.....	32,024	66,159	98,183
Totals.....	509,414	2,045,032	2,554,446

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
December 31, 1914.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company.....	249,111	578,990	828,101
2. Pittsburgh and West Virginia Gas Company.....	76,234	286,620	362,854
3. United Fuel Gas Company.....	37,948	719,288	757,236
4. Reserve Gas Company.....	38,247	17,269	55,516
5. Carnegie Natural Gas Company.....	26,702	61,086	87,787
6. Columbia Gas and Electric Company.....	108,873	129,267	238,140
7. Manufacturers Light and Heat Company.....	34,928	59,800	94,728
Totals.....	572,043	1,852,319	2,424,362

396

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
December 31, 1913.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company.....	224,987	701,456	926,443
2. Pittsburgh and West Virginia Gas Company.....	77,101	289,566	366,667
3. United Fuel Gas Company.....	32,187	788,373	820,560
4. Reserve Gas Company.....	35,277	20,211	55,488
5. Carnegie Natural Gas Company	25,190	67,339	92,529
6. Columbia Gas and Electric Company.....	106,923	131, 033	237,956
7. Manufacturers Light and Heat Company.....	31,928	57,990	89,918
Totals.....	533,593	2,055,968	2,589,561

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
December 31, 1912.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company.....	201,693	714,710	916,403
2. Pittsburgh and West Virginia Gas Company.....	67,395	290,795	358,190
3. United Fuel Gas Company.....	26,624	718,688	745,312
4. Reserve Gas Company.....	33,076	22,395	55,471
5. Carnegie Natural Gas Company.....	22,303	68,866	91,169
6. Columbia Gas and Electric Company.....	86,611	149,447	236,058
7. Manufacturers Light and Heat Company.....	30,062	62,668	92,730
Totals.....	467,664	2,027,469	2,495,133

Statement Showing Acreage of Natural Gas Territory held Within West Virginia
by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company,
Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company
and Manufacturers Light and Heat Company,
December 31, 1911.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company	178,864	893,169	1,072,033
2. Pittsburgh and West Virginia Gas Company	55,940	387,335	443,675
3. United Fuel Gas Company	29,446	705,766	735,212
4. Reserve Gas Company	31,732	23,777	55,509
5. Carnegie Natural Gas Company	19,725	86,647	106,192
6. Columbia Gas and Electric Company	6,557	227,681	234,238
7. Manufacturers Light and Heat Company	29,164	58,651	87,815
Totals	351,428	2,382,846	2,734,274

-10-

899

Statement Showing Acreage of Natural Gas Territory Held Within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1910.

	Developed	Undeveloped	Total
1. Hope Natural Gas Company.....	153,780	844,616	998,396
2. Pittsburgh and West Virginia Gas Company.....	47,091	424,357	471,448
3. United Fuel Gas Company.....	27,975	981,310	1,009,285
4. Reserve Gas Company	30,044	25,645	55,689
5. Carnegie Natural Gas Company.	18,050	79,631	97,681
6. Columbia Gas and Electric Company.....	5,000	181,553	186,553
7. Manufacturers Light and Heat Company.....	29,629	103,397	132,026
Totals.....	311,569	2,639,509	2,951,078

400

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, Combined for the Seven Companies.
1910-1919.

	Domestic	Industrial	Local Utilities	Total
1919	58,270	549	22	58,841
1918	55,217	611	17	55,845
1917	53,135	747	15	53,897
1916	50,249	729	15	50,993
1915	46,628	604	10	47,242
1914	45,295	628	9	45,932
1913	43,271	633	10	43,914
1912	40,051	638	16	40,705
1911	35,439	659	11	36,109
1910	33,880	552	8	34,440

W. Va. Exhibit No. 18, R.E.S. (Introduced at page 1015, Record.)

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

December 31, 1919.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	17,326	131	9	17,466
2. Pittsburgh and West Virginia Gas Company....	4,250	86	3	4,339
3. United Fuel Gas Company.....	24,528	169	5	24,702
4. Reserve Gas Company.....	521	-	1	522
5. Carnegie Natural Gas Company.....	392	-	4	396
6. Columbia Gas and Electric Company.....	286	1	-	287
7. Manufacturers Light and Heat Company.....	10,967	162	-	11,129
Totals.....	58,270	549	22	58,841

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1918.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	16,569	198	6	16,773
2. Pittsburgh and West Virginia Gas Company..	4,021	107	2	4,126
3. United Fuel Gas Company.....	22,704	157	4	22,865
4. Reserve Gas Company.....	448	-	1	449
5. Carnegie Natural Gas Company.....	625	-	3	628
6. Columbia Gas and Electric Company.....	237	1	-	238
7. Manufacturers Light and Heat Company.....	10,613	152	1	10,766
Totals.....	55,217	611	17	55,845

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,

December 31, 1917.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	16,503	370	8	16,881
2. Pittsburgh and West Virginia Gas Co.....	3,804	91	1	3,896
3. United Fuel Gas Company.....	21,691	129	4	21,824
4. Reserve Gas Company.....	459	-	1	460
5. Carnegie Natural Gas Company.....	521	-	-	521
6. Columbia Gas and Electric Company.....	230	1	-	231
7. Manufacturers Light and Heat Company.....	9,927	156	1	10,084
Totals.....	53,135	747	15	53,897

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1916.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company	15,476	363	8	15,847
2. Pittsburgh and West Virginia Gas Co.	3,532	82	1	3,615
3. United Fuel Gas Company	20,474	127	3	20,604
4. Reserve Gas Company	414	-	1	415
5. Carnegie Natural Gas Company	217	-	-	217
6. Columbia Gas and Electric Company	209	1	-	210
7. Manufacturers Light and Heat Co.	9,927	156	2	10,085
Totals	50,249	729	15	50,993

406

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.
December 31, 1915.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	14,907	297	4	15,206
2. Pittsburgh and West Virginia Gas Company....	3,268	43	2	3,313
3. United Fuel Gas Company.....	18,538	120	2	18,660
4. Reserve Gas Company.....	674	-	1	675
5. Carnegie Natural Gas Company.....	160	-	-	160
6. Columbia Gas and Electric Company.....	183	-	-	183
7. Manufacturers Light and Heat Company.....	8,896	144	1	9,043
Totals.....	46,628	604	10	47,242

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1914.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	14,653	286	4	14,943
2. Pittsburgh and West Virginia Gas Company.....	3,260	42	2	3,304
3. United Fuel Gas Company.....	18,248	163	1	18,412
4. Reserve Gas Company.....	639	-	1	640
5. Carnegie Natural Gas Company.....	137	-	-	137
6. Columbia Gas and Electric Company.....	173	-	-	173
7. Manufacturers Light and Heat Company.....	8,185	137	1	8, 323
Totals.....	45,295	628	9	45,932

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1913.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	14,065	286	4	14,355
2. Pittsburgh and West Virginia Gas Co.....	3,173	35	4	3,212
3. United Fuel Gas Company.....	17,436	164	1	17,601
4. Reserve Gas Company.....	581	-	1	582
5. Carnegie Natural Gas Company.....	106	-	-	106
6. Columbia Gas and Electric Company.....	132	-	-	132
7. Manufacturers Light and Heat Company.....	7,778	148	-	7,926
Totals.....	43,271	633	10	43,914

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1912.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	14,560	262	4	14,826
2. Pittsburgh and West Virginia Gas Company.	3,185	37	4	3,226
3. United Fuel Gas Company.....	14,457	167	3	14,627
4. Reserve Gas Company.....	497	-	1	498
5. Carnegie Natural Gas Company.....	102	-	-	102
6. Columbia Gas and Electric Company.....	91	1	3	95
7. Manufacturers Light and Heat Company.....	7,159	171	1	7,331
Totals.....	40,051	638	16	40,705

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company,
December 31, 1911.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company	12,923	232	5	13,160
2. Pittsburgh and West Virginia Gas Company	3,088	66	3	3.157
3. United Fuel Gas Company	12,938	168	1	13,107
4. Reserve Gas Company	450	-	-	451
5. Carnegie Natural Gas Company	76	-	-	76
6. Columbia Gas and Electric Company	81	1	-	82
7. Manufacturers Light and Heat Company	5,883	192	1	6,076
Totals	35,439	659	11	36,109

411

-10-

Statement Showing Number of Consumers Within West Virginia Furnished Natural Gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company,
December 31, 1910.

	Domestic	Industrial	Local Utilities	Total
1. Hope Natural Gas Company.....	12,627	259	2	12,888
2. Pittsburgh and West Virginia Gas Company.....	2,936	66	2	3,004
3. United Fuel Gas Company.....	11,635	35	1	11,671
4. Reserve Gas Company.....	227	-	2	229
5. Carnegie Natural Gas Company.....	75	-	-	75
6. Columbia Gas and Electric Company.....	-	-	-	-
7. Manufacturers Light and Heat Company.....	6,380	192	1	6,573
Totals.....	33,880	552	8	34,440

412

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, Combined for the Seven Companies, 1911-1919.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States,
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1919.....	9,110,775	17,939,642	2,310,394	29,360,811	135,065,530
1918.....	9,636,512	18,696,999	1,786,762	30,120,273	171,565,429
1917.....	8,081,416	16,612,359	2,196,099	26,889,876	196,627,901
1916.....	6,929,920	14,616,034	2,980,905	24,526,859	196,365,724
1915.....	6,342,959	11,535,182	982,726	18,860,867	151,833,628
1914.....	6,700,019	13,474,923	437,657	20,612,599	146,013,131
1913.....	6,536,590	15,108,590	652,497	22,297,677	145,600,069
1912.....	6,212,443	14,065,869	823,131	21,101,443	150,949,519
1911.....	4,600,910	11,702,093	889,744	17,200,747	130,230,499

414

W. Va. Exhibit No. 19, R.E.S. (Introduced at page 1018, Record)

-7-

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, For the Year Ended December 31, 1919.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company	2,512,816	3,878,644	1,450,720	7,842,180	41,316,284
2. Pittsburgh and West Virginia Gas Co.	554,350	2,343,625	347,724	3,245,699	23,193,406
3. United Fuel Gas Company	4,336,112	7,754,233	200,518	12,290,863	16,742,462
4. Reserve Gas Company	78,429	-	-	78,429	14,619,509
5. Carnegie Natural Gas Company	142,968	527,122	311,432	981,522	9,816,290
6. Columbia Gas and Electric Company	33,747	59,915	-	93,662	15,386,404
7. Manufacturers Light and Heat Company.	1,452,353	3,376,103	-	4,828,456	13,991,175
Totals	9,110,775	17,939,642	2,310,394	29,360,811	135,065,530

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, for the Year Ended December 31, 1918.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities. M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company.....	2,573,997	4,225,933	1,592,454	8,392,384	57,027,888
2. Pittsburgh and West Virginia Gas Co.....	567,646	2,858,751	51,563	3,477,960	29,656,653
3. United Fuel Gas Company.....	4,142,032	5,960,968	22,402	10,125,452	18,636,825
4. Reserve Gas Company.....	82,605	2,024,411	-	2,107,106	18,199,043
5. Carnegie Natural Gas Company.....	750,579	-	119,585	870,164	17,904,150
6. Columbia Gas and Electric Company.....	25,336	25,729	-	51,065	15,775,400
7. Manufacturers Light and Heat Co.....	1,494,267	3,601,207	758	5,096,232	14,165,470
Totals.....	9,636,512	18,696,999	1,786,762	30,120,273	171,565,429

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, For the Year Ended December 31, 1917.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company	2,534,237	14,663,134	2,143,070	19,340,441	70,799,928
2. Pittsburgh and West Virginia Gas Co.	544,277	2,483,130	-	3,027,407	34,856,443
3. United Fuel Gas Company	3,675,819	6,015,143	23,927	9,714,889	22,287,058
4. Reserve Gas Company	73,418	1,586,749	-	1,660,167	19,243,867
5. Carnegie Natural Gas Company	20,037	347,622	-	367,659	16,707,700
6. Columbia Gas and Electric Company	32,106	46,384	-	78,490	20,742,192
7. Manufacturers Light and Heat Co.	1,201,524	5,098,557	29,102	6,329,183	15,523,979
	8,081,418	30,240,719	2,196,099	40,518,236	196,627,901
Less Gas Used for Field Purposes	--	13,628,360	-	13,628,360	-
Totals	8,081,418	16,612,359	2,196,099	26,889,876	196,627,901

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

For the Year Ended December 31, 1915.

	Furnished to West Virginia Consumers				Transported, or Sold for Transportation, to Other States
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company	2,211,045	14,530,886	1,982,340	18,724,271	74,640,442
2. Pittsburgh and West Virginia Gas Co.	464,887	1,803,693	-	2,268,580	36,516,307
3. United Fuel Gas Company	3,003,514	3,961,546	971,217	8,016,277	20,413,399
4. Reserve Gas Company	67,897	1,263,059	-	1,330,956	17,715,826
5. Carnegie Natural Gas Company	13,555	520,632	-	534,187	15,895,540
6. Columbia Gas and Electric Company	24,190	46,047	-	70,237	15,605,729
7. Manufacturers Light and Heat Co.	1,064,832	5,328,752	27,348	6,920,932	15,578,481
	6,929,920	27,954,615	2,980,905	37,865,440	196,365,724
Less Gas Used for Field Purposes	-	13,338,581	-	13,338,581	-
Totals	6,929,920	14,616,034	2,980,905	24,526,859	196,365,724

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, For the Year Ended December 31, 1915.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company.....	2,120,929	9,879,763	827,064	12,827,756	44,995,517
2. Pittsburgh and West Virginia Gas Co....	432,523	1,687,450	12,351	2,132,324	35,137,703
3. United Fuel Gas Company.....	2,739,727	3,220,144	121,462	6,081,333	15,251,732
4. Reserve Gas Company.....	59,599	779,295	-	838,894	16,567,463
5. Carnegie Natural Gas Company.....	8,863	247,075	-	255,938	14,866,869
6. Columbia Gas and Electric Company.....	20,712	45,350	1,117	67,179	14,009,389
7. Manufacturers Light and Heat Co.....	960,606	5,266,256	20,732	6,247,594	11,004,955
	6,342,959	21,125,333	982,726	28,451,018	151,833,628
Less Gas Used for Field Purposes.....	-	9,590,151	-	9,590,151	-
Totals.....	6,342,959	11,535,182	982,726	18,860,867	151,833,628

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

For the Year Ended December 31, 1914.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company.....	2,100,765	11,864,719	403,235	14,368,719	50,918,936
2. Pittsburgh and West Virginia Gas Co.....	412,380	1,260,150	16,136	1,688,666	25,806,958
3. United Fuel Gas Company.....	2,773,154	3,910,159	-	6,683,313	14,455,686
4. Reserve Gas Company.....	58,286	625,941	-	684,227	17,643,889
5. Carnegie Natural Gas Company.....	403,615	-	-	403,615	14,044,865
6. Columbia Gas and Electric Company.....	13,252	-	-	13,252	15,991,282
7. Manufacturers Light and Heat Co.....	938,567	4,870,834	18,286	5,827,687	7,151,515
	6,700,019	22,531,803	437,657	29,669,479	146,013,131
Less Gas Used for Field Purposes.....	-	9,056,880	-	9,056,880	-
420 Totals.....	6,700,019	13,474,923	437,657	20,612,599	146,013,131

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, For the Year Ended December 31, 1913.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States.
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company.....	2,390,846	11,165,707	227,030	13,783,583	62,764,528
2. Pittsburgh and West Virginia Gas Co.....	452,832	1,467,934	374,490	2,295,256	19,835,497
3. United Fuel Gas Company.....	2,319,160	5,443,454	-	7,762,614	11,714,226
4. Reserve Gas Company.....	145,960	621,602	-	767,562	14,330,136
5. Carnegie Natural Gas Company.....	320,285	-	-	320,285	16,405,849
6. Columbia Gas and Electric Company	9,830	-	-	9,830	12,885,958
7. Manufacturers Light and Heat Co.....	897,677	4,884,005	50,977	5,832,659	7,663,875
	6,536,590	23,582,702	652,497	30,771,789	145,600,069
Less Gas Used for Field Purposes.....	-	8,474,112	-	8,474,112	-
Totals.	6,536,590	15,108,590	652,497	22,297,677	145,600,069

Statement Showing Distribution of Their Net Supply of West Virginia Natural Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, For the Year Ended December 31, 1912.

	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States.
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company.....	2,336,856	9,065,773	293,798	11,696,427	67,143,714
2. Pittsburgh and West Virginia Gas Co.....	475,182	1,365,985	481,193	2,322,360	26,915,587
3. United Fuel Gas Company.....	2,130,272	7,116,218	-	9,246,490	9,108,654
4. Reserve Gas Company.....	135,861	429,024	-	564,885	10,955,725
5. Carnegie Natural Gas Company.....	298,741	-	-	298,741	16,750,500
6. Columbia Gas and Electric Company.....	10,467	3,210	-	13,677	12,322,707
7. Manufacturers Light and Heat Co.....	825,064	4,494,438	48,140	5,367,642	7,752,632
	6,212,443	22,474,648	823,131	29,510,222	150,949,519
Less Gas Used for Field Purposes.....	-	8,408,779	-	8,408,779	-
Totals.....	6,212,443	14,065,869	823,131	21,101,443	150,949,519

Statement Showing Distribution of Their Net Supply of West Virginia Gas, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company.

For the Year Ended December 31, 1911.

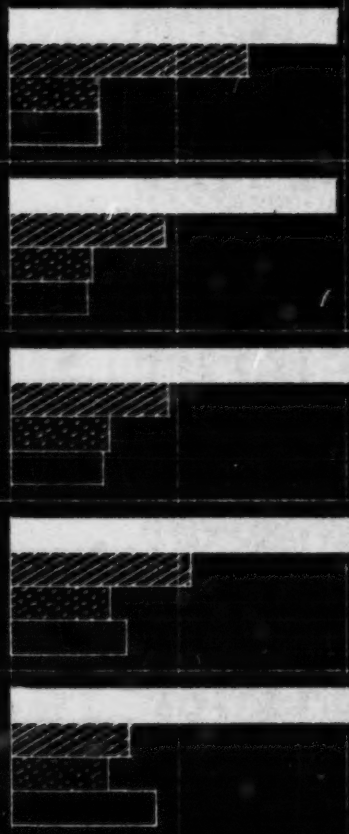
	Furnished to West Virginia Consumers.				Transported, or Sold for Transportation, to Other States.
	Domestic M. Cu. Ft.	Industrial M. Cu. Ft.	Local Utilities M. Cu. Ft.	Total M. Cu. Ft.	M. Cu. Ft.
1. Hope Natural Gas Company.....	1,906,358	9,163,893	133,007	11,223,258	57,668,040
2. Pittsburgh and West Virginia Gas Co.....	78,118	1,546,615	756,737	2,381,470	24,940,093
3. United Fuel Gas Company.....	1,760,610	4,054,638	-	5,815,248	7,487,049
4. Reserve Gas Company.....	38,466	271,097	-	309,563	8,974,707
5. Carnegie Natural Gas Company.....	149,685	-	-	149,685	13,220,061
6. Columbia Gas and Electric Company.....	6,678	1,046	-	7,724	10,668,740
7. Manufacturers Light and Heat Co.....	668,795	3,977,166	-	4,645,961	7,271,809
	4,608,910	19,034,455	889,744	24,533,109	130,230,499
Less Gas Used for Field Purposes.....	-	7,332,362	-	7,332,362	-
Totals.....	4,608,910	11,702,093	889,744	17,200,747	130,230,499

DATA:
U.S.G.S.

CHART SHOWING CONSUMPTION OF NATURAL GAS FOR INDUSTRIAL PURPOSES, IN THE STATE OF WEST VIRGINIA

INCLUDING GAS SOLD IN MARYLAND DURING 1914, 1915, 1916, 1917 AND 1918

WEST VA EXHIBIT NO. 20

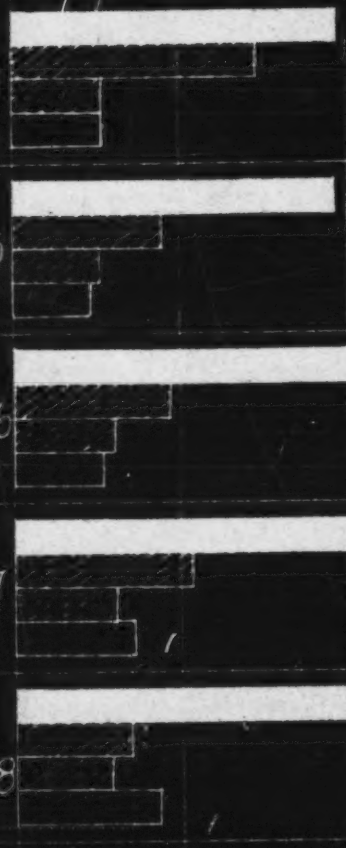


		THOUSAND CUBIC FEET	% OF TOTAL CONSUMPTION	% OF TOTAL PRODUCTION
1914	TOTAL INDUSTRIAL CONSUMPTION	78,423,546	82.42	33.03
	MANUFACTURING	36,974,711	38.80	14.72
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	21,744,644	22.82	9.19
	CARBON BLACK	21,704,191	22.80	9.12
1915	TOTAL INDUSTRIAL CONSUMPTION	77,083,600	81.15	31.59
	MANUFACTURING	37,288,942	39.26	15.28
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	20,806,585	21.90	8.52
	CARBON BLACK	18,988,070	19.99	7.79
1916	TOTAL INDUSTRIAL CONSUMPTION	86,324,137	82.13	28.82
	MANUFACTURING	38,129,089	36.27	12.74
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	24,726,156	23.52	8.24
	CARBON BLACK	23,469,882	22.34	7.84
1917	TOTAL INDUSTRIAL CONSUMPTION	94,230,183	81.59	30.53
	MANUFACTURING	42,478,430	36.78	13.76
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	23,459,046	20.32	7.60
	CARBON BLACK	28,392,707	24.49	9.17
1918	TOTAL INDUSTRIAL CONSUMPTION	87,704,820	80.70	33.08
	MANUFACTURING	28,835,225	26.40	10.87
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	24,869,595	23.00	9.39
	CARBON BLACK	34,000,000	31.30	12.82

DATA —
U.S.G.S.
&
W.VA.P.S.C.

CHART SHOWING CONSUMPTION OF NATURAL GAS FOR INDUSTRIAL PURPOSES, IN THE STATE OF WEST VIRGINIA
(EXCLUSIVE OF MARYLAND)
DURING 1914, 1915, 1916, 1917 & 1918

WEST VA. EXHIBIT NO 21 21



		THOUSAND CUBIC FEET	% OF TOTAL CONSUMPTION	% OF TOTAL PRODUCTION
1914	TOTAL INDUSTRIAL CONSUMPTION	75,387885	82.55	31.88
	MANUFACTURING	31,239,050	34.97	13.51
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	21,744,644	23.81	9.18
	CARBON BLACK	21,704,191	23.77	9.19
1915	TOTAL INDUSTRIAL CONSUMPTION	75,165,330	81.51	30.80
	MANUFACTURING	35,370,672	38.36	14.50
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	20,806,588	22.56	8.53
	CARBON BLACK	18,988,070	20.59	7.77
1916	TOTAL INDUSTRIAL CONSUMPTION	84,866,865	82.60	28.35
	MANUFACTURING	36,671,817	35.69	12.25
(FIELD)	POWER (Boilers, Gas Engines Etc.)	24,726,156	24.07	8.26
	CARBON BLACK	23,463,882	22.84	7.84
1917	TOTAL INDUSTRIAL CONSUMPTION	94,080,796	82.07	30.48
	MANUFACTURING	42,229,043	36.83	13.68
(FIELD)	POWER (Boilers Gas Engines, Etc.)	23,459,046	20.47	7.60
	CARBON BLACK	28,392,707	24.77	9.20
1918	TOTAL INDUSTRIAL CONSUMPTION	87,248431	81.09	32.90
	MANUFACTURING	28,378,836	26.38	10.70
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	24,839595	23.12	9.38
	CARBON BLACK	34000,000.	31.59	12.82

DATA U.S.G.S.

DIAGRAM OF PRODUCTION AND CONSUMPTION OF NATURAL GAS

IN THE STATE OF

PENNSYLVANIA

DURING [illegible]

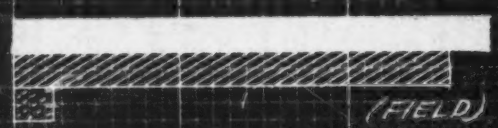
WEST VA EXHIBIT NO. 22

DATA:
U.S.G.S.

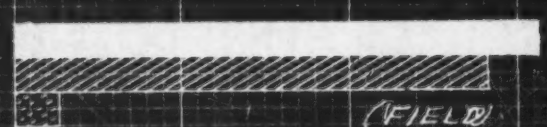
Chart showing Consumption of Natural Gas FOR INDUSTRIAL PURPOSES. IN THE STATE OF PENNSYLVANIA DURING 1914, 1915, 1916, 1917 AND 1918

WEST VA. EXHIBIT No. 23

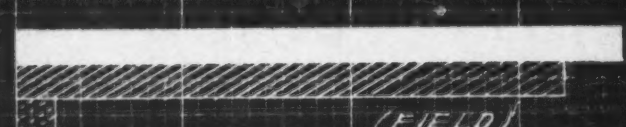
23



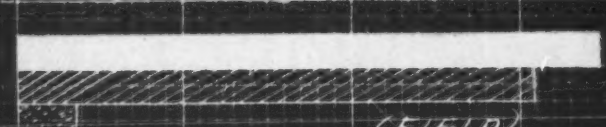
	THOUSAND CUBIC FEET	% OF TOTAL CONSUMPTION	% OF TOTAL PRODUCTION
TOTAL INDUSTRIAL CONSUMPTION	114.641.800	69.55	103.52
MANUFACTURING	104.073.315	63.13	93.98
POWER (Boilers, Gas Engines, Etc.)	10.568.485	6.42	9.54



TOTAL INDUSTRIAL CONSUMPTION	125.018.851	70.89	109.95
MANUFACTURING	113.959.748	64.58	100.23
POWER (Boilers, Gas Engines, Etc.)	11.059.103	6.31	9.72



TOTAL INDUSTRIAL CONSUMPTION	145.854.898	72.40	112.26
MANUFACTURING	131.571.641	65.31	101.27
POWER (Boilers, Gas Engines, Etc.)	14.283.257	7.09	10.99



TOTAL INDUSTRIAL CONSUMPTION	139.123.715	68.78	104.28
MANUFACTURING	123.851.370	61.23	92.84
POWER (Boilers, Gas Engines, Etc.)	15.272.345	7.55	11.44

TOTAL INDUSTRIAL CONSUMPTION	117.300.074	66.28	94.74
MANUFACTURING	104.304.256	58.88	84.24
POWER (Boilers, Gas Engines, Etc.)	12.995.818	7.40	10.50

0 40 80 120 160

BILLION CUBIC FEET

DATA:-
U.S.G.S.

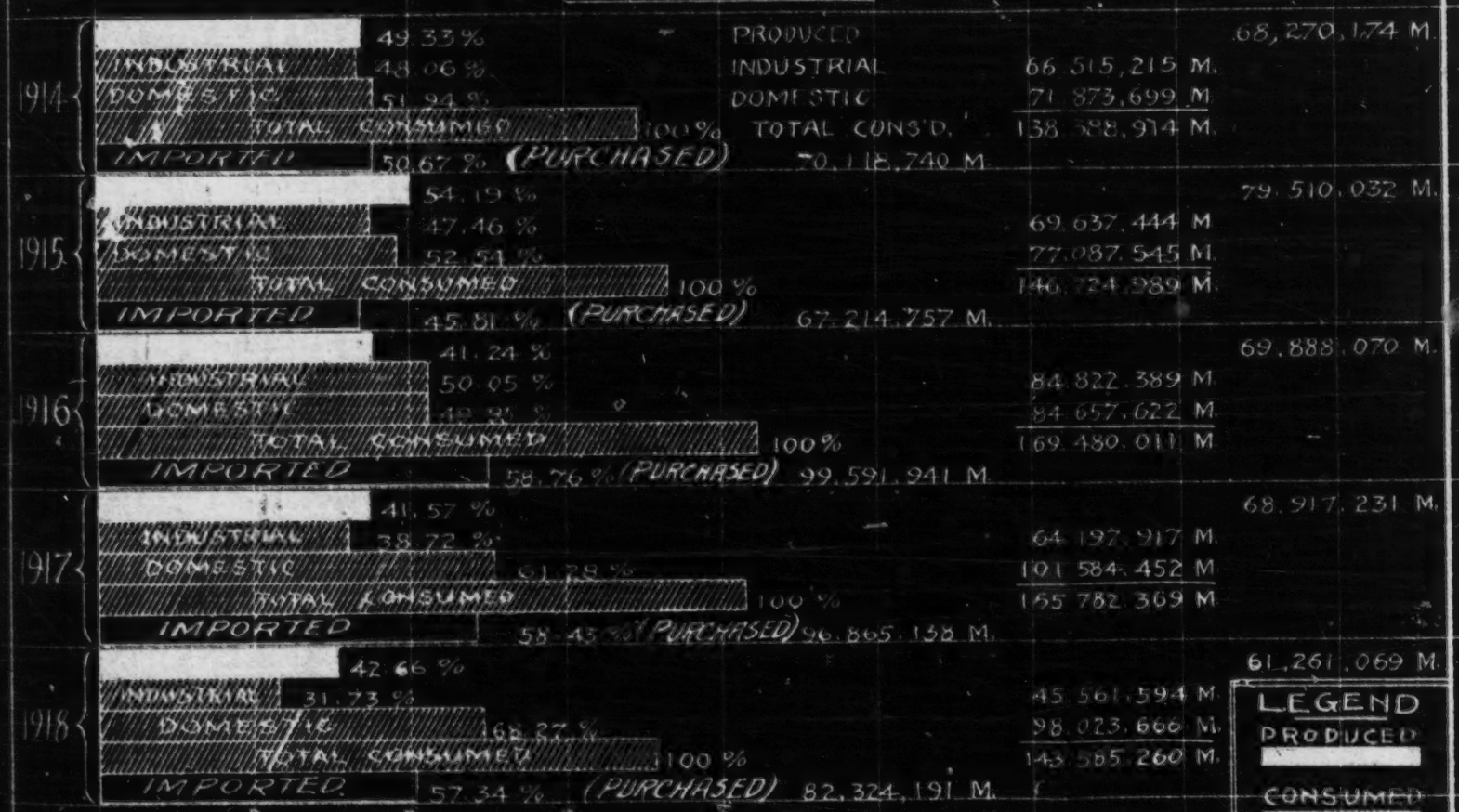
DIAGRAM OF PRODUCTION AND CONSUMPTION OF NATURAL GAS

IN THE STATE OF

OHIO

DURING 1914, 1915, 1916, 1917 & 1918

WEST VA. EXHIBIT NO 24

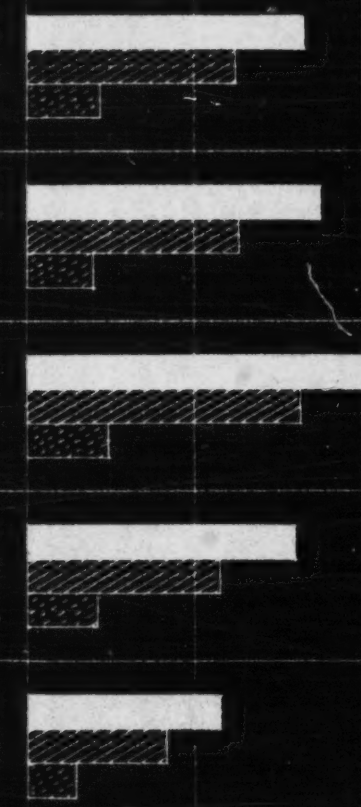


DATA:-
U.S.G.S.

Chart showing Consumption of Natural Gas FOR INDUSTRIAL PURPOSES, IN THE STATE OF OHIO

DURING 1914, 1915, 1916, 1917 AND 1918

WEST VA. EXHIBIT NO. 25

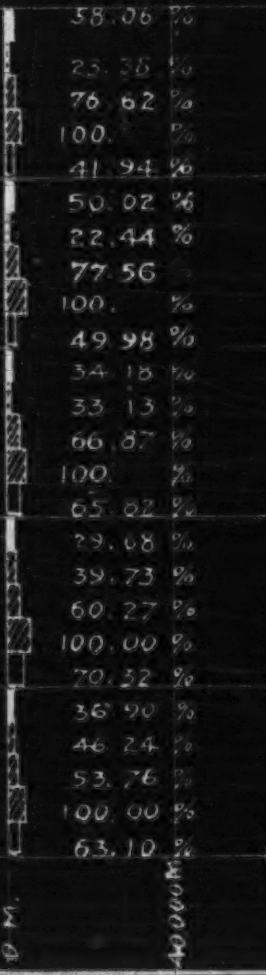


		THOUSAND CUBIC FEET	% OF TOTAL CONSUMPTION	% OF TOTAL PRODUCTION
1914	TOTAL INDUSTRIAL CONSUMPTION	66 515 215	48.06	97.37
	MANUFACTURING	49.672.360	35.82	72.76
(FIELD)	POWER (Boilers, Gas Engines Etc.)	16 942.855	12.24	24 81
1915	TOTAL INDUSTRIAL CONSUMPTION	69..637.444	47.46	87.58
	MANUFACTURING	53 199.691	36.34	66.91
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	16 437.753	11.12	20.67
1916	TOTAL INDUSTRIAL CONSUMPTION	84.822.389	50 05	121.38
	MANUFACTURING	65 615. 184	38.71	93.90
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	19.207.205	11.34	27.48
1917	TOTAL INDUSTRIAL CONSUMPTION	64 197.917	38.72	93.15
	MANUFACTURING	46.740.047	28.19	67.85
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	17.457.870	10.53	25.30
1918	TOTAL INDUSTRIAL CONSUMPTION	45.561. 594	31.73	74.37
	MANUFACTURING	33 442.347	23.29	54 [illegible]
(FIELD)	POWER (Boilers, Gas Engines, Etc.)	12 119.247	8.44	19.78

DATA:-
U.S.G.S.

DIAGRAM OF PRODUCTION AND CONSUMPTION OF NATURAL GAS
IN THE STATE OF
INDIANA
DURING 1914 1915 1916 1917 & 1918

WEST VA. EXHIBIT NO. 26



1914	PRODUCED		2.579.675 M.
	INDUSTRIAL	1.038.693 M.	
	DOMESTIC	3.404.551 M.	
	TOTAL CONSUMED	4.443.244 M.	
	(PURCHASED) IMPORTED	1.683.569 M.	
1915	PRODUCED		2.200.735 M.
	INDUSTRIAL	1.013.890 M.	
	DOMESTIC	3.505.354 M.	
	TOTAL CONSUMED	4.514.244 M.	
	(PURCHASED) IMPORTED	3.303.865 M.	
1916	PRODUCED		1.715.499 M.
	INDUSTRIAL	1.663.492 M.	
	DOMESTIC	3.357.872 M.	
	TOTAL CONSUMED	5.021.364 M.	
	(PURCHASED) IMPORTED	3.303.865 M.	
1917	PRODUCED		1.711.454 M.
	INDUSTRIAL	2.291.145 M.	
	DOMESTIC	3.475.321 M.	
	TOTAL CONSUMED	5.766.466 M.	
	(PURCHASED) IMPORTED	4.055.012 M.	
1918	PRODUCED		1.666.822 M.
	INDUSTRIAL	2.088.580 M.	
	DOMESTIC	2.428.003 M.	
	TOTAL CONSUMED	4.516.583 M.	
	(PURCHASED) IMPORTED	2.849.761 M.	

LEGEND
PRODUCED
CONSUMED
(PURCHASED) IMPORTED

DATA:-
U.S.G.S.

Chart showing Consumption of Natural Gas FOR INDUSTRIAL PURPOSES, IN THE STATE OF INDIANA

DURING 1914, 1915, 1916, 1917 AND 1918

WEST VA. EXHIBIT NO. 27 27

			THOUSAND CUBIC FEET	% OF TOTAL CONSUMPTION	% OF TOTAL PRODUCTION
1914		TOTAL INDUSTRIAL CONSUMPTION	1.038.693	23.38	40.06
		MANUFACTURING	737.195	16.59	28.37
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	301.498	6.79	11.69
1915		TOTAL INDUSTRIAL CONSUMPTION	1.013.890	22.44	44.85
		MANUFACTURING	777.902	17.23	34.41
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	235.988	5.23	10.44
1916		TOTAL INDUSTRIAL CONSUMPTION	1.663.492	33.13	96.97
		MANUFACTURING	1.550.489	30.88	90.38
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	113.003	2.25	6.59
1917		TOTAL INDUSTRIAL CONSUMPTION	2.291.145	39.73	134.22
		MANUFACTURING	2.022.169	35.06	118.50
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	268.976	4.67	15.72
1918		TOTAL INDUSTRIAL CONSUMPTION	2.088.580	46.24	125.29
		MANUFACTURING	1.446.267	32.02	86.76
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	642.313	14.22	38.53

0 40

BILLION CUBIC FEET

DATA:-
U.S.G.S.

DIAGRAM OF PRODUCTION AND CONSUMPTION OF NATURAL GAS

IN THE STATE OF

KENTUCKY

DURING 1914, 1915, 1916, 1917-&-1918

WEST VA. EXHIBIT NO. 28

28

1914	19.69 %		PRODUCED	1.421.818 M.
	41.54 %		INDUSTRIAL	3.003.131 M.
	58.46 %		DOMESTIC	4.222.495 M.
	100. %		TOTAL CONSUMED	7.225.626 M.
	80.31 %	(PURCHASED) IMPORTED	5.800.808 M.	
1915	21.53 %		PRODUCED	1.667.423 M.
	36.43 %		INDUSTRIAL	2.822.144 M.
	63.57 %		DOMESTIC	4.924.209 M.
	100. %		TOTAL CONSUMED	7.746.353 M.
	78.47 %	(PURCHASED) IMPORTED	6.078.927 M.	
1916	21.30 %		PRODUCED	2.106.542 M.
	40.73 %		INDUSTRIAL	4.027.721 M.
	59.27 %		DOMESTIC	5.860.235 M.
	100. %		TOTAL CONSUMED	9.887.956 M.
	78.70 %	(PURCHASED) IMPORTED	7.781.414 M.	
1917	23.25 %		PRODUCED	2.802.079 M.
	38.99 %		INDUSTRIAL	4.699.292 M.
	61.01 %		DOMESTIC	7.354.153 M.
	100. %		TOTAL CONSUMED	12.053.455 M.
	76.75 %	(PURCHASED) IMPORTED	9.251.366 M.	
1918	24.77 %		PRODUCED	3.022.439 M.
	35.06 %		INDUSTRIAL	4.277.249 M.
	64.94 %		DOMESTIC	7.922.941 M.
	100. %		TOTAL CONSUMED	12.200.190 M.
	75.23 %	(PURCHASED) IMPORTED	9.177.751 M.	

LEGEND
PRODUCED
CONSUMED
(PURCHASED) IMPORTED

DATA:
U.S.G.S

Chart showing Consumption of Natural Gas FOR INDUSTRIAL PURPOSES, IN THE STATE OF KENTUCKY DURING 1914, 1915, 1916, 1917 AND 1918

WEST VA. EXHIBIT No. 29 29

			THOUSAND CUBIC FEET	% OF TOTAL CONSUMPTION	% OF TOTAL PRODUCTION
1914		TOTAL INDUSTRIAL CONSUMPTION	3.003.131	41.54	211.21
		MANUFACTURING	2.040.404	28.23	143.50
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	962.727	13.31	67.71
1915		TOTAL INDUSTRIAL CONSUMPTION	2.822.144	36.43	169.24
		MANUFACTURING	2.424.063	31.31	145.37
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	398.081	5.12	23.87
1916		TOTAL INDUSTRIAL CONSUMPTION	4.027.721	40.73	191.19
		MANUFACTURING	3.563.704	36.04	169.17
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	464.017	4.69	22.02
1917		TOTAL INDUSTRIAL CONSUMPTION	4.699.292	38.99	167.69
		MANUFACTURING	3.933.829	32.64	140.38
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	765.463	6.35	27.31
1918		TOTAL INDUSTRIAL CONSUMPTION	4.277.249	35.06	141.51
		MANUFACTURING	3.715.210	30.45	122.92
	(FIELD)	POWER (Boilers, Gas Engines, Etc.)	562.039	4.61	18.59

0 4

BILLION CUBIC FEET

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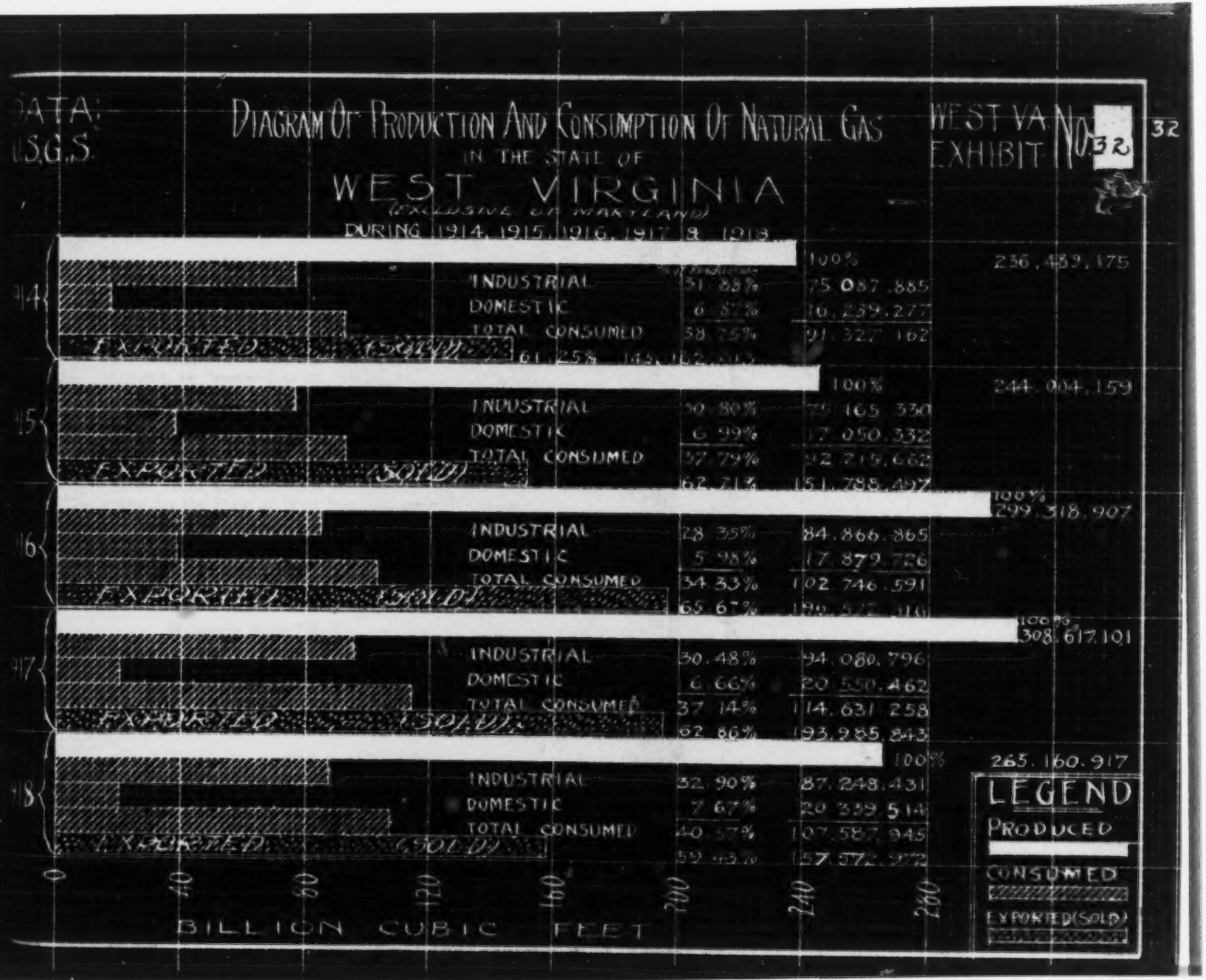
DATA:
U.S.G.S.

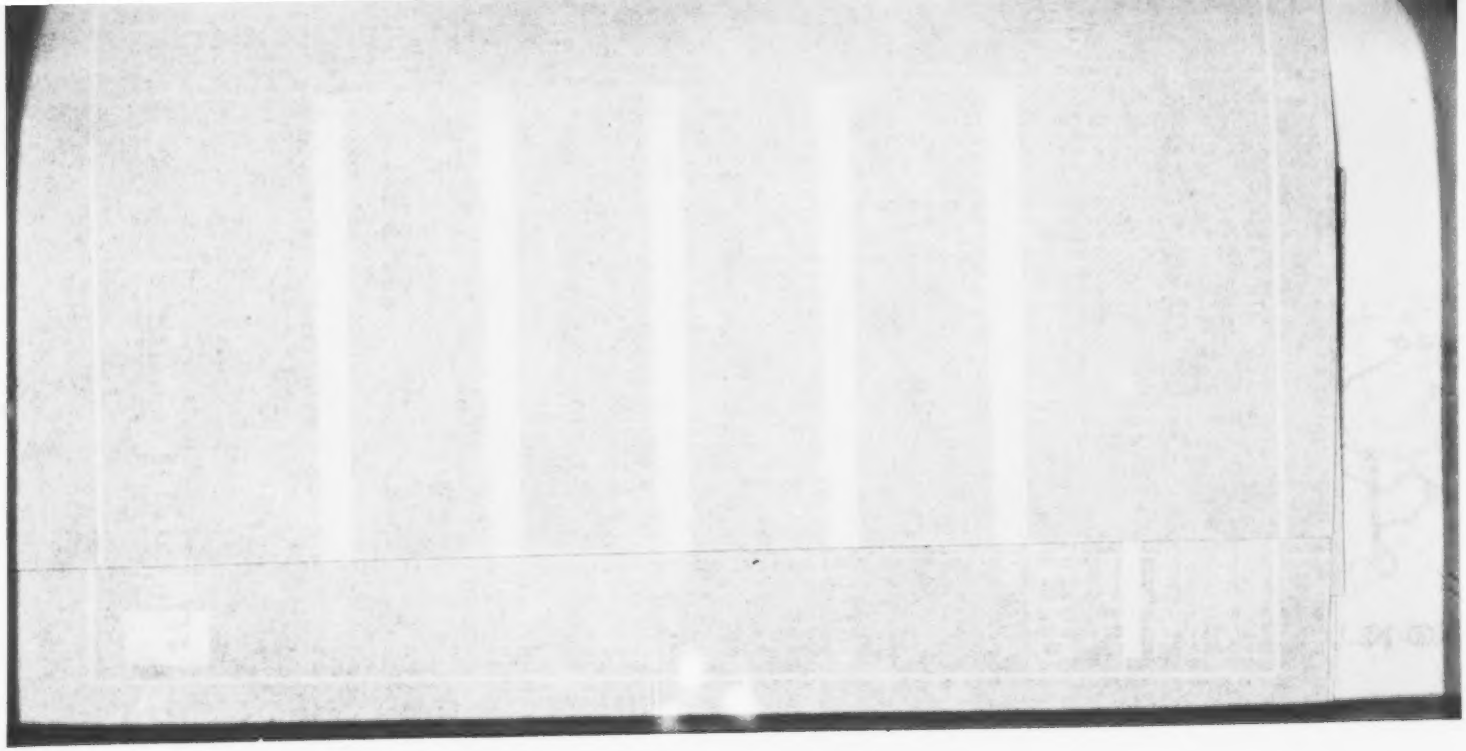
DIAGRAM OF PRODUCTION AND CONSUMPTION OF NATURAL GAS IN THE STATE OF WEST VIRGINIA

(INCLUDING GAS SOLD IN MARYLAND)

DURING 1914, 1915, 1916, 1917 & 1918

WEST VA. EXHIBIT NO. 31


DATA:
U.S.G.S.
DIAGRAM OF PRODUCTION AND CONSUMPTION OF NATURAL GAS
IN THE STATE OF
WEST VIRGINIA
(EXCLUSIVE OF MARYLAND)
DURING 1914, 1915, 1916, 1917 & 1918
WEST VA. NO. EXHIBIT NO. 32
32
1914
100%
236,483,175
INDUSTRIAL 31.88% 75,087,885
DOMESTIC 6.87% 16,259,277
TOTAL CONSUMED 38.75% 91,327,162
EXPORTED (SOLD) 61.25%
1915
100%
244,004,159
INDUSTRIAL 30.80% 75,165,330
DOMESTIC 6.99% 17,050,332
TOTAL CONSUMED 37.79% 92,215,662
EXPORTED (SOLD) 62.21% 151,788,497
1916
100%
299,318,907
INDUSTRIAL 28.35% 84,866,865
DOMESTIC 5.98% 17,879,726
TOTAL CONSUMED 34.33% 102,746,591
EXPORTED (SOLD) 65.67%
1917
100%
308,617,101
INDUSTRIAL 30.48% 94,080,796
DOMESTIC 6.66% 20,550,462
TOTAL CONSUMED 37.14% 114,631,258
EXPORTED (SOLD) 62.86% 193,985,843
1918
100%
265,160,917
INDUSTRIAL 32.90% 87,248,431
DOMESTIC 7.67% 20,339,514
TOTAL CONSUMED 40.57% 107,587,945
EXPORTED (SOLD) 59.43% 157,572,972
0
40
80
120
160
200
240
280
BILLION CUBIC FEET
LEGEND
PRODUCED
CONSUMED
EXPORTED (SOLD)



451 W. Va. Ex. 33.

Wheeling Natural Gas Co. et al

to

Hope Natural Gas Co.

Assignment.

Note.—At page 1171 of the printed record the Commissioner suggested that the indenture by the Wheeling Natural Gas Company and others to the Hope Natural Gas Company, dated June 27, 1911, proof of statistical contents of which was offered as tabulation of a voluminous document, be "marked as an exhibit, not to be printed in the record, but to be preserved as an exhibit in the case in the same way that certain maps are being preserved—without preparation to have the same printed or copied into the record. Counsel for the complainant can then have access to the exhibit as part of the case to make any correction of the con sions which the witness, Nease, is prepared to draw from the do ment in his condensed form." Whereupon counsel for the State of West Virginia accepted the suggestion of the Commissioner and offe l in evidence an attested copy of said indenture, marked for identification West Virginia Exhibit No. 33.

452 W. Va. Ex. 34.

Mountain State Gas Co.

to

Hope Natural Gas Co.

Indenture.

Note.—At page 1173 of the printed record, the Commissioner suggested that the same disposition be made of the indenture by the Mountain State Gas Company to the Hope Natural Gas Company, dated April 1, 1910, as was made of the indenture of the Wheeling Natural Gas Company and others to the Hope Natural Gas Company (at page 1171 of the printed record), to be marked as an exhibit, not to be printed in the record, but to be preserved as an exhibit in the case. Whereupon an attested copy of said indenture from the Mountain State Gas Company to the Hope Natural Gas Company was put in evidence to be marked for identification West Virginia Exhibit No. 34.

453 UNITED FUEL AND LOUISVILLE COS.' W. VA. EX. 35.

W. Va. Ex. 35. J. B. S.

(Introduced at Page 1199, Record.)

This agreement, made and entered into this 5th day of July, 1913, by and between United Fuel Gas Company, a West Virginia corporation, party of the first part, hereinafter called "United Company", and, Louisville Gas and Electric Company, a Kentucky corporation, party of the second part, hereinafter call- "second party":

Whereas, United Company is the owner of natural gas wells, gas rights, gas leases and gas producing contracts in the States of West Virginia and Kentucky and is the owner of pipe lines through which the natural gas produced from its properties and leases and purchased under its contracts can be transported to a measuring station in or near the village of Inez, Martin County, Kentucky, hereinafter more particularly referred to; and

Whereas, Second Party owns an extensive distributing system for the distribution of gas in the city of Louisville, Kentucky, and in its neighborhood and desires to supply the consumers upon said system with natural gas; and

Whereas, Second Party has made arrangements for the construction of a twelve-inch pipe line for the transportion of natural gas from the measuring station near Inez, to Louisville, which will be owned or controlled by it, and desires to enter into a contract for the purchase of natural gas at said measuring station.

Now, therefore, this agreement witnesseth that the parties hereto, in consideration of the premises, and of their mutual covenants and agreements herein contained, have agreed and do hereby agree as follows:

First. United Company agrees to construct a measuring station at a convenient point to be agreed upon by the parties hereto at or near the said village of Inez, and to connect same with its own lines and with Second Party's line, so as to be prepared to furnish and deliver gas through said twelve-inch line as soon as said pipe line is fully completed and ready for operation. The said measuring station shall be known as "Inez Station", and shall be equipped with Standard Pitot tubes or such other accurate measuring devices as the parties hereto may subsequently agree upon in substitution for said Pitot tubes; all apparatus and equipment to be installed and operated in said station, and the character and efficiency thereof, shall be satisfactory to Second Party. The cost of erecting and equipping the said station, and of operating and maintaining same, and of reading, checking and registering the measuring devices therein, shall
454 be wholly borne and paid for by United Company. The said station shall be operated by United Company, but shall be open at all times to the inspection of Second Party and its representatives, who shall also have the right to place therein one or more represent-

atives day and night to check the readings of the water tubes and pressure gauges therein made by the representatives of the United Company, and also to make their own readings of the said tubes and gauges, and check and carry away a record thereof, as well as memoranda therefrom and copies of the readings made by the representatives of United Company; but Second Party shall bear and pay the whole expense of Second Party's representatives in such stations.

Second. Second Party agrees to cause the 12-inch pipe line hereinbefore referred to, to be constructed and completed in accordance with the terms of the contract for the construction of the same hereinbefore referred to, or in case the other parties to said contract fail so to construct and complete said pipe line, that it, the said Second Party will nevertheless cause said pipe line to be constructed and completed with all due diligence. It is understood and agreed that the said twelve-inch line is to be used during the life of this contract or any renewal or extension thereof for the sole purpose of delivering the quantities of natural gas deliverable under this contract, and so long as United Company shall be able to comply with the terms and conditions of this contract its capacity shall be reserved for this purpose. United Company undertakes and agrees to sell Second Party, and Second Party agrees to purchase and take from United Company each year during the continuance of this contract (commencing upon the completion of the pipe line hereinbefore referred to, and the necessary connections) natural gas to an amount requisite for the supply of the consumers upon the distributing systems in and about the city of Louisville, now or hereafter owned by Second Party, and Second Party shall also have the right to purchase and take natural gas through said pipe line for the supply of such other consumers beyond the limits of said distributing systems, as can be conveniently supplied with natural gas through said pipe line; provided however, the quantity so taken by Second Party shall not exceed the capacity of the said twelve inch line with a pressure at the initial end thereof of three hundred and fifty pounds to the square inch. Nothing herein contained shall limit the right of the Second Party to purchase elsewhere any quantities of gas over and above the capacity of the said twelve-inch line, with an initial pressure of three hundred and fifty pounds to the square inch, but if the capacity of the pipe lines owned or controlled by Second Party or operated in its interest from the Kentucky-West Virginia border to Louisville, shall at any time or times be increased beyond the capacity of the twelve-inch line above mentioned, by additional construction or otherwise during the continuance of this agreement, then if United Company so elects, but not otherwise, this agreement shall be modified by substituting such increased capacity for the capacity of said twelve-inch pipe line as the limit of the quantity of gas to be taken hereunder, provided, however, that United Company shall in the case of every such increase exercise such election within ninety days after Second Party shall have called upon it so to do, offering to provide the increased capacity with all reasonable diligence.

455

Third. Seven months prior to January 1st during each year of the term of this contract Second Party shall give to United Company written notice specifying the amount of gas that is estimated to be required for the supply of the consumers upon the distributing systems hereinbefore referred to, during the year commencing January 1st, succeeding the time of such notice. United Company agrees to give Second Party written notice not less than five months prior to January 1st if in the judgment of the Manager of United Company the supply of gas available for delivery hereunder has so diminished that United Company will be unable to deliver to Second Party in the year beginning January 1st, following such notice as much gas as is being delivered during the current year; and United Company shall also give to Second Party written notice not less than sixty days after the receipt of said yearly estimate of Second Party if in the judgment of the Manager of United Company the supply of gas available for delivery hereunder is so diminished as to prevent United Company from delivering to Second Party the amount of such estimate United Company shall state in such notice an estimate of the amount of gas which United Company is able to deliver for the year embraced in the notice.

Fourth. The gas deliverable hereunder shall be delivered by United Company and taken by Second Party at the Inez measuring station hereinbefore provided for, and the amount of gas furnished and delivered hereunder at such point of delivery, shall be determined as follows:

Readings of the Pitot tubes or other measuring devices provided for shall be made at regular fifteen minute intervals throughout the twenty-four hours of each day, and duplicate statements of the readings shall be mailed daily to United Company and to Second Party. From such readings of the measuring tubes
456 or devices the amount of natural gas furnished and delivered each month shall be computed on the basis of ten ounces pressure above atmospheric, according to Boyle's law for the measurement of gas at varying pressures. After the installation of the said station the atmospheric pressure and temperature for use in such computations shall be ascertained by actual tests made at the station over a period of time satisfactory to both parties hereto; but until such actual tests are completed 14.4 pounds per square inch is now adopted as the atmospheric pressure for such computations, and 60 degrees Fahrenheit as a fixed temperature. This method of measurement is hereby adopted as the basis of measurement for the purpose of this agreement and payments for gas shall be upon the monthly statements rendered by United Company to Second Party showing the total computation of gas so measured during the month.

Fifth. Second Party undertakes and agrees to pay to United Company for natural gas sold and delivered to Second Party by United Company hereunder the following prices, (the periods of time named are from the time after the first introduction of natural gas into Louisville, through said pipe line):

First six months	7½¢
Second six months	8¢
Second year	9¢
Third year	10¢
Fourth year	11¢
Fifth year	12¢
Sixth year	13¢
Seventh year	14¢
Eighth year	15¢
Ninth year	15¢
Tenth year	15¢
Eleventh year	15½¢
Twelfth year	15½¢
Thirteenth year	15½¢
Fourteenth year	16¢
Fifteenth year	16¢
Sixteenth year	16¢
Seventeenth year and succeeding years of the contract	17½¢

Sixth. The above prices are in each case for one thousand cubic feet of natural gas measured at Inez station near the State Line between West Virginia and Kentucky, and on a basis of ten ounces pressure to the square inch, according to Boyle's law for the measurement of gas at varying pressures.

Seventh. It is further understood and agreed that in case any lawful tax or assessment is hereafter imposed on natural gas in any manner so as to constitute in effect a charge upon the gas delivered hereunder, the amount of such tax or assessment or charges shall be borne one-half by United Company and one-half by Second Party insofar as it effects or relates to, or is ap-
457 portionable to the natural gas deliverable hereunder, and in the event the United Company is required to pay the same, one-half of the amount thereof shall be paid by Second Party to United Company in addition to the prices above stated.

Eighth. It is further understood and agreed that during the first three years after the commencement of the delivery of gas hereunder the difference between the requirements of the domestic consumers supplied from the aforesaid twelve-inch pipe line, and the capacity of the twelve-inch line at three hundred and fifty pounds pressure at Inez station, may be sold to manufacturers and factories, and during said three year period gas purchased by Second Party for such deliveries shall be sold to Second Party at prices ten per cent below the current prices for domestic gas as specified in the above table.

It is understood, however, that the furnishing of the agreed amount of gas at the reduced price is subject to the ability of United Company to furnish same without compression or pumping, and that if compression or pumping is necessary, the cost of such compression or pumping is to be added to the special prices for manufacturers' and factory gas. All gas sold below domestic rates

shall be deemed to be factory or manufacturers' gas within th meaning of this provision.

Ninth. United Company shall on or before the 10th day of eac month render a statement and bill to Second Party for the g purchased and taken during the month next preceding, ascertaine in the manner hereinbefore provided for, and Second Party unde takes and agrees that on or before the 20th day of each month will pay to United Company the amount due to United Compan for all gas so delivered to Second Party during the month ne preceding.

Tenth. At any and all times when gas is being sold to Secon Party for factory purposes at a reduced rate as hereinbefore pr vided, Second Party shall render a statement to United Compan on or before the 5th day of each month showing gas purchase and taken during the month next preceding for factory purposes the reduced rate agreed upon.

The amount of gas so purchased and taken shall be paid for the agreed reduced rate and the balance of the gas as shown b the measurements at Inez measuring station shall be accounte and paid for as domestic gas at the prices provided for in the Fift paragraph hereof.

458 Eleventh. If Second Party sells gas for factory purpos at a greater pressure than eight ounces same shall be reduce to eight ounces by applying the usual multiple to the end th all gas so sold for factory purposes shall be paid for under th terms of this contract on the basis of an eight ounce pressur All gas sold for factory purposes shall be accurately metered b meters or measuring devices mutually satisfactory to the partie hereto, and the meters or other measuring devices set to registe factory consumption shall be read daily. For the purpose of check ing the statements rendered of gas sold for factory consumptio the books of all companies owning the distributing systems throug which said gas is delivered shall be open to the properly accredite representatives of United Company for inspection and audit to sufficient extent only to check up the statements furnished as t the sales of gas for factory purposes upon which the benefit of th reduced rate is claimed, and the meters or measuring devices s for the measuring of factory gas shall be subject to inspection an test by the representatives of United Company at all reasonabl times, and shall also be inspected and tested from time to time b representatives of the several parties and when found to be defectiv or inaccurate the same shall be replaced and corrected.

Twelfth. No dominion or control over the natural gas delivere under this contract shall remain in United Company after the ga passes the point of delivery, nor shall United Company be respons ble for or on account of anything that may be done, happen o arise touching said gas after it is delivered at Inez Station, an second party undertakes and agrees that it will at all times an from time to time keep free, save harmless and indemnify Unite

Company from any and all manner of claims, suits and damages on account of any conduct, act or thing touching said gas after it has left the said point of delivery.

Thirteenth. United Company undertakes and agrees that it will use reasonable diligence in developing and drilling on gas leases and property at the time controlled by it for the purpose of fulfilling its obligations hereunder and enabling it to deliver gas to the full capacity of said pipe line at a pressure of three hundred and fifty pounds to the square inch at the initial end thereof; but such maximum pressure of three hundred and fifty pounds to the square inch need not be maintained except during such periods of time as Second Party may from time to time demand in order to enable it to satisfactorily supply its consumers; and for the above purposes will also build, provide, maintain and operate in good order,
459 condition and manner such compressor stations, pipe lines from its said gas wells, connections and other facilities necessary therefore United Company further agrees that it will also use reasonable diligence consistent with good business judgment in obtaining and developing new gas leases and contracts for gas when the same become necessary in order to enable it to deliver gas under the terms of this contract and such extensions, leases and contracts can be obtained on a basis profitable to said United Company.

Fourteenth. It is mutually understood and agreed that where either party to this contract without fault or neglect on its part fails to perform any obligations herein assumed by it, and such failure is due to acts of God, or to a public enemy, strikes, riots, injunctions or other interference through legal proceedings, breakage, or accidents to machinery or lines of pipe, washouts, earthquakes storms, freezing of lines or wells, sudden, partial or entire failure of gas wells, or any cause beyond its control, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder; but such party shall use due diligence to again put itself forthwith in position to carry out all the obligations which by the terms hereof it has assumed, and so far as possible shall give the other party notice in writing or by telephone or telegraph of the shutting off of gas to make repairs or alterations.

Fifteenth. Unless previously terminated pursuant to the provisions herein contained or by mutual consent of the parties hereto, this contract shall continue for the term of twenty years from its date. Upon the termination of said contract United Company agrees that it will make a contract with Second Party for a further period, provided United Company then has natural gas available for sale, and Second Party is willing to purchase the same on terms as favorable to United Company as United Company can obtain from other parties. Second Party likewise agrees that after the expiration of said contract period of twenty years it will make a contract with United Company for a further period if Second Party desires to purchase natural gas and United Company will sell the same to

Second Party on terms as favorable to Second Party as it can obtain from other parties.

It is mutually understood and agreed that if either party shall desire to avail itself of the right to a further contract herein
460 given, it shall give notice of its election so to do at least twelve months before the expiration of the period of twenty years.

Sixteenth. The obligations of United Company at any time to deliver gas under this contract shall be limited to the amount of gas produced by United Company from gas fields then owned or leased by it and gas purchased by it under contracts then current for the purchase of gas which shall remain available for delivery hereunder after deducting from the total amount so produced and purchased;

(*a*) The quantities of natural gas necessary to supply at any and all times domestic consumers connected to United Company's own distributing system in West Virginia and domestic consumers in the towns in Ohio and Kentucky where it is now supplying natural gas directly to consumers and also natural gas now supplied to the distributing company in the town of Portsmouth, Ohio;

(*b*) The quantities of natural gas then deliverable to the Columbia Gas & Electric Company under a certain contract between United Company and that Company, dated December 1st, 1909, or under any renewal or renewals of said contract or by reason of the exercise at any time or times heretofore or hereafter by United Company of any of the options given to it by the terms of said contract, United Company hereby reserving to itself the right to extend such contract or hereafter to exercise any or all of said options;

(*c*) Such quantities, not exceeding the capacity of an eighteen inch pipe line, as United Company shall then be delivering to The Ohio Fuel Supply Company;

(*d*) Such quantities, not exceeding the capacity of an eighteen inch pipe line, as United Company shall then be delivering to the Hope Natural Gas Company;

(*e*) Such quantities, not exceeding the capacity of a ten inch pipe line, as United Company shall then be delivering to the Central Kentucky Natural Gas Company.

United Company reserves the right in the usual course of its business to surrender, exchange, sell or otherwise dispose of any part of the gas properties now or hereafter owned or leased by it; should, however, United Company desire to sell its gas properties as a whole it shall do so only subject to this agreement.

Seventeenth. It is mutually understood and agreed that in case Second Party shall fail to pay to United Company any amounts that may be due and payable hereunder to United Company within twenty days after such amount becomes due and payable, United

Company shall have the right, without cancelling this
461 & 462 contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder until all amounts due it are paid, or at i-s option shall have the right to terminate this contract on thirty days' notice to Second Party without prejudice to its right to collect the amoun due to it at the time of such termination of gas previously furnished hereunder.

Eighteenth. The gas to be delivered by United Company hereunder shall be the natural gas as it flows from the wells, except as the same may be changed or altered by the process of compression, pumping and transportation; but Second Party shall not be required to accept hereunder any gas which is not merchantable.

Nineteenth. This contract shall bind and run in favor of the parties hereto, and their respective successors and assigns; but shall not be assigned by either party without the consent of the other.

Twentieth. This contract executed in duplicate.

In witness whereof, the parties hereto have hereunto caused their corporate names to be signed by their respective Presidents or vice-presidents and their respective seals to be hereunto affixed by their respective Secretaries the day and year first above written.

[U. F. G. Co. Seal.] UNITED FUEL GAS COMPANY
(INCORPORATED),
By F. W. CRAWFORD,
President.

Attest:
H. C. REESER,
Secretary.

[L. G. & E. Co. Seal.] LOUISVILLE GAS AND ELECTRIC COMPANY,
By GEO. H. HAINES,
President.

Attest:
M. GRAF,
Secretary.

463 UNITED FUEL AND PORTSMOUTH CO.'S W. VA. EX. 36.

(Introduced at page 1199, Record.)

W. VA. EX. #36. J. B. S.

This agreement, Made this 25th day of October, 1915, by and between United Fuel Gas Company, a corporation organized and existing under the laws of the State of West Virginia, hereinafter called the "United Fuel Company," party of the first part, and The Portsmouth Gas Company, a corporation organized and existing under the laws of the State of Ohio, hereinafter called the "Portsmouth Company," party of the second part,

Witnesseth:

Whereas, the United Fuel Company is the successor in interest of the United States Natural Gas Company under a contract bearing

date the 25th day of September, 1905, between said last mentioned Company and the Portsmouth Company for the sale of natural gas to said Portsmouth Company to be distributed by it in the City of Portsmouth, Ohio, for a term of ten (10) years, ending on the 15th day of December, 1915; and

Whereas, the parties hereto have agreed upon terms for the sale of natural gas to the party of the second part by the party of the first part for an additional term of years as hereinafter set forth;

Now, therefore, this agreement witnesseth: That the parties hereto, in consideration of the premises and of their mutual covenants herein contained, have agreed and do hereby agree as follows:

First. The said contract of the 25th day of September, 1905, shall be and the same is, together with all of its terms, provisions and conditions, extended to the 1st day of January, 1916, except that the party of the first part relinquishes the options thereby given to it of renewing said contract for a term of ten (10) years and of purchasing the plant owned by the party of the second part. It is understood, however, that while said contract as extended shall terminate as of January 1, 1916, yet the prices paid by the Portsmouth Company to United Fuel Company for gas shall be governed by the terms of said original contract only to and including the meter readings, in the regular course of business of the Portsmouth Company, for the month of December, 1915, and thereafter for all gas furnished, the price shall be determined by the terms and pro-
464 visions of this indenture.

Second. The United Fuel Company agrees to furnish to the Portsmouth Company at some convenient point near the easterly limit of the City of Portsmouth, to be selected by mutual agreement, and the Portsmouth Company agrees to take from and pay said United Fuel Company for all of the natural gas which the Portsmouth Company may sell or distribute to its class of consumers commonly classified as "domestic consumers" in the present corporate limits of said City of Portsmouth, for a term of ten (10) years, commencing on the 1st day of January, 1916, and ending on the 1st day of January, 1926. The obligation of the United Fuel Company under this paragraph is subject, however, to the limitations hereinafter set forth.

Third. The United Fuel Company agrees that it will construct, at its own cost and expense, at the location to be agreed upon as aforesaid, a suitable measuring station, and will install therein and maintain an orifice, pitot tubes or other standard measuring device for determining the amount of gas delivered to said Portsmouth Company and will furnish to said Portsmouth Company monthly statements of the amounts so delivered, accompanied by the original charts or reports. The amounts so delivered during each month for which such statement shall be furnished, shall be ascertained from the charts of such orifice or meter which may be in use or from the readings of such pitot tubes computed on the basis of ten (10) ounces above the atmospheric pressure of fourteen and four-tenths (14.4)

pounds per square inch according to Boyle's law for the measurement of gas at varying pressures, and on a temperature basis of forty (40) degrees Fahrenheit, flowing, and fifty (50) degrees Fahrenheit, storage, without further allowance for actual temperatures or barometric conditions. The Portsmouth Company shall have constant access to the meters or other measuring devices with the right to have its representatives verify all readings and reports and shall have the further right at any time, upon notice to the United Fuel Company, to require a special test of the meters or measuring devices. The cost of such special tests shall be borne by the Portsmouth Company if the result shows the meters to have been within three (3) per cent correct; otherwise such cost shall be borne by the selling party.

Fourth. The Portsmouth Company undertakes and agrees to pay the United Fuel Company for the natural gas sold and delivered hereunder the following prices:

For all gas delivered during the calendar year of 1916, including that delivered after the meter readings for the month of December, 1915, seventeen (17) cents.

For all gas delivered during the calendar year of 1917, seventeen and one-fourth (17¼) cents.

For all gas delivered during the calendar year of 1918, seventeen and one-half (17½) cents.

For all gas delivered during the calendar year of 1919, eighteen (18) cents.

For all gas delivered during the calendar year of 1920, and each year thereafter of the term of this contract, nineteen (19) cents.

The above prices are in each case for one (1) thousand cubic feet of natural gas, measured in the manner hereinabove set forth.

Provided, however, that in the event the rate charged by the Portsmouth Company for natural gas supplied by it to its domestic consumers in said City of Portsmouth shall be increased to a higher rate than that now so charged, at any time during said term of ten (10) years, then for all the time which such higher rate may be charged by said Portsmouth Company, the latter agrees to pay to said United Fuel Company an additional price per thousand cubic feet to be determined as follows, viz: The additional price to be paid, in such event, by the Portsmouth Company to United Fuel Company shall be an amount per thousand cubic feet equal to thirty (30) per cent of the amount of increase in price per thousand cubic feet over the existing domestic rate charged by said Portsmouth Company for such part of the term of five (5) years, commencing on the 1st day of January, 1916, as the Portsmouth Company may charge a rate higher than the present rate and an amount equal to fifty (50) per cent of the amount of increase in price over said existing rate which may be charged by said Portsmouth Company for such part of the term of five (5) years, commencing on the 1st day of January, 1921, as the Portsmouth Company may charge a rate higher than the present rate.

Fifth. The obligations of the United Fuel Company at any tim to deliver gas under this contract shall be limited to the amount o gas produced by it from gas fields then owned or leased by it an gas purchased by it under contracts then current for the purchase o gas, after deducting from the total amount so produced and pur chased—

(*a*) The quantities of natural gas necessary to supply at any an all times domestic consumers connected to the now existing distrib uting systems of United Fuel Company in West Virginia, Ohio an Kentucky.

(*b*) The quantities then deliverable to the Ohio Fuel Suppl Company under a contract between United Fuel Company and sai Ohio Fuel Supply Company, bearing date the 19th day of September 1910.

(*c*) The quantities then deliverable to the Columbia Gas an Electric Company under a contract between United Fuel Compan and said Columbia Gas and Electric Company, dated January 1 1913.

(*d*) The quantities then deliverable to the Hope Natural Ga Company or its assigns, under contract between United Fuel Com pany and said Hope Natural Gas Company, bearing date the 1st da of July, 1910.

(*e*) The quantities then deliverable to the Central Kentuck Natural Gas Company, under contract between United Fuel Com pany and said Central Kentucky Natural Gas Company, bearing dat the 1st day of November, 1912.

(*f*) The quantities then deliverable to Louisville Gas and Elec tric Company under contract between United Fuel Company an said Louisville Gas and Electric Company, bearing date the 5th da of July, 1913.

The United Fuel Company reserves the right also in the usua course of its business to surrender, exchange, sell or otherwise di pose of any part of the gas properties now or hereafter owned o leased by it; should, however, the United Fuel Company desire to se its gas properties as a whole it shall do so only subject to thi
467 agreement.

Sixth. In addition to the natural gas herein agreed to b sold by the party of the first part to the party of the second part fo the use of consumers classified as domestic in said City of Port mouth, the United Fuel Company further agrees to sell to the Port mouth Company and deliver the same at the measuring station afor said, such additional quantities of natural gas, if any, as said Unite Fuel Company may have available, for sale by said Portsmouth Com pany to industrial or manufacturing consumers, for industrial o manufacturing purposes, in said City of Portsmouth, or in the imm diate vicinity thereof, but only under express contracts between sai

rtsmouth Company and such industrial or manufacturing con-
mers, which have first been approved by the United Fuel Com-
ny, limited as to time and subordinating the service of such con-
mers to the service of domestic consumers. For the gas supplied
der this paragraph for the use of such industrial or manufacturing
nsumers of the Portsmouth Company, the latter agrees to pay to
id United Fuel Company the sum of eight (8) cents per thousand
bic feet, computed according to Boyle's law in the manner above
t forth for the measurement of the gas sold hereunder for domestic
rposes; provided, however, in the event the Portsmouth Company
all at any time during said term of ten (10) years charge for gas
ld by it to such industrial or manufacturing purposes, in the said
ty of Portsmouth, or the immediate vicinity thereof, a higher rate
an that now charged by it to such consumers, then the rate to be
id by the Portsmouth Company to the United Fuel Company shall,
ring such time that said increased rate is so charged, be an amount
excess of said sum of eight (8) cents per thousand cubic feet,
qual to thirty (30) per cent of the increase charged by said Ports-
outh Company for the first five (5) years of said term, and equal
fifty (50) per cent of such increase for the second five (5) year
rm.

Seventh. The United Fuel Company shall on or before the 10th
ay of each month render a statement to the Portsmouth Company
f the gas delivered during the month next preceding, and the Ports-
outh Company agrees that on or before the 20th day of each month
it will pay to the United Fuel Company the amount due for
468 all gas so delivered during the month next preceding, and the
Portsmouth Company agrees that on or before the 20th day of
ach month it will pay to the United Fuel Company the amount due
or all gas so delivered during the next preceding month.

Eighth. At any and all times when gas is being sold to the Ports-
outh Company for industrial or manufacturing purposes at the rate
hereinbefore provided for such gas, the Portsmouth Company shall
render a statement to the United Fuel Company on or before the
5th day of each month showing the amount of gas purchased and
taken during the next preceding month for industrial or manufac-
turing purposes, and the United Fuel Company shall have full right
and authority at any time to inspect the books, accounts, meters and
appliances of the Portsmouth Company for verifying any such state-
ment. The amount of gas sold, purchased and taken for manufac-
turing or industrial purposes each month shall be paid for at the
rate above provided for such gas, and the balance of the gas taken
by the Portsmouth Company as shown by the meter at the measuring
station shall be accounted for and paid for as gas sold for domestic
purposes at the prices provided in the Fourth paragraph hereof. All
gas sold below domestic rates shall be deemed to be sold for manu-
facturing or industrial purposes within the meaning of this pro-
vision.

Ninth. Regardless of the pressure at which the Portsmouth Company may sell gas for manufacturing purposes, the calculation of the amount thereof shall be made on a basis of ten (10) ounces by applying the usual multiple to the end that all gas sold for such purposes shall be paid for under the terms of this contract on the basis of ten (10) ounces pressure. All gas sold for manufacturing or industrial purposes shall be accurately measured by meters mutually satisfactory to the parties hereto and such meters shall be read daily.

Tenth. No control over the natural gas delivered under this contract shall remain in the United Fuel Company after the gas passes the point of delivery in said measuring station, and the Ports-
469 mouth Company undertakes and agrees that it will save harmless and indemnify the United Fuel Company from any and all manner of claims, suits and damages on account of injury or loss, if any, caused by the said gas, or to which the said gas may contribute, after it has passed the said point of delivery, except such as may be occasioned by the negligence or default of the United Fuel Company.

Eleventh. The United Fuel Company undertakes and agrees that it will use reasonable diligence in developing and drilling gas lands at the time controlled by it in order to supply the said Portsmouth Company with the amount of gas required by the domestic consumers of the Portsmouth Company in the present corporate limits of the said City of Portsmouth, and will for the same purpose maintain and operate in good order its pipe lines and plant.

Twelfth. It is mutually understood and agreed that where either party to this contract, without fault or neglect on its part, fails to perform any obligation herein assumed by it and such failure is due to acts of God or a public enemy, strikes, riots, injunctions, breakage or accidents to machinery or pipe lines, earthquakes, storms, freezing of lines or wells, sudden, partial or entire failure of gas wells or any other cause beyond its control or is caused by the necessity for making repairs in machinery or pipe lines, such failure shall not be deemed a violation by such party of its obligations hereunder; but such party shall use diligence in re-commencing the performance of its obligations and shall so far as possible notify the other party in advance of any interruption in the service which can be foreseen.

Thirteenth. It is mutually understood and agreed that should the Portsmouth Company fail to pay to the United Fuel Company any amount which may be due and payable hereunder to the latter Company within twenty (20) days after such amount becomes due and payable, the United Fuel Company shall have the right, without cancelling its contract or waiving any of its rights hereunder, to suspend the delivery of natural gas until all amounts due to it are paid, or, at its option, shall have the right to terminate this contract
470 on thirty (30) days' notice to the Portsmouth Company, without prejudice to its rights to collect the amount due to it at the time of such termination for gas previously furnished here-

nder. It is understood, however, should notice of termination be iven under this provision, the same shall not become effective if the ntire amount due with interest shall be paid by the Portsmouth Company within the thirty (30) days' period above provided for.

Fourteenth. This contract shall bind and extend to the parties hereto and to the successors and assigns of the party of the first part, but the interest of the party of the second part hereunder shall not be assigned without the written consent of the party of the first part.

In witness whereof the parties hereto have caused their corporate names to be signed by their respective officers thereunto duly authorized and their respective corporate seals to be hereunto affixed, all in duplicate, this the day and year first above written.

[SEAL.] UNITED FUEL GAS COMPANY,
By W. Y. CARTWRIGHT,
Vice-President.

Attest:
L. A. SEYFFERT,
Asst. Secretary.

[SEAL.] THE PORTSMOUTH GAS COMPANY,
By J. T. LYNN,
President.

Attest:
D. M. GUAREY,
Secretary.

STATE OF WEST VIRGINIA,
County of Kanawha, ss:

I, D. C. Jay, a Notary Public of said County of Kanawha, do certify the W. Y. Cartwright personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is the Vice-President of United Fuel Gas Company, one of the corporations described in the writing above, bearing date the 25th day of October, 1915, authorized by said corporation to execute and acknowledge deeds and other writings for said corporation, and that the seal affixed to the said writing is the corporate seal of said corporation, and that the said writing was signed and sealed
471 & 472 by him on behalf of said corporation by its authority duly given. And the said W. Y. Cartwright acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 28th day of July, A. D. 1916.

[Notarial Seal.] D. C. JAY,
Notary Public.

My commission expires on the 2nd day of March, 1925.

STATE OF MICHIGAN,
County of Wayne, ss:

I, M. J. Tibbals, a Notary Public of said County of Wayne, do certify that J. T. Lynn personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is the President of the Portsmouth Gas Company, one of the corporations described in the writing above, bearing date the 25th day of October, 1915, authorized by said corporation to execute and acknowledge deeds and other writings for said corporation, and that the seal ffixed to the said writing is the corporate seal of said corporation, and that the said writing was signed and sealed by him on behalf of said corporation by its authority duly given. And the said J. G. Lynn acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 15th day of June, A. D. 1916.

[Notarial Seal.] M. J. TIBBALS,
Notary Public.

My commission expires on the 7 day of February, 1919.

473 UNITED FUEL AND CENTRAL KY. CO.'S W. VA. EX. 37.

(Introduced at Page 1199, Record.)

W. VA. EX. No. 37. J. B. S.

This agreement, Made and entered into this 1st day of November A. D. 1912, by and between the United Fuel Gas Company, Incorporated, a West Virginia corporation, hereinafter called the "United Company," party of the first part, and the Central Kentucky Natural Gas Company, Incorporated, a Kentucky corporation, hereinafter called the "Kentucky Company," party of the second part;

Witnesseth: Whereas, the United Company is the owner of natural gas wells, gas rights and leases for gas purposes, and gas purchasing contracts in the states of West Virginia and Kentucky, and is the owner of a pipe line extending from its natural gas properties through or near the village of Inez, on the waters of Rock Castle Creek in Martin County, Kentucky; and

Whereas, the Kentucky Company is engaged in the business of producing and distributing natural gas in various cities and towns in the State of Kentucky where it is the owner of franchises, and desires to supplement its supply of natural gas by the construction of a 10 inch pipe line to the said village of Inez for the purpose of purchasing gas from the United Company:

Now therefore, in consideration of the premises and of the mutual covenants and agreements herein contained, the parties hereto have agreed and do hereby agree as follows:

First. The Kentucky Company agrees to construct a 10 inch pipe line from its present main line in Menefee County, Kentucky, to said Village of Inez to the Junction or measuring station which is to be there erected as hereinafter provided; said 10 inch line shall be completed ready to be put into operation on or before December 1st, 1912.

Second. The United Company agrees to construct a measuring station at a convenient point on its main line at or near said
474 village of Inez and to connect said measuring station to its own lines and to the said 10 inch line of Kentucky Company so as to be prepared to furnish and deliver gas to the Kentucky Company on December 1st, 1912. The said measuring station shall be known as "Inez Station" and shall be equipped with orifice meter, standard Pitot tubes or such other accurate measuring devices as the parties hereto may agree upon in substitution for said meter or Pitot tubes; all apparatus and equipment to be installed and operated in said station and the character and efficiency thereof shall be satisfactory to the Kentucky Company, which shall pay to the United Company one half of the cost of erecting and equipping said station and one half of the cost of operating and maintaining the same and of checking the operation and registration of the measuring apparatus. Said station shall, however, be operated by the United Company but at all times shall be open to the inspection of the Kentucky Company and its representatives.

Third. The United Company undertakes and agrees to sell and deliver to the Kentucky Company and the Kentucky Company undertakes and agrees to purchase and take from the United Company during each year (commencing December 1st and terminating November 30th) of the existence of this contract, natural gas of the volume of not less than 720,000,000 cubic feet, the exact amount deliverable each year to be determined in the manner hereinafter set forth; Provided, however, that the United Company shall not be obligated to sell and deliver to the Kentucky Company gas in excess of the amount which can be delivered at Inez Station under a pressure of 300 pounds to the square inch in the initial or Inez end of the said 10 inch line of the Kentucky Company, as now about to be constructed from Menefee County, nor in excess of the amount
475 of gas which the United Company may have available for delivery as limited and defined in the Fifteenth article of this agreement.

Fourth. The amount to be delivered and purchased hereunder from December 1st, 1912, to November 30th, 1913, inclusive, is hereby fixed at 720,000,000 cubic feet and the proportion of the total volume to be delivered and taken in each month of each year during the continuance of this contract shall be as follows:

Month.	Per cent.	Month.	Per cent.
January	12.50	July	4.50
February	12.00	August	4.50
March	10.50	September	5.00
April	9.50	October	8.00
May	8.00	November	9.50
June	5.00	December	11.00

Fifth. If the Kentucky Company shall desire to purchase and take from the United Company in the year beginning December 1st, 1913, and in any year thereafter during the existence of this contract, a volume of gas in excess of 720,000,000 cubic feet and shall give written notice to the United Company not less than seven months prior to the 1st day of December of each year, specifying the amount of additional gas so desired, then the United Company agrees to sell and deliver and the Kentucky Company to purchase and take such additional volume upon the terms and prices herein stated, Provided that the United Company shall not be obligated to sell and deliver to the Kentucky Company gas in excess of the amount which can be delivered at Inez Station under a pressure of 300 pounds to the square inch in the Inez end of the said 10 inch line of the Kentucky Company, nor in excess of the amount of gas which the United Company may have available for delivery as limited and defined in the fifteenth article of this agreement.

The Kentucky Company after giving notice as aforesaid,
476 may from time to time thereafter further increase the amount of gas to be sold and taken hereunder by giving similar notices and subject to the same terms, limitations and conditions, but if no such notice is given seven months before December 1st of any year, then the amount deliverable during such year shall be the amount actually delivered during the preceding year; and the Kentucky Company shall not have the right by notice or otherwise to reduce the amount of gas deliverable in any year to an amount less than 720,000,000, nor to an amount more than 10% less than the amount taken in the next preceding year.

It is further provided that if the amount which the Kentucky Company estimates it will require for any year proves to be insufficient during December, January and February of such year and the United Company is able to and does furnish a larger amount of gas during such months than the estimate calls for, then and in that event the Kentucky Company shall take during the remaining months of such year an amount of gas as much greater than its estimate for such months as the amount of gas actually taken during the months of December, January and February of such year exceeded the amount of gas estimated to be required for such three months. But if the amount which the United Company is able to deliver in December, January and February of any year proves to be less than the proportion deliverable during such months of the whole amount deliverable for such year, then and in that event the Kentucky Company shall not be obligated to take during the remainder of such

ar gas in any greater proportion of the amount deliverable for such
maining part of the year than the amount actually taken in
ecember, January and February bears to the amount deliverable
r such months, determined as hereinafter provided.

The United Company agrees to give to the Kentucky Company
written notice not less than seven months prior to December
7 1st if the supply of gas available for delivery hereunder has
so diminished as in the judgment of the Officers of the United
mpany to prevent the United Company from delivering to the
ntucky Company for the year beginning December 1st following
h notice as much gas as is being delivered during the current year;
d the United Company shall also give to the Kentucky Company
itten notice not less than 30 days after receipt of the estimate of
e Kentucky Company of its requirements for the year commencing
ecember 1st following such estimate, if the supply of gas available
r delivery hereunder has so diminished as to prevent the United
mpany from delivering to the Kentucky Company the amount of
h estimate; the United Company shall state in such notices an
imate of the amount of gas which the United Company is able to
liver for the year embraced in the notice. After the supply of
e United Company has failed in any year to fulfill the require-
nts of the Kentucky Company hereunder, the Kentucky Com-
ny shall not be obligated to take thereafter in any succeeding year
ore gas than was delivered by the United Company in such pre-
ous year.

Sixth. The amount deliverable each month shall be delivered and
ken throughout the month so far as practicable equal amounts
ing delivered and taken each day, provided, however, that the
ntucky Company shall have the right to reduce or increase the
nount to be delivered during any month, so long as the amount
livered and taken is between 90 per cent and 110 per cent of the
nount deliverable during such month, determined as hereinbefore
ovided; the Kentucky Company shall not be obligated to take and
e United Company to deliver during any day or month more
than the Kentucky Company shall currently require for all of
consumers and all of the consumers of companies supplied by it
with gas, but it is understood that the Kentucky Company
3 shall take during each year the full amount deliverable dur-
ing such year, determined as hereinbefore provided.

Seventh. The gas deliverable hereunder shall be delivered by the
ited Company and taken by the Kentucky Company at the Inez
asuring station hereinbefore provided for, and the amount of
furnished and delivered hereunder at such point of delivery
ll be determined as follows:

f Pitot tubes are installed readings thereof shall be made at
ular 15 minute intervals throughout the 24 hours of each day,
duplicate statements of the readings shall be mailed daily to the
ited Company and to the Kentucky Company, but if orifice or
er recording meters or devices are used, the pressure charts shall
lifted daily or as often as necessary by the United Company;

from such readings or charts and records of the measuring tu
or devices the amount of natural gas furnished and delivered e
month shall be computed on the basis of 10 ounces pressure ab
atmospheric, according to Boyle's Law for the measurement of
at varying pressures. Fourteen and four tenths pounds per squ
inch is adopted as atmospheric pressure for such computatio
This method of measurement is hereby adopted as the basis
measurement for the purposes of this agreement and payments
gas shall be made upon the monthly statements rendered by
United Company to the Kentucky Company showing a compu
tion of the total amount of gas so measured during the month; w
said monthly statements the United Company shall send to
Kentucky Company for inspection the current meter charts,
meters are used in place of Pitot tubes, and such charts shall
finally lodged with the United Company within 30 days after th
receipt by the Kentucky Company.

Eighth. The Kentucky Company undertakes and agrees that
will pay to the United Company for the natural gas sold a
479 delivered to it by the United Company hereunder, at t
following prices:

For all gas sold and delivered to it up to and including Novemb
30th, 1913, 9 cents per thousand cubic feet;

From December 1st, 1913, to and including November 30th, 19
10 cents per thousand cubic feet;

From December 1st, 1914, to and including November 30th, 19
11 cents per thousand cubic feet;

From December 1st, 1915, to and including November 30th, 19
12 cents per thousand cubic feet.

From December 1st, 1916, to and including November 30th, 19
13 cents per thousand cubic feet;

From December 1st, 1917, to and including November 30th, 19
14 cents per thousand cubic feet;

From December 1st, 1918, to and including November 30th, 192
15 cents per thousand cubic feet;

And for all natural gas sold and delivered to it from and aft
November 30th, 1922, during the existence of this contract, a pri
equivalent to 50 per cent of the average domestic rate in all of t
distributing systems of the Kentucky Company, which price sh
not in any event be less than 17½ cents per thousand cubic fe
net, to the United Company; such average domestic rate shall
ascertained each month by dividing the total charges of the Ke
tucky Company for all gas sold during the month for domest
purposes including minimum rate charges for domestic natur
gas service but excluding premium charges against consumers d
linquent in payments, by the total amount of natural gas sold
the Kentucky Company during the same month for domestic pu
poses; and in case the Kentucky Company is selling gas to any oth
Company which in turn distributes the gas to the domestic consume
no account of the rate at which such gas is sold in wholesale quant

gas by the Kentucky Company or the volume of gas so sold, shall be taken in ascertaining such average domestic rate, but the charges of such distributing company to consumers using gas for domestic purposes and the amount of gas sold by such distributing company for domestic purposes shall be taken into the computations in the same respect as if such gas was being distributed and charged for by the Kentucky Company directly to the domestic consumer.

Ninth. The United Company shall on or before the 10th day of each month render a statement and bill to the Kentucky Company for the gas purchased and taken during the month next preceding, ascertained in the manner hereinbefore provided for, and the Kentucky Company undertakes and agrees that on or before the 20th day of each month it will pay to the United Company the amount due to the United Company for all gas so delivered to the Kentucky Company during the month next preceding.

For each month beginning with the month of December, 1922, and thereafter during the continuance of this contract, the Kentucky Company shall furnish to the United Company on or before the 10th day of the month, a statement showing the amount of gas ascertained to have been delivered during the previous month to domestic consumers of the Kentucky Company, the total charges for gas sales to domestic consumers including minimum charges for gas service, but excluding premiums charges against consumers delinquent in payments, the gross receipts from sales of gas to domestic consumers, the number of domestic consumers so supplied and the amount ascertained to have been delivered during the previous month to other consumers; and the statement and bill to be rendered to the Kentucky Company by the United Company for gas purchased and taken during the month of December, 1922, and for each month thereafter, shall be based upon the average domestic rate computed from the records of gas sold to domestic consumers so recorded by the Kentucky Company.

Whenever called upon so to do by the United Company, the Kentucky Company shall furnish to United Company a state-
481 ment showing the cities, towns and villages in which it is supplying gas to domestic consumers, the number of domestic consumers in each of said cities, towns and villages, and the rates at which it is furnishing gas in each of said places.

Tenth. For the purposes of this agreement domestic consumers shall be deemed to be all such consumers as according to the system of book-keeping heretofore used by the Kentucky Company have been classed as "domestic consumers:" domestic consumers supplied by the Kentucky Company shall be deemed to include domestic consumers upon distributing systems owned, leased, operated or controlled by the Kentucky Company, and domestic consumers upon distributing systems in any way or upon any plan supplied with natural gas by the Kentucky Company, and the charges for gas sold by the Kentucky Company for domestic purposes, shall, for the purposes of this agreement be deemed to include the charges

made by the Kentucky Company and by any such distributing com panies for natural gas sales to domestic consumers including min mum charges for natural gas service to such consumers, but exclu ing premium charges against consumers delinquent in payments.

Eleventh. The amount of gas supplied by the Kentucky Com pany, or by companies distributing natural gas obtained from i to domestic consumers from and after December 1st, 1922, shall b accurately ascertained by meters, and an accurate record kept o such measurements, and all the records relating to the amount s supplied shall at all times after December 1st, 1922, be open to th inspection of representatives of the United Company.

Twelfth. No dominion or control over the natural gas delivere under this contract shall remain in the United Company after th gas passes the point of delivery, nor shall the United Com
482 pany be responsible for or on account of any thing that ma be done, happen or arise touching said gas after it is delivere at Inez Station; and the Kentucky Company undertakes and agree that it will at all times and from time to time keep free, save harm less and indemify the United Company from any and all manne of claims, suits and damages on account of any conduct, act o thing touching the said gas after it has left the said point of de livery.

Thirteenth. The United Company undertakes and agrees that i will at all times during the continuance of this contract provide an maintain in good order and condition all such compressing station pipe lines, connections and other facilities as may be requisite i order to enable it to carry out its obligations under this contrac and will use all reasonable diligence in developing and extending it gas leases and properties and in obtaining gas therefrom for th purpose of fulfilling its obligations hereunder, and will, if and whe required so to do, to enable the Kentucky Company to give goo service to its patrons, deliver the gas, up to the amount deliverabl under the terms of this contract, at a pressure of 300 pounds pe square inch at the initial end of the Kentucky Company's 10 inc line at Inez station.

Fourteenth. It is mutually understood and agreed that whe either party to this contract fails to perform any obligation herei assumed by it, and such failure is due to Acts of God, or a publi enemy, strikes, riots, injunctions or other interferences throug legal proceedings, breakage or accident to machinery or lines of pipe washouts, earthquakes, storms, freezing of lines or wells, sudde partial or entire failure of gas wells, or to any cause not du
483 to the fault or neglect of such party, or is caused by the neces sity for making repairs or alterations in machinery or line of pipe, such failure shall not be deemed to be a violation by such party of its obligations hereunder, but such party shall use due dili gence to again put itself in position to carry out all of the obligation which by the terms hereof it has assumed.

Fifteenth. In case the supply of gas available for delivery hereunder to the Kentucky Company so diminishes that the United Company is unable to deliver two million cubic feet on the average per day during the six winter months from November to April, inclusive, in any year and the Kentucky Company determines to take up its said 10 inch line and abandon its transportation of natural gas from Inez and tributary fields because it is unable to use a lesser amount under this contract to profitable advantage, then, and in that event the Kentucky Company shall have the right upon six (6) months' written notice to cancel this contract upon the payment of all sums which may be due for gas delivered to the day and time when such cancellation becomes effective. Unless previously terminated pursuant to the provisions herein contained or by mutual consent of the parties hereto, this contract shall continue for the term of 20 years from its date and so long thereafter as the United Company produces gas in marketable quantities from its gas properties in West Virginia and Kentucky. The obligation of the United Company at any time to deliver gas under this contract shall be limited to the amount of gas produced by the United Company from gas fields then owned or leased by it and gas purchased by it under contracts then current for the purchase of gas, consistently with its present or future contracts with other purchasers; provided, however, that the United Company is to have the right at any
484 and all times to supply the domestic consumers connected to its own system and to the systems in West Virginia which it is supplying with gas, and to the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, and Hope Natural Gas Company to the extent of their requirements for domestic consumers, in preference to the Kentucky Company, (after which preferences however the requirements of the Kentucky Company are to be supplied in preference to other purchasers), and Provided also that the obligations of the United Company to sell and deliver gas to the Kentucky Company hereunder are subject to its obligations to sell and deliver gas to the Columbia Gas & Electric Company under a certain contract with the Columbia Gas & Electric Company dated December 1st, 1909, and the United Company reserves the right to exercise the option to extend said contract therein contained and to exercise the other options given to it by the terms of said contract, and this contract is subject to all obligations incurred by the United Company by reason of the exercise of such options.

This contract is further subject to all the existing contracts of the United Company for the sale and delivery of gas to companies other than the Kentucky Company, all of which contracts have been submitted to and are known to the Kentucky Company.

This contract is also subject to the contract of the United Company with The Ohio Fuel Supply Company dated September 19th, 1910, and to the right of the United Company to enter into a contract or contracts with the Hope Natural Gas Company for the sale of gas to said Company in accordance with the provisions of a contract bearing date the 1st day of July, 1910.

The United Company reserves the right to surrender, exchange,

sell and dispose of any part of the gas properties now or hereafter owned or leased by it; should, however, the United Company desire to sell all of its gas properties, it shall do so only subject to this agreement.

485 Sixteenth. It is mutually understood and agreed that in case the Kentucky Company shall fail to pay to the United Company any amounts that may be due and payable hereunder to the United Company within 20 days after such amount becomes due and payable, the United Company shall have the right, without cancelling this contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder until all amounts due it are paid, or, at its option shall have the right to terminate this contract on 30 days' notice to the Kentucky Company without prejudice to its right to collect the amount due to it at the time of such termination for any gas previously furnished hereunder, and to recover such damages as it may sustain by the breach of this contract by the Kentucky Company.

Seventeenth. This contract shall be binding upon the parties hereto and their successors and assigns respectively, provided, however, that in case the gas distributing system now or hereafter owned or controlled by the Kentucky Company is broken up so that parts thereof are vested in different owners, the United Company at its option, shall have the right to terminate this contract; excepting that if under the terms of any city franchise now held by the Kentucky Company any city has the right to appraise and take and does appraise and take any city plant of the Kentucky Company, the Kentucky Company shall have the right at its option either to cut off such city from its distributing system or to continue gas service to such city, in either of which events the United Company shall not have the right to terminate this contract under this provision.

In witness whereof the parties hereto have hereunto caused their corporate names to be signed by their respective Presi-
486 & 487 dents and their respective seals to be hereunto affixed by their respective Secretaries the day and year first above written.

[Corporate Seal.]

(Signed.) UNITED FUEL GAS COMPANY,
(INCORPORATED),
By F. W. CRAWFORD, *President.*

Attest:
H. C. REESER,
Secretary.

[Corporate Seal.] CENTRAL KENTUCKY NATURAL GAS COMPANY (INCORPORATED),
By JOSEPH SEEP, *President.*

Attest:
ROBT. L. HAMPTON,
Secretary.

UNITED FUEL AND OHIO FUEL COS.' W. VA. EX. 38.

[Introduced at Page 1199, Record.]

W. VA. EX. No. 38. J. B. S.

This contract, made and entered into this Nineteenth day of September, 1910, by and between the United Fuel Gas Company, a West Virginia Corporation, hereinafter called the "United Company", and The Ohio Fuel Supply Company, an Ohio Corporation, hereinafter called the "Ohio Company",—

Witnesseth:

Whereas, the United Company is the owner of natural gas wells, rights and leases for gas purposes in the State of West Virginia and is the owner of a pipe line extending from its natural gas territory in the State of West Virginia to the Ohio River at a point near Kenswood, West Virginia; and,

Whereas, the Ohio Company holds franchises and owns distributing systems for the distribution of natural gas in various cities, villages and towns in the State of Ohio, and is also the owner of a trunk pipe line extending from the Ohio River (where it connects with lines of the United Company) through the State of Ohio to or connected with the distributing system owned by the said Ohio Company in the various cities, villages and towns in the State of Ohio, hereinabove referred to:

Now, therefore, in consideration of the premises and of the mutual covenants and agreements herein contained, the parties hereto have agreed and do hereby agree as follows:

First. It is mutually understood and agreed that all the rights of the parties hereto in respect to natural gas sold and delivered by the United Company to the Ohio Company from, on and after September 1, 1909, shall be ascertained and determined by and in accordance with the provisions of this agreement.

Second. The United Company undertakes and agrees during the continuance of this contract to sell and deliver to the Ohio Company and the Ohio Company undertakes and agrees to purchase and take from the United Company during each year (commencing July 1st and terminating June 30th) of the existence of this contract,—

(*a*) An amount of natural gas equal to the amount of natural gas found necessary during the preceding year to supply two-third of the domestic consumers connected to its system, plus ten per cent of such amount;

(*b*) Two-thirds of the total amount taken during the year is to be purchased and taken between November 1st and May 1st of each year, and one-third is to be purchased and taken between May 1st and November 1st of each year;

(c) The proportion of the total amount to be taken during any year which shall be taken in each month of such year, shall be, unless otherwise agreed as follows:

Month.	Per cent.
May	7½
June	4¾
July	4½
August	4½
September	4¾
October	7½
November	10½
December	12—
January	12½
February	12—
March	11—
April	8½

Provided, however, that except as hereinafter stated the United Company shall not be obligated to sell and deliver to the Ohio Company gas in excess of the amount which can be delivered at the Ohio River through the existing pipe line of the United Company from Spencer to the Ohio River under a pressure of 300 lbs. at the easterly end of the 18" line near Spencer, and the Ohio Company shall not be obligated to purchase and take gas in excess of the amount which can be transported through the existing trunk line of the Ohio Company as at present constructed from the Ohio River to Sugar Grove, Ohio, under a pressure of 275 lbs. at the Ohio River.

Third. It is understood and agreed between the parties hereto that the United Company will erect or cause to be erected a measuring station at the point of delivery at or near Ravenswood, West Virginia, which shall be equipped with standard Pitot Tubes, or such other measuring device as the parties hereto may desire. All apparatus and equipment to be installed and operated in said station and the character and efficiency thereof shall be satisfactory to the Ohio Company. The Ohio Company shall further pay to the United Company one-half of the cost of erecting and equipping said station.

Said station shall, however, be operated by the United Com-
490 pany but at all times shall be open to the inspection of the Ohio Company and its representatives and the expense of operating and maintaining said station and of checking the operation and registration of the measuring apparatus shall be divided between the parties hereto.

Fourth. The gas deliverable hereunder shall be delivered by the United Company and taken by the Ohio Company at the measuring station hereinbefore provided for and the amount of gas furnished and delivered hereunder at such point of delivery shall be determined as follows:

Readings of the Pitot Tubes or pressure gauges hereinbefore provided for shall be made at regular fifteen-minute intervals through-

ut the twenty-four hours of each day, and duplicate statements of
ie readings shall be mailed daily to the United Company and to
ie Ohio Company. From such readings of the measuring tubes or
evices, the amount of natural gas furnished and delivered each
ionth shall be computed on the basis of ten ounces pressure above
tmospheric according to Boyle's law for the measurement of gas at
arying pressures. This method of measurement is hereby adopted
s the basis of measurement for the purposes of this agreement and
ayments for gas shall be made upon the monthly statements ren-
ered by the United Company to the Ohio Company showing the
otal computation of gas so measured during the month.

Fifth. No dominion or control over the natural gas delivered
nder this contract shall remain in the United Company after the
as passes the points of delivery, nor shall the United Company be
esponsible for or on account of anything that may be done, happen
r arise touching said gas after its delivery; and the Ohio Company
ndertakes and agrees that it will at all times and from time to time
eep free, save harmless and indemnify the United Company from
ny and all manner of claims, suits and damages on account of any
onduct, act or thing touching the said gas after it has left the said
oints of delivery.

191 Sixth. The United Company undertakes and agrees that at all times during the continuance of this contract it will pro-
ide and maintain in good order and condition all such compressor
tations, pipe lines, connections and other facilities as may be re-
uisite in order to enable it to carry out its obligations under this
ontract; and will use all reasonable diligence in developing and ex-
ending its gas leases and properties and in obtaining gas therefrom
or the purpose of fulfilling its obligations hereunder and will, if
nd when required so to do by the Ohio Company, deliver the gas to
e supplied by it hereunder at a pressure equivalent to 300 lbs. at the
nitial point of its 18" trunk line 22 miles East of Ravenswood.

Seventh. It is mutually understood and agreed that where either
arty to this contract fails to perform any obligation herein assumed
y it, and such failure is due to acts of God, or a public enemy,
trikes, riots, injunctions or other interference through legal pro-
eedings, breakage or accident to machinery or lines of pipe, wash-
uts, earthquakes, storms, freezing of lines or wells, sudden partial
r entire failure of gas wells, or to any cause not due to the fault or
neglect of such party, or is caused by the necessity for making re-
pairs or alterations in machinery or lines of pipe, such failure shall
not be deemed to be a violation by such party of its obligations here-
under, but such party shall use due diligence to again put itself in
position to carry out all of the obligations which by the terms hereof
it has assumed.

Eighth. Unless previously terminated pursuant to the provisions
herein contained, or by mutual consent of the parties hereto, this
contract shall continue so long as the United Company produces gas
in marketable quantities from the gas fields owned by it in West

Virginia; but the United Company reserves the right in the ordinary course of its business to sell and dispose of the gas properties now or hereinafter owned or leased by it.

492 The obligations of the United Company to sell and deliver gas hereunder to the Ohio Company at any time are limited to the gas produced by the United Company from gas fields then owned or leased by it and gas purchased by it under contracts then current for the purchase of gas. The obligations of the United Company to sell and deliver gas to the Ohio Company hereunder are subject to its obligations to sell and deliver gas to the Columbia Gas & Electric Company, under a certain contract with the Columbia Gas & Electric Company, dated December 1st, 1909; and the United Company reserves the right to exercise the option to extend said contract therein contained and to exercise the other options given to it by the terms of said contract, and this contract is subject to all obligations incurred by the United Company by reason of the exercise of such options. This contract is further subject to all the existing contracts of the United Company for the sale and delivery of gas to companies other than The Ohio Fuel Supply Company and Hope Natural Gas Company, all of which contracts have been submitted to and are known to The Ohio Fuel Supply Company. This contract is also subject to the right of the United Company to enter into a contract or contracts with the Hope Natural Gas Company for the sale of gas to said Company, pursuant to which contract or contracts the United Company will be obligated to deliver to the Hope Natural Gas Company fifty-one (51) per cent of the amount of gas available for delivery to The Ohio Fuel Supply Company and the Hope Natural Gas Company, in case the requirements of the Hope Natural Gas Company under said contract or contracts equal fifty-one (51) per cent of said amount and said amount is not sufficient to fully supply the requirements of the Hope Natural Gas Company and The Ohio Fuel Supply Company. The United Company also reserves the right to supply all of its domestic consumers in West Virginia and the domestic consumers in West Virginia of all
493 companies whose capital stock, or a majority thereof, is owned by the United Company. The United Company shall have the right to use the gas obtained by it from the sources aforesaid for the purposes above specified and the rights of the Ohio Company hereunder shall be limited to the balance of the gas so obtained.

Ninth. The Ohio Company undertakes and agrees that it will pay to the United Company for natural gas sold and delivered to it by the United Company hereunder as follows:

For all natural gas sold and delivered to it up to and including December 31st, 1910, 8c per 1,000 cu. ft.

For all gas sold and delivered to it on and after January 1st, 1911, a price per 1,000 cu. ft. to be named by the Directors of the United Company; which price, however, the United Company covenants and agrees shall not exceed the cost of natural gas to it at the point of delivery hereinbefore specified, plus twenty-five per cent of such cost,

and shall not at any time prior to October 1st, 1914, exceed 10c per 1,000 cu. ft.

The cost to the United Company, upon which the price of natural gas to be delivered hereunder during each calendar year shall be based, shall be the cost of the gas produced and delivered during the twelve months ending on September 30th of the preceding year.

In reckoning the cost of natural gas to the United Company due consideration and allowance shall be made to cover depreciation of plant and diminution of value of plant and gas territory as gas is drawn from the field and the supply in the ground is reduced.

The United Company, shall, on or before the 1st day of December, in each year, notify the Ohio Company of the price to be charged for gas delivered during the next calendar year. If the Ohio Company claim that the price so fixed is in excess of cost plus twenty-five per cent, the Board of Directors of the United Company, on or before the 1st day of January, shall determine the cost to the United Company of gas produced and delivered hereunder during the year end-
494 ing on the 30th day of the preceding September, and the determination of the Board of Directors of the United Company as to such cost made in good faith shall be final and conclusive.

Tenth. The United Company shall, on or before the tenth day of each month, render a statement and bill to the Ohio Company for the gas purchased and taken during the month next preceding, ascertained in the manner hereinbefore provided for; and the Ohio Company undertakes and agrees that on or before the fifteenth day of each month it will pay to the United Company the amount due to the United Company for all gas so delivered to them during the month next preceding.

Eleventh. It is mutually understood and agreed that in case the Ohio Company shall fail to pay to the United Company any amounts that may be due and payable hereunder to the United Company within twenty (20) days after such amount becomes due and payable, the United Company shall have the right, without cancelling this contract or waiving any of its rights hereunder, to suspend the delivery of natural gas hereunder until all amounts due to it are paid, or, at its option, shall have the right to terminate this contract on thirty (30) days' notice to the Ohio Company without prejudice to its right to collect the amounts due to it at the time of such termination for any gas previously furnished hereunder.

Twelfth. This contract shall be binding upon the parties hereto and their successors and assigns, respectively, provided, however, that in case the gas distributing system now or hereafter owned or controlled by the Ohio Company is broken up, so that parts thereof are vested in different owners, the United Company, at its option, shall have the right to terminate this contract.

Thirteenth. In case the Ohio Company hereafter, during the continuance of this contract, shall desire to purchase from the United Company a larger amount of gas than it is entitled, by the provisions

of the Second Paragraph hereof, to purchase and take,
495 the United Company will sell and deliver to the Ohio Company such larger amount of gas upon the following terms and conditions:

(*a*) The Ohio Company shall give to the United Company at least six (6) months' notice of its desire to take such larger amount of gas.

(*b*) In such notice the increased amount which the Ohio Company desires to take shall be defined in such manner that the amount to be purchased and taken during each year can be ascertained prior to the commencement of such year.

(*c*) The Ohio Company after giving such notice shall be obligated from the dates named therein to purchase and take the amount of gas therein specified and to purchase and take the same during each month in the proportions specified in sub-divisions (*b*) and (*c*) of the Second Paragraph hereof.

(*d*) Insofar as the delivery of such larger amount of gas requires the United Company to construct additional trunk pipe lines from its gas fields to the point of delivery thereof, the Ohio Company shall pay to the United Company an amount equal to the entire cost of constructing and equipping such additional pipe lines; but thereafter, in computing the cost to the United Company of gas sold and delivered to the Ohio Company hereunder, the cost of such additional pipe lines and the depreciation thereof shall not be taken into account. In case the United Company shall cease to deliver gas through any such additional trunk line built and equipped at the entire expense of the Ohio Company, the United Company may at its option purchase said line at its junk value; or, in the event of the United Company electing not to purchase said line, the United Company shall, if required so to do by the Ohio Company, take up and deliver said line to the Ohio Company and the Ohio Company shall re-pay to the United Company the entire cost of so doing.

(*e*) The obligations of the United Company to deliver such larger amount of gas shall be subject to all the limitations set forth in Paragraph Eighth hereof.

The Ohio Company, after giving notice as hereinbefore provided, may from time to time thereafter further increase the amount of gas to be sold and taken hereunder by giving similar notices and upon similar terms and conditions.

Fourteenth. The Ohio Company shall, on or before the 20th day of each month during the continuance of this contract, furnish to the United Company a statement showing the amount of gas ascertained to have been delivered during the previous month to the domestic consumers and the amount ascertained to have been delivered during the previous month to other consumers; and whenever called upon
so to do by the United Company, shall furnish to the
496 United Company a statement showing the cities, towns and villages in which it is supplying gas to the domestic consum-

and the number of domestic consumers in each of said cities, ns and villages and also showing the mains and location of the s other than the domestic consumers' to whom it is supplying

ifteenth. For the purposes of this agreement domestic consumers l be deemed to be all such consumers as according to the system ookkeeping heretofore used by the Ohio Company have been ed as domestic consumers. The domestic consumers supplied by Ohio Company shall be deemed to include domestic consumers n distributing systems now owned by the Ohio Company and the estic consumers upon distributing systems now owned by dis- uting companies (other than The North-Western Ohio Natural Company) of which the Ohio Company owns a majority of the k, and also the domestic consumers in the City of Cincinnati as supplied by the Ohio Company through the Union Gas & Elec- Company of Cincinnati.

ixteenth. The amount of gas supplied by the Ohio Company to estic consumers shall be accurately ascertained by meters or by r appropriate means of measurement, and all the records re- ng to the amount so supplied shall at all times be open to the in- tion of the representatives of the United Company.

eventeenth. The books and records of the United Company in- r as the same in any way relate to the cost of the United Com- y of the gas supplied by it to the Ohio Company hereunder, or he amount of gas available for delivery hereunder to the Ohio pany, shall at all times be open to the inspection of the repre- atives of the Ohio Company.

In witness whereof, the parties hereto have hereunto caused their corporate names to be signed by their respective Vice sidents and their respective seals to be hereunto affixed by their ective Secretaries the day and year first above written.

[Corporate Seal.]

(Signed) UNITED FUEL GAS COMPANY,
By J. W. CRAWFORD,
Vice President.

ttest:
GEO. H. JONES,
Asst. Secretary.

[Corporate Seal.]

THE OHIO FUEL SUPPLY COMPANY,
By F. W. CRAWFORD,
Vice President.

ttest:
H. C. REESER,
Secretary.

498 Charleston, W. Va., July 18, 1918.

Columbia Gas & Electric Company,
Attention Mr. W. Y. Cartwright, Vice President,
Fourth & Plum Sts., Cincinnati, Ohio, and

Ohio Fuel Supply Company,
Attention Mr. L. B. Denning, Assistant to President,
2017 Farmers Bank Bldg., Pittsburgh, Pa.

DEAR SIRS:

As a memorandum of the oral agreement reached on yesterday in pursuance of previous negotiations, with reference to the price to be paid to the United Fuel Gas Company for gas supplied by it to the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, during the calendar year 1918, I would thank you to advise me whether the following is a correct statement of this agreement, and if so, entries covering the matter will be made upon our books:

First. For the first 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company and the first 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, they are to pay respectively the sum of 7c per thousand cubic feet; and for any excess over 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company, or for any excess over 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, during the calendar year 1918, they shall pay at the rate of 11c per thousand cubic feet, the latter being the price, during the year 1918, charged to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company. The foregoing, however, is subject to the qualification that, should the Columbia Gas & Electric Company take during said year less than 10,000,000,000 cubic feet, or should the Ohio Fuel Supply Company take less than 9,800,000,000 cubic feet, then the quantity which each of said Companies shall have the right to purchase
499 at the rate of 7c per thousand shall be limited to an entire quantity, of which the Columbia Gas & Electric Company shall have 51% and the Ohio Fuel Supply Company 49%. That is to say, if one of said Companies shall take less than the quantity above mentioned to which it is entitled at the 7c rate, then the other Company shall be entitled to take, at such 7c rate, either 2% more or 2% less, as the case may be, at the same rate. For all gas taken during said year by the Columbia Gas & Electric Company in excess of that to which it may be entitled under the last mentioned provision at the rate of 7c, but not in excess of the entire quantity of 10,000,000,000 cubic feet in said year, it shall pay at the rate of 10c, and for all gas taken by the Ohio Fuel Supply Company during said year in excess of the quantity to which it may be entitled at the 7c rate, but not in excess of the entire quantity of 9,800,000,000 cubic feet, it shall pay at the rate of 10c.

Second. For the gas taken by each of you during the remainder of this year, you will be billed at the rate of 7c per thousand cubic

eet, subject to such adjustment at the end of the year as may be equired to meet the foregoing stipulation. It is understood that ach of you have been charged for the gas previously taken during his year at the rate of 10c, and a refund will be made to each of ou at the rate of 3c per thousand as soon as this Company has the vailable cash for the purpose. We will make this refund to you atably, so as to give no preference to one Company over the other, ut we do not agree to pay interest to either of you upon the amount be refunded.

Third. In consideration of these concessions, each of you agree to elinquish any claim to the gasoline produced by this Company from he gas sold to each of you during this year, and you concede, for the time being, our right to extract the gasoline before deliver-00 ing to you the gas. This agreement is made only for the year 1918, however, and is not to be used against either of ou as an admission of our right to extract said gasoline in future ears, nor as an admission against us of any right on your part to revent our extraction of said gasoline, or of any right on your part participate in the proceeds of said gasoline.

Fourth: The rights of all parties with reference to the subject atter of the foregoing shall continue to be governed by the pro-isions of the contract of July 31, 1916, except as modified by the greement above recited as applicable to the year 1918.

Very respectfully yours,

(Signed) UNITED FUEL GAS COMPANY,
By R. G. ALTIZER,
Vice President.

R. G. A./A.

Exhibit "Modification of Ohio Fuel Supply Company and olumbia Gas & Electric Company contracts."

01 [Endorsed:] United Fuel Gas Company and The Ohio Fuel Supply Company. Agreement.

02 UNITED FUEL AND HOPE COS.' (1916) W. VA. EX. 39.

(Introduced at Page 1199, Record.)

W. VA. Ex. No. 39. J. B. S.

This agreement, made and entered into this 25th day of August, 916, by and between the United Fuel Gas Company, a West Vir-inia corporation, hereinafter called the "Selling Company," party f the first part, and the Hope Natural Gas Company, also a West irginia corporation, hereinafter called the "Buying Company," arty of the second part;

Witnesseth, Whereas, the "Selling Company" is the owner of natural gas wells and properties in the States of West Virginia, Ohio and Kentucky, and of contracts for the purchase of natural gas from other producers, and has a supply available for a large market, and

Whereas, the "Buying Company" in its business of distributing natural gas in towns and cities in West Virginia and of supplying other companies serving large communities in West Virginia, Ohio and Pennsylvania, requires additional gas for its customers, and

Whereas, the "Selling Company" is willing to construct a 20-inch pipe line from its properties a distance of about 40 miles to a point 2 miles east of Cedarville, in Gilmer County, West Virginia, providing the "Buying Company" will construct its pipe lines to said junction point, and will purchase gas to the extent of one-half of the delivery capacity of said 20-inch line, upon terms that the "Selling Company" may dispose of the remainder through similar contracts,

Now, therefore, in consideration of the premises and of the mutual covenants herein contained, the parties hereto have covenaned and agreed and do hereby covenant and agree as follows:

First. The "Selling Company" agrees to construct said 20-inch pipe line from its gas properties to a junction point about two miles east of Cedarville in Gilmer County, West Virginia, and to
503 construct and equip a gas measuring station at the northern terminus; all of such work is to be commenced promptly upon the execution of this contract and completed so that gas delivery may commence on or before November 1, 1916, but unavoidable delays including the prosecution of such condemnation proceedings as may be necessary in the securing of pipe line easements are excepted. The measuring station shall be known as Cedarville Station and shall be equipped with Venturi or orifice meters or pitot tubes or such other devices of standard type as may be mutually agreed upon, for accurately measuring and recording the pressures and deliveries of gas. The "Selling Company" shall house and employ the men to operate the station, but all employes shall be satisfactory to the "Buying Company," which shall have the right of access at all times to the station and every part of it and its appliances for the purpose of inspecting, checking and testing registrations. One-half of the actual cost of equipping the station for the measurement of gas delivered solely to the "Buying Company" shall be paid by the "Buying Company" which shall also pay monthly one-fourth of the cost and expense of maintaining and operating the entire station. The "Buying Company" shall not be charged any part of the cost of the station site and buildings, but shall pay a rental, during each year of the term of this agreement, equal to 4⅓% of the actual cost of acquiring the station site and constructing the buildings. The "Buying Company" agrees to extend its pipe lines to said "Cedarville Station" and to be prepared to take the gas which it has purchased hereunder, on or before November 1, 1916, like allowance being made for unavoidable delays as aforesaid.

Second. The "Selling Company" agrees to sell and deliver to the "Buying Company," and the "Buying Company" agrees to purchase and take, each year during the continuance of this contract, six billion two hundred million (6,200,000,000) cubic feet of
504 natural gas, and such larger amount each year as may be determined by the further provisions of this agreement, subject always to the amount which the "Selling Company" has available for delivery as defined in the Eighth Article hereof.

Third. The proportion of the total amount deliverable during the year which shall be delivered in each month is set forth in the following table:

Month.	Percentage.
January	12½
February	12
March	11
April	8½
May	7½
June	4¾
July	4½
August	4½
September	4¾
October	7½
November	10½
December	12

The amount deliverable during any month shall be delivered substantially in uniform daily amounts during such month, but the deliveries in any day may, however, vary between 80% and 120% of the amount deliverable for such day ascertained as above provided; and the amount deliverable during any month may be increased or reduced so long as the amount delivered and taken is between 90% and 110% of the amount deliverable during such month determined as above; provided, however, that the full quantity designated to be taken during the calendar year is delivered and taken, and that the amount taken from the first day of each year to the end of October of such year shall be the total amount designated for such ten months' period by the above table, excepting that the variation of 10% shall be allowed from the amount apportioned to the said month of October.

Fourth. It is estimated by the engineers of the parties hereto that the one-half of the capacity of the 20-inch line to be constructed by the "Selling Company" for the purposes of this
505 contract is a twenty-four hour delivery of 25,000,000 cubic feet, plus a variation of 20%, or 30,000,000 cubic feet, being the amount apportioned to a day in January according to the above table. But the "Buying Company" shall have the right to take in January, February and March of the year 1918, notwithstanding the above table of percentages, and the "Selling Company" agrees to deliver to the "Buying Company" if the latter so requires, the one-

half of the capacity of the said 20-inch line at a delivery gauge pressure of 225 pounds to the square inch. The amount so taken by the "Buying Company" in such three months shall be computed as 35½% of the amount deliverable in the year and if the computation makes the yearly amount greater than six billion two hundred million, then the greater amount shall be substituted and be the yearly amount agreed to be delivered and taken each year under this contract. Nothing herein contained however shall prevent the "Selling Company" from furnishing gas for said 20-inch line to such domestic consumers along the route thereof, which the "Selling Company," as a public service corporation, may be under lawful obligation to supply, and the capacity of said line above referred to is intended to mean the amount of gas deliverable through the same after deducting any amount taken by such domestic consumers.

Fifth. In case the "Buying Company" takes from the "Selling Company" and the "Selling Company" delivers in the three months of greatest demand, viz: January, February and March, of any year during the term of this contract, more gas than is apportioned by the above table of percentages to said months, considering the variations annexed to the table a part thereof, then the "Selling Company" shall have the right to require the "Buying Company" to take during the remaining nine months of said calendar year the same rate of excess over the amount fixed by said table for said period. And further, if during the months of January,
506 February and March of any year the "Buying Company" shall be ready, able and willing to take and purchase the quantities specified by said table to be taken during such months, and the "Selling Company" shall fail to deliver the entire amount deliverable during said period, then the "Buying Company" shall have the right at its option to take in the remaining nine months of said year either the volume apportioned to such nine months by the said table, or an amount less by the same ratio as the amount of the deficiency occurring in said months of January, February and March. In case the "Selling Company" fails to deliver six billion two hundred million cubic feet in any year, it is agreed that it shall use diligent effort to increase its deliveries to said amount in the next and succeeding years by the operation of its properties in the manner hereinafter stipulated.

Sixth. The gas sold and to be delivered hereunder shall be delivered by the "Selling Company" at said Cedarville Station at a gauge pressure of not less than 225 pounds to the square inch at the discharge end of the "Selling Company's" 20-inch line, and the "Selling Company" undertakes to compress the gas, if necessary, to meet this pressure obligation. The measurement of the gas in said station shall be computed according to Boyle's Law on a basis of ten ounces above atmospheric pressure, 14.4 pounds per square *square* inch being adopted as atmospheric pressure, and 40 degrees Fahrenheit flowing and 50 degrees Fahrenheit storage, as temperature basis, without further allowance for actual temperature and barometric conditions. Joint monthly tests of the specific gravity

f the gas delivered shall be made by the parties hereto during the rst year of the deliveries, and thereafter the tests shall be quarterly. ests of the meters and measuring apparatus shall be made jointly or by competent authority satisfactory to both parties, as often 07 as either party may desire, the cost of such tests to be borne equally. Daily reports of the readings of the meter or meters hall be mailed to each party and the "Selling Company" shall give omplete and immediate information by telegraph or telephone as to ourly pressures and deliveries when requested by the "Buying Company."

Seventh. At the end of each month the "Selling Company" shall ender to the "Buying Company," a statement, accompanied by eter charts, showing the deliveries of gas during the month, and he "Buying Company" agrees to pay for the gas so delivered, at he following rates and prices per thousand cubic feet for each year ommencing on the day of the first delivery of gas:

10 cents, the first year.
11 cents, the second and third years.
12 cents, the fourth and fifth years.
13 cents, the sixth and seventh years.
14 cents, the eighth and ninth years.
15 cents, during the remainder of the term of this contract.

Said payments shall be made monthly on or before the 20th day of the month for the gas supplied in the preceding month, and shall be by check or voucher drawn to the order of the "Selling Company" and mailed to it at Charleston, West Virginia.

Eighth. The "Selling Company" agrees to use diligent effort during the entire term of this contract to deliver the quantity of gas hereinbefore agreed to be delivered and at the stipulated pressure and for that purpose to construct and operate in good order, condition and manner, adequate compressing stations, to maintain its properties and make such additions of lands, mineral rights, leaseholds and pipe lines as may in its judgment, exercised in good faith, strengthen its gas resources, to drill such wells as may be reasonably necessary and promptly connect the same to its pipe lines by field gathering lines of adequate size, to maintain its wells in proper producing condition and in connection, excepting during necessary repairs, at all times with the pipe line system discharging 508 into said 20-inch line if the wells are located where they may be available for that purpose. But the obligation of the "Selling Company" to deliver gas hereunder shall be limited to the amount of gas currently produced from its gas properties and gas purchased by it from other producers, after deducting from the total amount so purchased and produced (*a*) the quantities of natural gas required to supply at any and all times domestic consumers connected to its own distributing systems not including consumers added by the acquisition of companies or properties not within its present territory of production and distribution, or by extensions of pipe

lines beyond the ordinary and natural growth of its present communities, and (*b*) the following contracts insofar as the "Selling Company" has thereby obligated itself to give any preference or fulfill prior demands on its supply, viz:

(1) A contract with the Ohio Fuel Supply Company, dated the 19th day of September, 1910, as modified by contract dated July 31, 1916; (2) A contract with the Columbia Gas & Electric Company dated January 1, 1913, as modified by contract dated July 31, 1916, and including the option contained in said original contract of renewing same; (3) A contract with the Central Kentucky Natural Gas Company dated November 1, 1912; (4) A contract with the Louisville Gas & Electric Company, dated July 5, 1913; (5) A contract with the Portsmouth Gas Company dated October 25, 1915.

It is understood and agreed, however, that the "Selling Company" shall, in any contract hereafter made by it for the sale of gas other than as above excepted, subordinate the obligations created in any such contract to those assumed under this agreement.

Ninth. The "Selling Company" agrees to use such methods and devices as may be customary or proper at the time for the delivery of said natural gas in a dry and merchantable condition, and the "Buying Company" shall not be required to accept gas of unmerchantable quality. As between the parties hereto, the "Selling Company" shall be in control and possession of said gas and responsible for any damage or injury caused thereby until
509 the same shall have been delivered to the "Buying Company" at said measuring station, after which delivery the latter company shall be deemed to be in exclusive control and possession thereof, and responsible for any such injury or damage. Where either party to this contract without fault or neglect on its part fails to perform any obligation hereunder assumed by it and such failure is due to acts of God or a public enemy, strikes, riots, injunctions or other interference through legal proceedings, breakage or accident to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, sudden, partial or entire failure of gas wells, or any cause beyond its control, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such a failure shall not be deemed to be a violation by such party of its obligation hereunder; but such party shall use due diligence to again put itself forthwith in position to carry out all of the obligations which by the terms hereof it has assumed, and so far as possible shall give the other party notice in writing or by telephone or telegraph of the shutting off of gas to make repairs or alterations.

Tenth. It is understood and agreed that, in case the one-half of the capacity of the 20-inch pipe line of the "Selling Company" at the pressure herein stipulated does not yield a delivery of six billion two hundred million cubic feet per year under the agreed table of percentages, or in case the amount of gas available for delivery as herein defined and limited is or becomes such that the one-half

thereof is less than six billion two hundred million cubic feet per year under the agreed table of percentages, then and in both said events the "Buying Company" shall only be entitled to one-half of the entire amount available for delivery at Cedarville Station, inasmuch as the other one-half has been sold by the "Selling Company" or reserved for sale out of this contract for other purchasers.

510 Eleventh. This contract shall continue from the commencement of the delivery of gas hereunder until the expiration of ten years from and after the 31st day of December, 1916, but it is agreed that in the event a pipe line shall at any time prior to January 1, 1919, be constructed from the gas fields of West Virginia to the City of Baltimore, Maryland, under such circumstances that the "Selling Company" or any company affiliated with it may be able to sell for use in the City of Baltimore natural gas produced or acquired by said "Selling Company," then it shall have the right or option to terminate this agreement by giving one year's written notice to the "Buying Company" so to do. Such notice may be given before the completion of any such pipe line leading to said City of Baltimore, but shall not be effective unless such a line shall be actually built.

Twelfth. This contract and all of its covenants, limitations and conditions shall extend to and be binding upon the successors and assigns of the parties.

In witness whereof, the corporations parties hereto have hereunto caused *there* corporate seals to be affixed and the same to be attested by their respective Presidents or Vice Presidents the day and year first above written.

[Corporate Seal.]

(Signed) UNITED FUEL GAS COMPANY,
By W. Y. CARTWRIGHT,
Vice President.

Attest:
L. A. SEYFFERT,
Asst. Secretary.

[Corporate Seal.]

HOPE NATURAL GAS COMPANY,
By JOHN G. PEW,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

511 STATE OF OHIO,
County of Hamilton, ss:

I, John M. Cronin, a Notary Public for said County of Hamilton, certify that W. Y. Cartwright personally appeared before me in said County, and being by me duly sworn, did depose and say

that he is the Vice President of United Fuel Gas Company, one of the corporations described in the writing above, bearing date the 25th day of August, 1916, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation and that the said writing was signed and sealed by him on behalf of said corporation by its authority duly given. And the said W. Y. Cartwright acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 6th day of Sept., A. D. 1916.

[Notarial Seal.] (Signed) JOHN M. CRONIN,
Notary Public.

My commission expires March 10, 1917.

STATE OF PENNSYLVANIA,
County of Allegheny, ss:

I, Geo. A. Kinley, a Notary Public of said County of Allegheny, do certify that John G. Pew personally appeared before me in my said County, and being by me duly sworn did depose and say that he is the Vice President of Hope Natural Gas Company, one of the corporations described in the writing above, bearing date the 25th day of August, 1916, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to the said writing is the corporate seal of said corporation, and that the said writing was signed and sealed by him on behalf of said corporation by its authority duly given. And the said John G. Pew acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 1st day of September, A. D. 1916.

[Notarial Seal.] (Signed) G. A. KINLEY,
Notary Public.

My commission expires March 25, 1917.

512 Hope Natural Gas Company,

424 Sixth Avenue,

Pittsburgh, Pa.

John G. Pew, Vice President.

August 25, 1916.

Mr. W. Y. Cartwright, Vice Pres.
United Fuel Gas Company,
Cincinnati, Ohio.

MY DEAR MR. CARTWRIGHT:

In connection with the contract, bearing even date, for the delivery of gas by the United Fuel Gas Company to Hope Natural Gas Com-

pany, at Cedarville, West Virginia, there has been some discussion about the possibility of a special tax being placed in some form on the natural gas business.

The contract prices have been made without reference to any tax, other than those collectible under the plan of taxation now in force so that if an additional special tax should be imposed it might place an inequitable burden on one or the other parties. We feel that such a tax is unlikely, but to carry out the intention of our agreement, this letter is written to assure you that the Hope Natural Gas Company agrees with your Company that in case any lawful tax or assessment is hereafter imposed on natural gas in any manner, so as to constitute in effect a charge upon the gas deliverable hereunder, the amount of such tax or assessment or charges shall be borne, one-half by your Company and one-half by the Hope Natural Gas Company insofar as it affects or relates to, or is apportionable to the natural gas deliverable hereunder, and in the event your Company is required to pay the same, one-half of the amount thereof shall be paid by the Hope Natural Gas Company to your Company in addition to the prices for gas fixed by the above mentioned contract.

Please advise if this is satisfactory to your Company.

(Signed) HOPE NATURAL GAS COMPANY,
By JOHN G. PEW,
Vice President.

513 [Endorsed:] United Fuel Gas Company and Hope Natural Gas Company. Agreement.

514 UNITED FUEL AND HOPE COS.' (1920) W. VA. EX. 40.

(Introduced at Page 1199, Record.)

W. VA. EX. No. 40. J. B. S.

This agreement, made and entered into this 1st day of May, 1920, by and between United Fuel Gas Company, a corporation of West Virginia (hereinafter called the "Selling Company"), party of the first part, and Hope Natural Gas Company, also a corporation of West Virginia (hereinafter called the "Buying Company"), party of the second part,

Witnesseth:

Whereas, by a certain written agreement, bearing date the 25th day of August, 1916, between the parties hereto, the "Selling Company" agreed to sell, and the "Buying Company" agreed to purchase, certain quantities of natural gas at a point near Cedarville, in Gilmer County, West Virginia, to which point the "Selling Company" agreed to construct a pipe line from its gas fields for the purposes of said contract, which said pipe line has since been constructed and natural gas delivered under said agreement since early in the year 1917 until the present time; and,

Whereas, the "Selling Company" has not had available for delivery, and has failed to deliver during the past winter, the quantity

of natural gas daily contemplated by said contract to be delivered, and the exhaustion of the natural gas fields operated by the "Selling Company", together with the increased expense of producing natural gas under present circumstances and conditions, will require greater expenditures on the part of the "Selling Company" in the performance of said contract than were contemplated at the date thereof by the parties thereto; and,

Whereas, the "Buying Company," recognizing the existing conditions surrounding the fields operated by the "Selling Company", both as to the depletion of the supply and the increased cost of operations, has consented to a certain increase in the price to be
515 paid for the gas delivered under said original contract from and after this date, with the understanding that the "Selling Company" will enlarge its facilities for the delivery of said gas to the extent hereinafter specified;

Now, therefore, in consideration of the premises, it is agreed between the parties hereto as follows:

First. In lieu of the price specified in said original contract to be paid by the "Buying Company" to the "Selling Company", the "Buying Company" will pay for all gas delivered to it between midnight of April 30, 1920, and April 30, 1922, a price of fourteen (14) cents per thousand cubic feet for the first twelve (12) million cubic feet delivered each day; fifteen (15) cents for the thirteenth million, sixteen (16) cents for the fourteenth million; seventeen (17) cents for the fifteenth million; and eighteen (18) cents for all above fifteen (15) million cubic feet delivered each day. The quantity of gas delivered in any one of the two entire years provided for in this supplemental agreement shall be apportioned, as nearly as practicable, between the several months of the year and with the same allowance for variations between the days of each month, as specified by said original contract, and it is estimated by the parties hereto that the "Selling Company" will be able to deliver to the "Buying Company" during the winter months of each of said two years, an average of at least twenty (20) million cubic feet of gas daily.

Second. In consideration of the foregoing, the "Selling Company" expressly covenants and agrees that it will enlarge its principal compressor station used in the delivery of the gas sold under this contract (known as its "Cobb Station"), by adding additional units
516 thereto of approximately twenty-seven hundred (2,700) horsepower, the same to be completed by November 1, 1920, unless delayed by unavoidable accident or other circumstances over which it has no control, and will also enlarge its auxiliary compressor station known as "Buff Lick" station, located south of said Cobb station, by adding additional units thereto amounting to four hundred and eighty-five (485) horsepower, to be completed within the same time and subject to the same reservations as those mentioned above in reference to Cobb station; and further, that it will complete, by January 1, 1921, at least twenty-five (25) additional wells in search of gas, and connect the same with the pipe line system through which

s is delivered to the "Buying Company" by the "Selling Company", being understood that said pipe line system is also used for the pplying of gas to others, as recited in said original contract.

Third. It is further agreed that the said written agreement bear- g date the 25th day of August, 1916, between the parties hereto, and shall remain in full force and effect in all of its terms, pro- sions, conditions and stipulations for the full term thereof, ex- pting as herein expressly modified.

Witness the common and corporate seals of the corporations parties reto, duly affixed and attested by their proper officers, the day d year first above written.

[Corporate Seal.]

(Signed) UNITED FUEL GAS COMPANY,
By R. G. ALTIZER,
Vice President.

Attest:
W. W. WOLFE,
Asst. Secretary.

[Corporate Seal.]

(Signed) HOPE NATURAL GAS COMPANY,
By T. O. SULLIVAN,
Vice President.

Attest:
CHRISTY PAYNE,
Secretary.

7 & 518 STATE OF WEST VIRGINIA,
Kanawha County, to wit:

I, D. C. Jay, a Notary Public for said County, do certify that R. Altizer personally appeared before me in my said County, and ng by me duly sworn, did depose and say that he is Vice Presi- nt of United Fuel Gas Company, one of the corporations described the writing hereto annexed, bearing date the 1st day of May, 1920, thorized by said corporation to execute and acknowledge deeds and er writings of said corporation, and that the seal affixed to said iting is the corporate seal of said corporation, and that said writ- g was signed and sealed by him in behalf of said corporation by authority duly given. And the said R. G. Altizer acknowledged e said writing to be the act and deed of said corporation.

Given under my hand this 25th day of May, 1920.

My commission expires March 2d, 1925.

(Signed) D. C. JAY,
Notary Public.

STATE OF PENNSYLVANIA,
Allegheny County, To wit:

I, Geo. A. Kinley, a Notary Public for said County, do certify that T. O. Sullivan personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is Vice President of Hope Natural Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 1st day of May, 1920, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said T. O. Sullivan acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 29th day of June, 1920.

My commission expires March 25, 1921.

[Notarial Seal.] (Signed) G. A. KINLEY,
Notary Public.

519 UNITED FUEL AND PGH. COS.' (1916) W. VA. EX. 41.

(Introduced at Page 1199, Record.)

W. VA. EX. No. 41. J. B. S.

This agreement, made this 25th day of August, A. D. 1916, by and between the United Fuel Gas Company, a corporation of West Virginia, hereinafter called "United Company," party of the first part, and the Pittsburgh and West Virginia Gas Company, also a West Virginia Corporation, hereinafter called "Pittsburgh Company", party of the second part, witnesseth:

That, in consideration of the mutual covenants and agreements herein contained, the United Company agrees to sell and deliver and the Pittsburgh Company agrees to purchase and accept certain quantities of natural gas produced or acquired by said first mentioned Company, and the parties hereto have further agreed and do hereby agree as follows:

First. United Company agrees to construct a pipe line twenty (20) inches in outside diameter, leading from the lands operated by it, a distance of about forty (40) miles to a point on Cedar Creek, County of Gilmer and State of West Virginia, being approximately two miles in an easterly direction from the village of Cedarville in said County. At the northern terminus of said line the said United Company will construct and install the necessary buildings, meters and appliances for maintaining a station for the measurement of the gas hereby agreed to be sold. The work of

laying said pipe line and of constructing said measuring station shall be commenced promptly upon the execution of this agreement and shall be completed by November 1st, 1916, or as early thereafter as is reasonably possible, allowance being made for any necessary delay in acquiring right of way by condemnation. Pittsburgh Company agrees to build at the same time, with like allowance for necessary delay, such pipe line as may be required from its present system of lines to said measuring station, for the purpose of receiving and transporting therefrom the gas agreed to be purchased by it hereunder. The delivery of gas under this agreement shall commence immediately upon the completion of said lines and station.

520 Second. United Company shall purchase or acquire the necessary land and buildings, including two dwelling houses for employees, for maintaining said measuring station in a suitable manner, and shall also purchase and install the necessary meters, appliances and equipment for the proper operation of said station. The said land and buildings shall be the sole property of the United Company, but during the term of this agreement it shall be used only for the purposes of measuring and delivering gas to the Pittsburgh Company and to the Hope Natural Gas Company, under an agreement of even date herewith.

The work of measuring the gas delivered under this agreement shall be performed by the United Company, which Company shall have entire and unrestricted charge of said measuring station and also of the men employed thereat, but all such employees shall be satisfactory to Pittsburgh Company. A duly authorized representative of Pittsburgh Company shall have access to every part of said measuring station, including its records, at any time, for the purpose of observation and inspection, it being the intention of this agreement that United Company shall operate said measuring station in a manner satisfactory to Pittsburgh Company.

Pittsburgh Company agrees to pay one-half (½) of the actual cost of equipping said station with meters, measuring devices and appliances (other than land and buildings) installed for measuring the gas delivered solely to said Pittsburg Company, and one-fourth (¼) the cost and expense of maintaining and operating said entire station for the measurement and delivery of gas to both the Pittsburgh Company and the Hope Natural Gas Company.

Pittsburgh Company further agrees to pay to United Company, as an annual rental, during each of the ten (10) years in which this agreement is to remain in force, for the joint use of said ground and buildings, a sum equal to fo-r and one-third (4⅓) per centum of the actual cost and expense of acquiring said land and
521 constructing said buildings. The first annual rental shall be due as soon after the completion of said station as gas is delivered, and subsequent payments annually thereafter.

The amount due from Pittsburgh Company as its share of the cost of acquiring and installing said meters, measuring devices and appliances shall be paid promptly after the installation thereof,

and the amount due from Pittsburgh Company as its share of the cost of operating and maintaining said station shall be paid monthly upon accurate statements thereof to be furnished to it by United Company.

Third. United Company undertakes and agrees (subject to the qualifications hereinafter mentioned) to sell and deliver to Pittsburgh Company at said measuring station, and Pittsburgh Company undertakes and agrees to purchase and to take from United Company during each year, for a period of ten (10) years following the date that actual delivery of gas commences under this agreement, six billion two hundred million (6,200,000,000) cubic feet of natural gas, to be delivered during the several months of each year in the proportions hereinafter specified, provided, however, that United Company shall not be obligated to deliver more than its available supply as hereinafter set forth.

Fourth. The gas so sold shall be delivered into the pipe line of Pittsburgh Company, against the varying pressures therein, so far as is possible without interruption of the flow, in amounts which shall continue steadily in the same volume throughout every hour of the day, and also continue steadily in the same volume throughout every day of each month, but the proportionate part of said entire amount to be taken during each calendar month is hereby fixed as follows:

Month.	Per cent.
November	10½
December	12
January	12½
522 February	12
March	11
April	8½
May	7½
June	4¾
July	4½
August	4½
September	4¾
October	7½

The amount deliverable during any month shall be delivered substantially in uniform daily amounts during such month, but the deliveries in any day may, however, vary between 80% and 120% of the amount deliverable for such day, ascertained as above provided, and the amount deliverable during any month may be increased or reduced so long as the amount delivered and taken is between 90% and 110% of the amount deliverable during such month, determined as above, provided, however, that the full quantity designated to be taken during the calendar year is delivered and taken, and that the amount taken from the first day of each year to the end of October of such year shall be the total amount designated for such ten months' period by the above table, excepting

that the variation of 10% shall be allowed from the amount apportioned to the said month of October.

Fifth. United Company shall take care of all wells and control all water that may accumulate therein and also in the lines leading from said wells, and shall keep the twenty (20) inch pipe line hereinbefore mentioned free from water, so that the gas may be delivered at the meter in a dry and marketable condition, and Pittsburgh Company reserves the right to refuse to accept all gas that is not in a dry and marketable condition.

United Company shall have dominion and control over the natural gas delivered under this agreement until after the said gas passes through the meter and into the pipe line of Pittsburgh Company, and United Company shall be responsible for and on account of anything that may be done, happen to or arise, touching said gas until it is delivered into the pipe line of Pittsburgh
523 Company, and Pittsburgh Company undertakes and agrees that it will at all times and from time to time save harmless the United Company from any and all manner of claims, suits and damages on account of any conduct, act or thing touching said gas after it has passed into the pipe line of Pittsburgh Company.

Sixth. While this agreement does not obligate United Company to deliver nor Pittsburgh Company to purchase more gas than that hereinbefore specified, yet if by mutual agreement United Company shall deliver and Pittsburgh Company shall take during January, February and March of any year more than the combined amount agreed to be delivered and taken during said three months, or if Pittsburgh Company shall be ready and willing to take, but United Fuel Company shall be unable to deliver during said three months the combined quantity hereinbefore specified to be delivered, then in either such event the amount to be taken in the remaining nine months of each calendar year shall be determined as follows: The total quantity to be taken during each calendar year shall be increased or diminished from that hereinbefore specified so that the amount actually taken during said three months of January, February and March shall constitute thirty-five and one-half (35½) per cent of the total quantity to be taken during each calendar year and the remaining sixty-four and one-half (64½) per cent of such total quantity shall be taken during the remaining nine months in the percentages of such entire quantity for each of said nine months as are specified in the table embraced in the fourth paragraph hereof.

Seventh. Said gas shall be compressed if necessary by United Company and shall be delivered by United Company at said measuring station at a pressure of not less than two hundred and twenty-five (225) pounds to the square inch, and shall be measured at said station by means of Venturi Meters or other meters to be mutually agreed upon, and the quantity thereof shall be
524 computed on a basis of ten (10) ounces above the atmospheric pressure of fourteen and four-tenths (14.4) pounds

per square inch, according to Boyle's Law for the measurement of gas at varying pressures, on a temperature basis of forty (40) degrees Fahrenheit flowing and fifty (50) degrees Fahrenheit storage, without further allowance for actual temperatures and barometric conditions.

The specific gravity of said gas shall be determined for the purpose of measurement by monthly tests to be made jointly by the parties hereto during the first year this agreement is in force, and thereafter quarterly if the variation is found to be small.

If either party challenges the accuracy of any meter in use under this agreement and desires to have the meter tested or repaired, such tests or repairs as are necessary shall be made by a competent authority, to be mutually agreed upon, in the presence and to the satisfaction of the party desiring the same to be made, and the cost of such testing and repairing shall be borne equally by the parties hereto.

United Company shall give complete information when requested in regard to the hourly pressures and deliveries, shall mail to Pittsburgh Company daily reports of pressures and deliveries, and shall on or before the tenth day of each month render to Pittsburgh Company statements, accompanied by meter charts, showing the actual amount of gas delivered during each day of the next preceding calendar month, and Pittsburgh Company agrees to pay for all gas so delivered at the following rates and prices:

For all gas delivered during the first year after the actual commencement of deliveries, at the rate of ten cents per thousand cubic feet.

For all gas delivered during the second and third years after the actual commencement of deliveries, at the rate of eleven cents per thousand cubic feet.

525 For all gas delivered during the fourth and fifth years after the actual commencement of deliveries, at the rate of twelve cents per thousand cubic feet.

For all gas delivered during the eighth and ninth years after the actual commencemnt of deliveries, at the rate of fourteen (14) cents per thousand (1,000) cubic feet.

For all gas delivered during the tenth year after the actual commencement of deliveries, at the rate of fifteen (15) cents per thousand (1,000) cubic feet.

The amount due for gas supplied during each month shall be paid on or before the twentieth (20) day of the following month, and shall be paid by check or voucher drawn to the order of the United Fuel Gas Company and mailed to it at Charleston, West Virginia.

Eighth. It is further understood and agreed that in case any lawful tax or assessment is hereafter imposed upon natural gas in any manner so as to constitute, in effect, a charge upon gas delivered hereunder, the amount of said tax or assessment shall be borne, one-half (½) by United Company and one-half (½) by Pittsburgh Company, in so far as it affects, relates to or is apportionable to the amount of gas delivered hereunder, and in the event that United

Company is required to pay the same, one-half (½) of the amount thereof shall be refunded by Pittsburgh Company to United Company, in addition to the prices hereinbefore set forth.

Ninth. United Company covenants that it will use diligence in the laying and maintaining of pipe lines and in the operating of the lands under its control during the term of this agreement for the purpose of enabling itself to deliver the amount of gas to Pittsburgh Company hereinbefore agreed by it to be delivered, but it is understood and agreed that the obligations of United Company hereunder are limited to the amount of gas produced by it from lands upon which it shall have the right to operate during the term of this agreement and to the gas which it may obtain by purchase from others, and further that its obligations here-
526 under shall be subordinate, and shall be subordinate only, to those previously assumed, including the following:

(*a*) Supplying consumers connected at any time directly to its distributing systems in West Virginia, Ohio and Kentucky, which obligation shall not include consumers hereafter obtained by the purchase, absorption or merger of any other companies or lines outside of its present territory or by the extraordinary extensions of the lines of said Company, but only the ordinary growth and accretions of said Company in its present territory.

(*b*) The performance of a contract for the sale of gas to the Ohio Fuel Supply Company, dated September 19th, 1910, as modified by an agreement dated July 31st, 1916.

(*c*) The performance of a contract for the delivery of gas to the Columbia Gas & Electric Company, dated January 1st, 1913, as modified by an agreement dated July 31, 1916, including the option of renewing the same contained in said original contract.

(*d*) The performance of a contract for the delivery of gas to the Central Kentucky Natural Gas Company, dated November 1st, 1912.

(*e*) The performance of a contract for the delivery of gas to the Louisville Gas & Electric Company, dated July 5th, 1913.

(*f*) The performance of a contract for the delivery of gas to the Portsmouth Gas Company, dated October 25th, 1915.

(Copies of the foregoing contracts, certified to be correct by the Secretary of the United Company, have been this day filed with the Secretary of the Pittsburgh Company).

Tenth. It is further agreed and understood that in the event a pipe line shall at any time prior to January 1st, 1919 be constructed from the gas fields of West Virginia to the City of Baltimore, Maryland, under such circumstances that the United Company or any

company affiliated with it may be able to sell for use in the said City of Baltimore natural gas produced or acquired by said United Company, then it shall have the right or option to terminate this agreement by giving one year's written notice of its intention so to do to Pittsburgh Company. Such notice may be given before the completion of any such pipe line leading to the said City of Baltimore, but shall not be effective unless such a line shall be actually built.

Eleventh. It is understood that contemporaneously with the execution hereof, United Company has entered into a written
527 agreement with the Hope Natural Gas Company, a West Virginia corporation, for the delivery to said last mentioned company of an equal amount of gas to that to be delivered hereunder, and that said pipe line twenty (20) inches in diameter, hereinbefore agreed to be constructed by United Company to said measuring station near Cedarville, is to be used for the transportation to said station of the gas agreed to be sold both to said Pittsburgh Company and to said Hope Natural Gas Company.

It is further understood and agreed that in the event United Company shall not be able to deliver at said measuring station the entire amount agreed to be delivered, together with a like amount to said Hope Natural Gas Company, then the entire amount available for delivery shall be divided equally between Pittsburgh Company and Hope Natural Gas Company unless said companies shall direct a different division thereof as between themselves, it being understood, however, that United Company shall, in any contract hereafter made by it for the sale of gas, other than with consumers supplied directly from its lines, subordinate the obligations created in any such contract to those assumed under this agreement.

It is further understood and agreed that should United Company desire to deliver and sell at said measuring station a greater quantity of gas than that hereinbefore mentioned and intended to be delivered both to Pittsburgh Company and to Hope Natural Gas Company, and in the further event that both Pittsburgh Company and Hope Natural Gas Company shall desire to take and purchase quantities in excess of that agreed to be taken and purchased by them respectively, then Pittsburgh Company shall have the right at its option to purchase one-half (½) of said additional quantity, on equal terms with said Hope Natural Gas Company.

Twelfth. It is agreed that United Company shall have the
528 right to extract from the natural gas sold under this agreement, previous to its delivery to Pittsburgh Company, the gasoline obtainable therefrom by what is known as the "Absorption System" or any other system now or hereafter in common use

Thirteenth. All the terms and conditions, stipulations, covenants and agreements herein contained shall extend to and be binding upon the successors and assigns of the parties hereto.

In witness whereof, the parties hereto have caused their respective porate seals to be hereto affixed, and duly attested, the day and r first above written.

[Corporate Seal.]

(Signed) UNITED FUEL GAS COMPANY,
By W. Y. CARTWRIGHT,
Vice President.

Attest:
L. A. SEYFFERT,
Asst. Secretary.

[Corporate Seal.]

PITTSBURGH AND WEST VIRGINIA GAS COMPANY,
By J. F. GUFFEY,
President.

Attest:
W. B. CARSON,
Secretary.

ATE OF OHIO,
County of Hamilton, To wit:

I, John M. Cronin, a Notary Public of said County of Hamilton, certify that W. Y. Cartwright personally appeared before me my said County, and being by me duly sworn according to law, l depose and say that he is the Vice President of the United Fuel s Company, one of the corporations described in the foregoing iting, bearing date the 25th day of August, 1916, authorized said corporation to execute and acknowledge deeds and other itings of said corporation, that the seal affixed to said writing the corporate seal of said corporation, and that said writing was med and sealed by him, in behalf of said corporation, by its thority duly given; and the said W. Y. Cartwright acknowledged e said writing to be the act and deed of said corporation.
Given under my hand and notarial seal this 16th day of August, D. 1916.

[Notarial Seal.] (Signed) JOHN M. CRONIN,
Notary Public.

My commission expires: March 10, 1917.

9 STATE OF PENNSYLVANIA,
County of Allegheny, To wit:

I, H. K. Bragdon, a Notary Public of said County of Allegheny, certify that J. F. Guffey personally appeared before me in my id County, and being by me duly sworn according to law, did pose and say that he is the President of the Pittsburgh and West rginia Gas Company, one of the corporations described in the regoing writing, bearing date the 25" day of August, 1916, au-

thorized by said corporation to execute and acknowledge deeds and other writings of said corporation, that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him, in behalf of said corporation, by its authority duly given; and the said J. F. Guffey acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and notarial seal, this 29″ day of August, A. D. 1916.

[Notarial Seal.] (Signed) H. K. BRAGDON,
Notary Public.

My commission expires: February 21st, 1919.

530 [Endorsed:] United Fuel Gas Company and Pittsburgh and West Virginia Gas Company. Agreement.

531 UNITED FUEL AND PGH. CO.'S (1920) W. VA. EX. 42.

(Introduced at Page 1199, Record.)

W. VA. EX. No. 42. J. B. S.

This agreement, made and entered into this 1st day of May, 1920, by and between United Fuel Gas Company, a corporation of West Virginia (hereinafter called the "Selling Company"), party of the first part, and Pittsburgh & West Virginia Gas Company, also a corporation of West Virginia (hereinafter called the "Buying Company"), party of the second part,

Witnesseth:

Whereas, by a certain written agreement, bearing date the 25th day of August, 1916, between the parties hereto, the "Selling Company" agreed to sell, and the "Buying Company" agreed to purchase, certain quantities of natural gas at a point near Cedarville, in Gilmer County, West Virginia, to which point the "Selling Company" agreed to construct a pipe line from its gas fields for the purposes of said contract, which said pipe line has since been constructed and natural gas delivered under said agreement since early in the year 1917 until the present time; and,

Whereas, the "Selling Company" has not had available for delivery, and has failed to deliver during the past winter, the quantity of natural gas daily contemplated by said contract to be delivered, and the exhaustion of the natural gas fields operated by the "Selling Company", together with the increased expense of producing natural gas under present circumstances and conditions, will require greater expenditures on the part of the "Selling Company" in the performance of said contract than were contemplated at the date thereof by the parties thereto; and,

Whereas, the "Buying Company", recognizing the existing conditions surrounding the fields operated by the "Selling Company", both as to the depletion of the supply and the increased cost of

operations, has consented to a certain increase in the price
2 to be paid for the gas delivered under said original contract
from and after this date, with the understanding that the
elling Company" will enlarge its facilities for the delivery of said
s to the extent hereinafter specified;
Now, therefore, in consideration of the premises, it is agreed be-
een the parties hereto as follows:

First. In lieu of the price specified in said original contract to be
id by the "Buying Company" to the "Selling Company", the
uying Company" will pay for all gas delivered to it between mid-
ght of April 30, 1920, and April 30, 1922, a price of fourteen
4) cents per thousand cubic feet for the first twelve (12) million
bic feet delivered each day; fifteen (15) cents for the thirteenth
llion; sixteen (16) cents for the fourteenth million; seventeen
7) cents for the fifteenth million; and eighteen (18) cents for all
ove fifteen (15) million cubic feet delivered each day. The
antity of gas delivered in any one of the two entire years pro-
ded for in this supplemental agreement shall be apportioned, as
arly as practicable, between the several months of the year and
th the same allowance for variations between the days of each
onth, as specified by said original contract, and it is estimated by
e parties hereto that the "Selling Company" will be able to deliver
the "Buying Company", during the winter months of each of said
o years, an average of at least twenty (20) million cubic feet of
s daily.

Second. In consideration of the foregoing, the "Selling Company"
pressely covenants and agrees that it will enlarge its principal
mpressor station used in the delivery of the gas sold under
this contract (known as its "Cobb Station"), by adding ad-
33 ditional units thereto of approximately twenty-seven hundred
(2,700) horsepower, the same to be completed by November
1920, unless delayed by unavoidable accident or other circum-
ances over which it has no control, and will also enlarge its aux-
iary compressor staton known as "Buff Lick" station, located
uth of said Cobb station, by adding additional units thereto
mounting to four hundred and eighty-five (485) horsepower, to be
mpleted within the same time and subject to the same reserva-
ons as those mentioned above in reference to Cobb station; and
rther, that it will complete, by January 1, 1921, at least twenty-
ve (25) additional wells in search of gas, and connect the same
ith the pipe line system through which gas is delivered to the
Buying Company" by the "Selling Company", it being understood
hat said pipe line system is also used for the supplying of gas to
thers, as recited in said original contract.

Third. It is further agreed that the said written agreement bear-
ng date the 25th day of August, 1916, between the parties hereto,
s and shall remain in full force and effect in all of its terms, pro-
isions, conditions and stipulations for the full term thereof, except-
ng as herein expressly modified.

Witness the common and corporate seals of the corporations parties hereto, duly affixed and attested by their proper officers, the day and year first above written.

[Corporate Seal.] (Signed) UNITED FUEL GAS COMPANY,
By R. G. ALTIZER,
Vice-President.

Attest:
W. W. WOLFE,
Asst. Secretary.

[Corporate Seal.] PITTSBURGH & WEST VIRGINIA GAS COMPANY,
By A. W. THOMPSON,
President.

Attest:
W. B. CARSON,
Secretary.

534 & 535 STATE OF WEST VIRGINIA,
Kanawha County, To wit:

I, D. C. Jay, a Notary Public for said County, do certify that R. G. Altizer personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is Vice President of United Fuel Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 1st day of May, 1920, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said R. G. Altizer acknowledged the said writing to be the act and deed of said corporation.

Given under my hand this 25th day of May, 1920.

My commission expires March 2d, 1925.

(Signed) D. C. JAY,
Notary Public.

STATE OF PENNSYLVANIA,
Allegheny County, to wit:

I, John L. Hauser, a Notary Public for said County, do certify that W. B. Carson personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is Secretary of Pittsburgh & West Virginia Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 1st day of May, 1920, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said W.

arson acknowledged the said writing to be the act and deed of corporation.

iven under my hand and official seal this 17th day of July, 1920.

y commission expires end next session of Senate.

[Notarial Seal.] (Signed) JOHN L. HAUSER,
Notary Public.

COLUMBIA AND UNITED FUEL COS.' W. VA. EX. 43.

(Introduced at Page 1199, Record.)

W. VA. EX. No. 43. J. B. S.

reement made this 1st day of January, 1913, between the Columia Gas & Electric Company, hereinafter called the "Columbia Company," and the United Fuel Gas Company, hereinafter called he "United Company," corporations organized under the laws of Vest Virginia, modifying the agreement between the same parties lated the 1st day of December, 1909.

st. Whereas, by agreement dated the 1st day of December, 1909, Columbia Company agreed to purchase and take from the United mpany, and the United Company agreed to sell and deliver ural gas in the amounts and at the prices and upon the terms d conditions in said agreement stated; and

Whereas, contemporaneously with the said agreement dated the day of December, 1909, the Columbia Company sub-leased to the ited Company a gas compressing station known as Kenova Sta-n, located on the Big Sandy River in Wayne County, West Virnia, and an eighteen inch pipe line extending therefrom eastwardly Balls Gap in Ceredo District, Wayne County, West Virginia, with line branching towards the Griffithsville gas field, and a line anching towards Dunlow, West Virginia, in said sub-lease and in id agreement more particularly described, and said agreement conined various provisions relating to the operation of said compressg station and said pipe lines by the United Company for the transrtation of the gas produced by each of the parties; and

Whereas, the Columbia Company has not succeeded in marketing atural gas in the volume and to the extent anticipated, and the olumbia Company has requested the United Company to make conssions in the terms of the said agreement dated the 1st day of Deember, 1909, in order that the Columbia Company may increase its eliveries of natural gas and may otherwise enlarge its markets and profitably extend its business; and

37 Whereas, pursuant to said request the United Company has agreed with the Columbia Company to modify the said agreeent dated the 1st day of December, 1909, and contemporaneously ith the execution of this agreement has surrendered to the Columbia ompany the sub-lease above referred to, and possession of the com-

pressing station and pipe lines covered thereby to the end that the Columbia Company shall operate the same and transport therein and thereby the gas herein agreed to be delivered to it, as well as the gas produced from its own properties:

Now, this agreement witnesseth: That the agreement between the parties hereto dated the 1st day of December, 1909, has been and the same hereby is modified as of January 1st, 1913, so that all the terms, provisions and conditions therein contained have been and the same hereby are superseded by the terms, provisions and conditions hereinafter set forth.

2nd. The Columbia Company agrees to purchase and take from the United Company, and the United Company agrees to sell and deliver to the Columbia Company subject to the provisions of the 11th Paragraph hereof, natural gas in the amounts and at the prices following, viz:

For the year ending—	Cubic feet of natural gas.	Price per one thousand cubic feet.
December 31, 1913	Six billion	8 cents.
December 31, 1914	Six billion	8½ cents.
December 31, 1915	Six and one-half billion	9 cents.
December 31, 1916	Six and one-half billion	10 cents.
December 31, 1917	Seven billion	11 cents.
December 31, 1918	Eight billion	12½ cents.
December 31, 1919	Ten billion	12½ cents.

3rd. This agreement shall terminate on December 31, 1919, unless the United Company on or prior to December 31, 1917, shall give written notice to the Columbia Company of its election to continue the same until December 31, 1924; in case the United Company gives such notice of its election to continue this contract until December 31, 1924, then the same shall terminate on December 31,
538 1924, unless the United Company on or prior to December 31, 1922, shall give written notice to the Columbia Company of its election to continue the contract until December 31, 1929, in which event this contract shall terminate on that date. In case of the exercise of said election and the continuance of this agreement until December 31, 1924, the United Company shall sell and deliver and the Columbia Company shall purchase and take during each year from December 31, 1919, until December 31, 1924, subject to the provisions of the Eleventh Paragraph hereof, Ten Billion (10,000,000,000) cubic feet of natural gas at twelve and one-half (12½) cents per one thousand cubic feet; and in case of the exercise of said election and the continuance of this agreement from December 31st, 1924, to December 31st, 1929, then the United Company shall sell and deliver and the Columbia Company purchase and take during each year from December 31st, 1924, until December 31st, 1929, subject to the provisions of the Eleventh Paragraph hereof, Ten Billion (10,000,000,000) cubic feet of natural gas at twelve and one-half (12½) cents per one thousand cubic feet.

4th. The said natural gas shall be delivered at the existing Pitot
ube measuring station at Balls Gap, West Virginia, and at such
ther points of delivery as may be hereafter agreed upon.
The Columbia Company shall have the right to require that the
ressure at which said gas is to be delivered is such as to produce and
aintain when said gas is commingled with gas which the Columbia
ompany takes from other sources into its said eighteen inch pipe
ne, an efficient working pressure of not less than sixty pounds to
he square inch upon said line, gauged at the intake side of the high
tage compressors of said Kenova station, but the Columbia Company
agrees that it will not produce and maintain at any time on
39 its line or lines at any delivery point under this contract, a
pressure higher than is necessary to produce and maintain
n said eighteen inch pipe line at said intake side of the high stage
ompressors of said compressing station, said pressure of sixty pounds
o the square inch if any higher pressure prevents the United Com-
any from delivering any part of the gas which it has herein under-
aken to deliver.
It is further agreed that if at any time the supply and pressure of
as which the Columbia Company is able to secure at natural well
ressure from sources other than United Company, with the addition
f such supply as the United Company is able to deliver hereunder
t natural well pressure, becomes insufficient without additional
neans of compression to produce and maintain the sixty pounds
ressure at the intake side of the high stage compressors of said
Kenova Station, the Columbia Company shall install at and in con-
nection with the said compressing station such necessary sub-pump-
ng stations or low stage compressors as will enable it thereby to
roduce and maintain the required efficient working pressure on said
ighteen inch line at the intake side of its high stage compressors at
aid Kenova Station, and the gas to be taken from the United Com-
pany shall be taken by means of such sub-pumping stations or low
tage compressors to be installed by the Columbia Company, and
nder the same pressure conditions as the gas which the Columbia
Company takes from other sources.
It is agreed that for the purpose of determining whether or not
the United Company is delivering gas at the agreed delivery pres-
sure, the compressors in Kenova Station shall be operated only to
the extent reasonably necessary to handle the amount of gas which
the United Company is currently required to deliver, in addition to
the amount of gas which the Columbia Company at the same time
is marketing from other sources.

540 5th. If any measuring stations shall hereafter be constructed
they shall be constructed at the joint expense of the parties
hereto, each party paying one-half of such construction. The ex-
pense of operating and maintaining the measuring station at Balls
Gap, and the additional measuring stations, if any are hereafter con-
structed, shall be borne jointly by the parties hereto, each paying
one-half thereof, but the United Company shall be in charge of such
stations and shall appoint the operatives, but the operatives shall be
satisfactory to the Columbia Company.

6th. Readings of the Pitot tubes shall be made at regular fifteen minute intervals throughout the twenty-four hours of each day, and duplicate statements of the readings shall be mailed daily to the Columbia Company and to the United Company; from such readings of the measuring tubes the amount of natural gas furnished and delivered each month shall be computed on the basis of eight ounces pressure above atmospheric, according to Boyle's law for the measurement of gas at varying pressures; 14.4 pounds per square inch is adopted as atmospheric pressure for the purpose of this contract, and no other allowance shall be made for temperature or barometric conditions.

7th. The United Company on or before the 10th day of each month shall send to the Columbia Company a statement and bill for the the amount of gas delivered during the preceding month, ascertained as above provided, and the Columbia Company shall pay the United Company the stipulated price therefor within ten days after the delivery of such statement.

8th. During the years 1913 to 1915, inclusive, the amounts deliverable in each year shall be delivered in the different months of the year according to the following table:

Month.	Per cent.
January	13½
February	13½
March	12
April	7
May	6½
June	4½
July	4
August	4
September	5
October	7½
November	9½
December	13

During the years 1916 to 1919, inclusive, the amount deliverable in each year shall be delivered during the different months of the according to the following table of percentages:

Month.	Per cent.
January	12½
February	12½
March	11
April	8½
May	7
June	5
July	4½
August	4½
September	5
October	8
November	9½
December	12

In case the agreement is continued after December 31st, 1919, the amount of gas deliverable in such year thereafter, shall be delivered in the different months of the year according to the table of percentages for the years 1916 to 1919 inclusive. The amount deliverable during any month shall be delivered substantially in uniform daily amounts during such month, but the deliveries in any day may, however, vary between 80% and 120% of the amount deliverable for such day ascertained as above provided. Beginning with the 31st day of December, 1915, and thereafter during the continuance of this contract, the Columbia Company shall have the right to reduce or to increase the amount to be delivered and taken during any month so long as the amount delivered and taken is between 90% and 110% of the amount deliverable during such month determined as above, provided, however, that during each year ending December 31st, the full quantity designated as the amount to
542 be delivered and taken for any year, is delivered and taken, and provided also that during each six months' period ending October 31st, 35% of the amount designated as the amount to be delivered and taken in the same calendar year, is delivered and taken, notwithstanding any variation that there may have been in the quantity taken in any one month of such period.

9th. No dominion or control over the natural gas delivered under this contract shall remain in the United Company after the gas passes the point of delivery, nor shall United Company be responsible for or on account of anything that may be done, happen or arise touching said gas thereafter; and the Columbia Company undertakes and agrees that it will at all times and from time to time keep free, save harmless and indemnify United Company from any and all manner of claims, suits, and damages on account of any accident, act or thing touching said gas after it has left the said point of delivery.

10th. United Company undertakes and agrees that it will use reasonable diligence in developing and drilling on gas leases and property from time to time controlled by it for the purpose of fulfilling its obligations hereunder and enabling it to deliver the amounts of gas which in and by the terms hereof it undertakes and agrees to deliver, and for such purposes will build, provide, maintain and operate in good order, condition and manner such compressor stations, gathering pipe lines, connections and other facilities as may be necessary therefor, and will use all reasonable diligence consistent with good business judgment in obtaining and developing new gas leases and contracts for gas when the same become necessary in order to enable it to deliver gas under the terms of this contract, and such extensions, leases and contracts can be obtained on a basis profitable to said United Company.

543 11th. The obligation of the United Company to furnish and deliver the amounts of gas specified in the 2nd and 3rd Paragraphs hereof, shall be limited to the amount of gas produced by the United Company from gas fields then owned or leased by it, and gas purchased by it under contracts then current for the purchase of gas, which the United Company shall have available for de-

livery hereunder, after deducting from the total amount so purchased and produced the quantities of natural gas required to supply at any and all times domestic consumers connected to the United Company's own distributing system; and in case the quantities so available for delivery are less than the amounts deliverable under the provisions of the 2nd and 3rd Paragraphs hereof, the Columbia Company shall nevertheless purchase and take the quantities so available for delivery, and the same as nearly as may be shall be delivered and taken in the proportions specified in Paragraph 8th hereof. The United Company reserves the right in the usual course of its business to surrender, exchange, sell or otherwise dispose of any part of the gas properties now or hereafter owned or leased by it; should, however, United Company sell its gas properties as a whole, such sale shall be made subject to this agreement.

12th. It is mutually understood and agreed that where either party to this contract without fault or neglect on its part fails to perform any obligations herein assumed by it, and such failure is due to Acts of God, or to a public enemy, strikes, riots, injunctions or other interferences through legal proceedings, breakage or accidents to machinery or lines of pipe, washouts, earthquakes, storms, freezing of lines or wells, sudden partial or entire failure of gas wells, or any cause beyond its control, or is caused by the necessity for making repairs or alterations in machinery or lines of pipe, such failure shall not be deemed to be a violation by such party of its obli-
544 gation hereunder; but such party shall use due diligence to again put itself forthwith in position to carry out all of the obligations which by the terms hereof it has assumed, and so far as possible shall give the other party notice in writing, or by telephone or telegraph of the shutting off of gas to make repairs or alterations.

13th. In ase any lawful tax or assessment is hereafter imposed on natural gas in any manner so as to constitute in effect a charge upon the gas delivered hereunder, the amount of such tax or assessment or charges shall be borne one-half by the United Company and one-half by the Columbia Company, insofar as it affects or relates to or is apportionable hereto, and in the event that the United Company is required to pay the same, one-half the amount thereof shall be paid by the Columbia Company to United Company in addition to the prices above stated.

14th. In case the Columbia Company shall fail to pay to the United Company amounts that may be due and payable hereunder to United Company within twenty days after the same become due and payable, the United Company shall have the right without cancelling this contract or waiving any of its rights hereunder to suspend the delivery of natural gas hereunder until all amounts due to it are paid, and at its option shall have the right to terminate this contract on thirty days' notice to Columbia Company without prejudice to its right to collect the amounts due to it at the time of such termination for gas previously delivered hereunder, and to recover such damage as it may sustain by the breach of this contract by the Columbia Company.

15th. This contract shall bind and run in favor of the parties hereto, and their respective successors and assigns, but shall not be assigned by either party without the consent of the other.

345 In witness whereof the parties hereto have hereunto caused their corporate names to be signed by their respective Presidents and their respective seals to be hereunto affixed by their respective Secretaries the day and year first above written.

[Corporate Seal.]

(Signed) UNITED FUEL GAS COMPANY.
By F. W. CRAWFORD,
President.

Attest:
H. C. REESER,
Secretary.

[Corporate Seal.]

COLUMBIA GAS & ELECTRIC COMPANY,
By W. Y. CARTWRIGHT,
Vice-President.

Attest:
W. T. HUNTER,
Secretary.

STATE OF OHIO,
County of Hamilton, ss:

I, John M. Cronin, a Notary Public of the said County of Hamilton, do certify that W. Y. Cartwright personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is the Vice President of the Columbia Gas and Electric Company, one of the corporations described in the writing above, bearing date the 1st day of January, 1913, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to the said writing is the corporate seal of said corporation and that said writing was signed and sealed by him in behalf of said Corporation by its authority duly given. And the said W. Y. Cartwright acknowledged the said writing to be the act and deed of said corporation.

Given under my hand this 7th day of June, 1913.

[Notarial Seal.] (Signed) JOHN M. CRONIN,
Notary Public, Hamilton Co., Ohio.

My commission expires Mar. 3, 1914.

546 Charleston, W. Va., July 18, 1918.

Columbia Gas & Electric Company,
Attention Mr. W. Y. Cartwright, Vice President,
Fourth & Plum Sts., Cincinnati, Ohio, and

Ohio Fuel Supply Company,
Attention Mr. L. B. Denning, Assistant to President,
2017 Farmers Bank Bldg., Pittsburgh, Pa.

DEAR SIRS:

As a memorandum of the oral agreement reached on yesterday in pursuance of previous negotiations, with reference to the price to be paid to the United Fuel Gas Company for gas supplied by it to the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, during the calendar year 1918, I would thank you to advise me whether the following is a correct statement of this agreement, and if so, entries covering the matter will be made upon our books:

First. For the first 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company and the first 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, they are to pay respectively the sum of 7c. per thousand cubic feet; and for any excess over 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company, or for any excess over 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, during the calendar year 1918, they shall pay at the rate of 11c. per thousand cubic feet, the latter being the price, during the year 1918, charged to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company. The foregoing, however, is subject to the qualification that, should the Columbia Gas & Electric Company take during said year less than 10,000,000,000 cubic feet, or should the Ohio Fuel Supply Company take less than 9,800,000,000 cubic feet, then the quantity which each of said Companies shall have the right to purchase at the rate of 7c. per thousand shall be limited to an entire quantity, of
547 which the Columbia Gas & Electric Company shall have 51% and the Ohio Fuel Supply Company 49%. That is to say, if one of said Companies shall take less than the quantity above mentioned to which it is entitled at the 7c. rate, then the other Company shall be entitled to take, at such 7c. rate, either 2% more or 2% less, as the case may be, at the same rate. For all gas taken during said year by the Columbia Gas & Electric Company in excess of that to which it may be entitled under the last mentioned provision at the rate of 7c., but not in excess of the entire quantity of 10,000,000,000 cubic feet in said year, it shall pay at the rate of 10c., and for all gas taken by the Ohio Fuel Supply Company during said year in excess of the quantity to which it may be entitled at the 7c. rate, but not in excess of the entire quantity of 9,800,000,000 cubic feet, it shall pay at the rate of 10c.

Second. For the gas taken by each of you during the remainder of this year, you will be billed at the rate of 7c. per thousand cubic

feet, subject to such adjustment at the end of the year as may be required to meet the foregoing stipulation. It is understood that each of you have been charged for the gas previously taken during this year at the rate of 10c., and a refund will be made to each of you at the rate of 3c. per thousand as soon as this Company has the available cash for the purpose. We will make this refund to you ratably so as to give no preference to one Company over the other, but we do not agree to pay interest to either of you upon the amount to be refunded.

Third. In consideration of these concessions, each of you agree to relinquish any claim to the gasoline produced by this Company from the gas sold to each of you during this year, and you concede, for the time being, our right to extract the gasoline before delivering to you the gas. This agreement is made only for the year
548 1918, however, and is not to be used against either of you as an admission of our right to extract said gasoline in future years, nor as an admission against us of any right on your part to prevent our extraction of said gasoline, or of any right on your part to participate in the proceeds of said gasoline.

Fourth. The rights of all parties with reference to the subject matter of the foregoing shall continue to be governed by the provisions of the contract of July 31, 1916, except as modified by the agreement above recited as applicable to the year 1918.

Very respectfully yours,

(Signed) UNITED FUEL GAS COMPANY.
By R. G. ALTIZER,
Vice President.

R. G. A./A.

Exhibit "Modification of Ohio Fuel Supply Company and Columbia Gas & Electric Company Contracts."

549 [Endorsed:] United Fuel Gas Company and Columbia Gas & Electric Company. Agreement.

550 COLUMBIA AND OHIO FUEL COS'. W. VA. EX. 44.

(Introduced at Page 1199, Record.)

W. VA. EX. No. 44. J. B. S.

Charleston, W. Va., July 18, 1918.

Columbia Gas & Electric Company,
Attention Mr. W. Y. Cartwright, Vice President,
Fourth & Plum Sts., Cincinnati, Ohio, and

Ohio Fuel Supply Company,
Attention Mr. L. B. Denning, Assistant to President,
2017 Farmers Bank Bldg., Pittsburgh, Pa.

DEAR SIRS:

As a memorandum of the oral agreement reached on Yesterday in pursuance of previous negotiations, with reference to the price to be paid to the United Fuel Gas Company for gas supplied by it to the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, during the calendar year 1918, I would thank you to advise me whether the following is a correct statement of this agreement, and if so, entries covering the matter will be made on our books:

First. For the first 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company and the first 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, they are to pay respectively the sum of 7c. per thousand cubic feet; and for any excess over 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company, or for any excess over 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, during the calendar year 1918, they shall pay at the rate of 11¢ per thousand cubic feet, the latter being the price, during the year 1918, charged to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company. The foregoing, however, is subject to the qualification that, should the Columbia Gas & Electric Company take during said year less than 10,000,000,000 cubic feet, or should the Ohio Fuel Supply Company take less than 9,800,000,000 cubic feet, then the quantity which each of said Companies shall have the right to purchase at the rate of 7¢ per thousand shall be limited to an entire quantity, of
551 which the Columbia Gas & Electric Company shall have 51% and the Ohio Fuel Supply Company 49%. That is to say, if one of said Companies shall take less than the quantity above mentioned to which it is entitled at the 7¢ rate, then the other Company shall be entitled to take, at such 7¢ rate, either 2% more or 2% less, as the case may be, at the same rate. For all gas taken during said year by the Columbia Gas & Electric Company in excess of that to which it may be entitled under the last mentioned provision at the rate of 7¢, but not in excess of the entire quantity of

0,000,000,000 cubic feet in said year, it shall pay at the rate of 0¢, and for all gas taken by the Ohio Fuel Supply Company during aid year in excess of the quantity to which it may be entitled at the ¢ rate, but not in excess of the entire quantity of 9,800,000,000 ubic feet, it shall pay at the rate of 10¢.

Second. For the gas taken by each of you during the remainder f this year, you will be billed at the rate of 7¢ per thousand cubic eet, subject to such adjustment at the end of the year as may be equired to meet the foregoing stipulation. It is understood that ach of you have been charged for the gas previously taken during his year at the rate of 10¢, and a refund will be made to each of ou at the rate of 3¢ per thousand as soon as this Company has the vailable cash for the purpose. We will make this refund to you atably, so as to give no preference to one Company over the other, ut we do not agree to pay interest to either of you upon the amount be refunded.

Third. In consideration of these concessions, each of you agree relinquish any claim to the gasoline produced by this Company rom the gas sold to each of you during this year, and you concede, or the time being, our right to extract the gasoline before delivering to you the gas. This agreement is made only for the year 52 1918, however, and is not to be used against either of you as an admission of our right to extract said gasoline in future ears, nor as an admission against us of any right on your part to revent our extraction of said gasoline, or of any right on your part participate in the proceeds of said gasoline.

Fourth. The rights of all parties with reference to the subject atter of the foregoing shall continue to be governed by the pro-isions of the contract of July 31, 1916, except as modified by the greement above recited as applicable to the year 1918.

Very respectfully yours,
(Signed) UNITED FUEL GAS COMPANY,
By R. G. ALTIZER,
Vice President.

R. G. A./A.

Exhibit "Modification of Ohio Fuel Supply Company and Columia Gas & Electric Company Contracts."

553 RESERVE V. MCKINLEY COND., W. VA. EX. 45.

EX. W. VA. NO. 45. O. L. H.

RESERVE GAS COMPANY

vs.

FRANKLIN MCKINLEY et al.

Condemnation Proceeding.

Petition Filed November 26, 1912.

To the Honorable Charles W. Lynch, Judge of the Circuit Court of Lewis County, West Virginia:

Your petitioner, Reserve Company, a corporation created, organized and existing under and pursuant to the laws of the State of West Virginia, respectfully represents unto your Honor that it is such corporation created, organized and existing under the laws of said state; that it obtained its original certificate of incorporation or charter from the Secretary of State of said State on the 16th day of April, 1902, by which the corporators are declared to be from the said date until the 1st day of January, 1952, a corporation by the name of Reserve Gas Company.

That for the purpose of enlarging and modifying its powers, rights and privileges, and with a view of investing itself with additional powers, rights and privileges, a resolution was adopted by the stockholders of your petitioner in stockholders' meeting assembled on the 9th day of September, 1908, providing that the objects and purposes for which said corporation was incorporated be enlarged and modified in accordance with and by virtue of the authority of Section 10 of Chapter 54 of the Code of West Virginia, so that said objects and purposes should be those set forth in a new agreement (which was then adopted), and which new agreement is by said resolu-
554 tion adopted in lieu and instead of the one under which said corporation was theretofore organized.

That the said new agreement so adopted by said resolution in lieu and instead of the one under which petitioner corporation was organized, was duly executed and acknowledged by the stockholders signing the same; and the said resolution and new agreement duly acknowledged, and accompanied by the proper certificates and affidavits were delivered to and filed with the Secretary of State of said State of West Virginia in his office on the 29th day of October, 1908; and thereupon the said Secretary of State, on the said resolution and new agreement, and certificates and affidavits accompanying the same, issued to the stockholders named in said new agreement, and all the other stockholders of said corporation, and their successors and assigns, an amended or modified charter or certificate of incorporation of this petitioner, thereby declaring the stockhold-

ers named in said new agreement and all the other stockholders of said corporation and their successors and assigns to be, from the date thereof (October 29th, 1908), until the 1st day of January, 1952, a corporation by the name and for the purposes and objects set forth in the said new agreement; and further thereby declaring that the said corporation shall henceforth be subject to such new agreement as set forth in said certificate in lieu of its original certificate of incorporation.

Your petitioner if required will file as part of this petition duly certified copies of the said original charter or certificate of incorporation and the said new or amended and modified charter or certificate of incorporation, marked and designated "Exhibit No. 1;" and prays that the same if, and when, filed may be taken, read and considered as part hereof, and your petitioner invites the
555 attention of the Court especially to the said resolution and new agreement and the said new or amended and modified charter or certificate of incorporation.

That as shown by said resolution and new agreement and the said new or amended and modified charter or certificate of incorporation, petitioner is thereby continued as such corporation by the name of Reserve Gas Company; and that petitioner is incorporated for the objects and purposes following:

For drilling, boring, mining and operating for the production of natural gas; the producing, dealing in, buying and selling, acquiring, storing, transporting by pipes and other wise natural gas for its own use and for the selling and supplying of natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and purchasers for use in cities, towns, villages, districts and other municipalities and places in the State of West Virginia, as well as elsewhere, where the said natural gas may be discovered, purchased, stored or transported by the said Reserve Gas Company; for the erecting, laying, maintaining, operating, repairing and removing derricks, pipes, lines of pipes, connections and regulators, pump stations, buildings, shops, structures, tanks, pumps, compressors, cooling plants, gasometers, valves, gates, telegraph and telephone poles and lines, and all other structures and appliances, including street mains, pipes and conduits necessary, incident and convenient to the production, storage, piping and transporting and conveyance of natural gas and petroleum oil; for the production, saving, storing, dealing in and selling petroleum oil, gasoline and such other substances as may be found in the drilling and mining for or handling of natural gas and oil. Also for the
556 purchasing, leasing, acquiring, holding, owning, granting and conveying all such lands and leaseholds for oil and gas purposes and such other real and personal property, including rights of way, as may be necessary and convenient for the purpose of producing, transporting, selling and supplying natural gas and petroleum oil, and for the full and complete exercise and enjoyment of each and all of the powers and purposes hereinbefore as well as hereinafter set forth, and with the right and power, from time to time, to sell, lease, surrender and dispose of any or all of such

real and personal property. Also to have, exercise and enjoy the right of eminent domain, and in the exercise of such right to take, condemn, use and enjoy such lands, rights of way, easements and property as shall be necessary to enable it to lay and construct its mains, pipes and conduits, pump stations, telegraph and telephone lines, dams and other structures and appliances necessary and required or convenient to the producing, storing, cooling and transporting of natural gas; and also to have the right and power to subscribe for and purchase and acquire and transfer the stocks, bonds and securities of other companies, and to have the right and power to do all other acts, and to have and possess all other powers and privileges, necessary for the carrying out of the objects and purposes of this corporation, as above set forth.

Petitioner further shows and represents that since the granting to it of the said new or amended and modified certificate of incorporation, it has been operating under the same and exercising the powers, rights and privileges thereby conferred upon it and with which it is thereby invested.

That since the granting of said new or amended and modified charter or certificate of incorporation, as well as for several years before, petitioner has been, and is engaged in the business of selling and supplying natural gas for industrial, commercial,
557 domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and purchasers for use in incorporated cities, towns, villages, districts and other municipalities and places in the State of West Virginia, and has been and is supplying natural gas to the public for fuel, illuminating and other purposes, and has been, and is still, at great expense and cost to it, erecting, laying, maintaining and operating pipes and lines of pipe, etc., for transporting natural gas with which to supply the public and said other purchasers and consumers with natural gas for fuel, illuminating, heat, power and other purposes; and that it has been and is transporting natural gas to be supplied to the public and said other purchasers and consumers for fuel, heat, illuminating, power and other purposes by and through its said pipes and pipe lines.

That petitioner in the exercise of its rights, powers and privileges, and in the conduct of its business, has been and is supplying natural gas for public use for the purpose of heating and illumination to the town of Wilsonburg, in the State of West Virginia, and to the inhabitants thereof.

That in addition to the above town, petitioner supplies natural gas for heating, illuminating, power, fuel and other purposes to the citizens of a large number of unincorporated towns and villages in the State of West Virginia, and to persons residing in and inhabitating such unincorporated towns and villages.

That in addition to the unincorporated towns and villages and the inhabitants thereof, aforesaid, to which petitioner supplies natural gas for the purposes aforesaid, it also supplies natural gas for
558 such purposes to various school houses and school sub-districts in the counties of Lewis and Harrison, in the State of West

irginia; and to a large number of contractors and persons, firms
d corporations drilling oil, gas and other wells in said counties,
d to a large number of other persons, firms and corporations for
e in pumping, operating water stations, oil pumping stations, man-
facturing plants, etc.

That natural gas so supplied by petitioner to unincorporated
wns and villages and the inhabitants thereof for heating and illu-
inating purposes, as well as to school sub-districts and houses, indi-
iduals, water stations, oil pumping stations and other consumers is
supplied under contracts; and that where the same is supplied for
ating and illuminating purposes to unincorporated towns and vil-
ges, it is done under contract with such towns and villages, and
here the same is supplied to school houses, it is so supplied under
ntract with the proper school officers. That petitioner has existing
lid contracts extending into the future, for supplying natural gas
said towns, inhabitants and consumers.

That petitioner in supplying natural gas to the said unincorporated
wns and villages, and their inhabitants, for the purpose of heating,
umination, etc., has been and is occupying the public highways,
reets and alleys of such incorporated towns and villages for the
rpose by means of the location therein of its pipes, connections,
xes, valves and other fixtures, under authority of a franchise from
e county court of said counties, respectively. That in the county
Harrison, petitioner has and is the owner of a franchise from the
unty court authorizing it to locate, lay and maintain in the roads,
streets and alleys thereof pipes, connections, boxes, valves and
59, other fixtures for the purpose of supplying natural gas to the
inhabitants of said county. That petitioner has and is the
wner of a franchise from the county court of Lewis County author-
ing it to lay, maintain and operate, across the public highways in
id county pipes and other fixtures for the purpose of supplying nat-
al gas for public use.

That petitioner supplies, under valid contracts, natural gas to vari-
us village and town settlements in Lewis and Harrison Counties,
d to the inhabitants thereof, and to a large number of individual
nsumers therein, for use for heat, light, power and other purposes;
d it also supplies, under valid contracts, natural gas to a large
mber of individual consumers in Lewis and Harrison Counties,
d to manufacturing plants therein, for heat, light, manufacturing
d other purposes; it also furnishes and supplies from time to time,
other incorporated gas companies, under valid contracts, natural
as for consumption and use by a large number of individuals, firms,
artnerships, corporations and associations in the City of Manning-
n, and the towns of Littleton, Pine Grove, Smithfield, Wileyville,
undred, Fairview, and West Milford, and the unincorporated
wns of Wallace, Folsom, Metz, Glovers Gap and Wadestown, in the
tate of West Virginia; and that said other incorporated gas com-
anies, so supplying said last named cities and towns, supply gas to
he inhabitants thereof under valid franchises and contracts.

That petitioner, as is its bounden duty, furnishes, and is ready and
illing to furnish, at uniform and reasonable rates, natural gas for

heating, illuminating, fuel, power and other purposes to every inhabitant of the said unincorporated villages and towns above
560 named who applies therefor and who complies with the lawful and reasonable rules and regulations of petitioner, and also furnishes and is willing to furnish all other consumers therewith, at uniform and reasonable rates.

That it became necessary for petitioner, in order to supply natural gas to the said several unincorporated villages and towns, and their inhabitants, as well as the several other towns, individuals, firms, corporations, co-partnerships, etc., for heating, fuel, illuminating, power and other purposes, and to keep up the required and necessary supply of such gas, that it discover and produce an additional supply of natural gas; that to discover and produce the same, it became necessary for petitioner to drill, at large cost and expense, new wells for the purpose in the county of Lewis and several other counties in the State of West Virginia, and to acquire other wells in said counties; and that petitioner has drilled several new wells in said several counties and has discovered and found a large supply of natural gas in the said wells, and has acquired sundry other wells producing natural gas. That from said wells so drilled by it, as well as from said wells so acquired by it, petitioner produces natural gas with which to supply the said unincorporated villages and towns and the said inhabitants thereof, aforesaid, as well as said other purchasers and consumers. And that in order to supply said unincorporated villages and towns and the inhabitants thereof, as well as other consumers and prospective consumers in Lewis county, and elsewhere, with such natural gas produced from said last mentioned wells, for heating, illuminating and other purposes it is necessary that petitioner lay, construct and maintain an additional line of pipe from some of the wells in said several counties, through a portion of said Lewis county, and portions of other counties in the State of West
561 Virginia, so as to reach the above-mentioned unincorporated villages and towns, and the inhabitants thereof, as well as said other consumers in Lewis county and elsewhere, with said pipe line for the purpose of transporting such natural gas; and it is also necessary that petitioner transport such natural gas through said pipe line and supply the same for said purposes to said incorporated cities and towns, and the inhabitants thereof, and said other consumers in said Lewis county and elsewhere.

Petitioner avers that it has valid subsisting contracts with inhabitants in said Lewis and other counties, which contracts require petitioner to supply said last-named inhabitants with natural gas, and that in order to enable petitioner to perform the obligations of said contracts and to furnish gas to said inhabitants and other prospective consumers, it is necessary that petitioner lay and construct its pipe line along the route and over, in and through the piece, parcel or strip of land hereinafter particularly described.

That petitioner has surveyed a route for laying and constructing said pipe line from its gas wells through a portion of said county of Lewis as well as portions of others of said counties in the State of West Virginia, and proposes to, and it is necessary for it to lay and

onstruct a six-inch line of wrought iron or steel pipe for transporting
atural gas for public use along the route so surveyed and marked
ut for that purpose; and petitioner has procured rights of way or
asements for the laying, constructing and maintenance of such pipe
ine over and through several of the tracts of land through which the
ame passes on the line or route so surveyed; and that petitioner has
egun, and is now engaged in, the actual laying and construction of
the said pipe line on the route so selected and surveyed for
562 that purpose through a portion of said Lewis county and por-
tions of other said counties in the State of West Virginia;
hat among the lands over and through which the said route for said
ipe line has been selected, and over and through which it was and
s necessary that said pipe line be laid, constructed and maintained
re three tracts of land containing in the aggregate about 44 acres,
nd situated in said Lewis County, said State of West Virginia, ad-
oining lands of R. H. Hall and Sim Hall.

Which said tract of land is owned in fee simple as follows: Frank-
in McKinley is the owner in fee simple of a 19-acre tract, part of said
4 acres, known as Lot No. 1, except that Alrose Lucile McKinley,
n infant, and Lessie Rill McKinley, an infant, own in fee simple all
f the oil and gas within and underlying said Lot No. 1, and all the
oal and other minerals under said 19 acres below the level of the bed
f the creek which runs through said land, and all the oil and gas
entals and royalties, together with necessary rights to produce, mine
nd carry away said oil and gas, coal and other minerals, subject to
he dower right in said oil, gas, coal and other minerals which is
ested in Flora A. Smith as the widow of George McKinley, de-
eased. Franklin McKinley is the owner in fee simple of an 8-acre
ract, part of said 44 acres, known as Lot No. 4, except that Alrose
Starcher is the owner in fee simple of all of the coal below the level
f the stream in said Lot No. 4, with mining rights, and also one-
ixteenth of all the oil within and underling said lot and the one-
half of all the royalties and delay rentals to be paid for all of the
gas produced from said Lot No. 4, and that A. S. Starcher is the hus-
band of said Alrose Starcher. Franklin McKinley is the owner in
fee simple of a 17-acre tract, the remaining part of said 44 acres,
known as Lot No. 3, except that Aldo McKinley is the owner in fee
simple of all the oil and gas within and underlying said Lot
563 No. 3, and all the coal lying below the level of the bed of the
run at the public road, with mining rights and privileges.

That said Lots Nos. 1, 4 and 3, containing 19, 8 and 17 acres, re-
spectively, or a total of 44 acres, is owned in fee simple as aforesaid,
with the exception of certain leases and leasehold rights and estates
for oil and gas purposes which are owned as follows: Petitioner,
Reserve Gas Company, is the owner of a certain leasehold estate in
the oil and gas in said Lot No. 1, containing 19 acres, and has one
producing gas well thereon, and is in the possession thereof, oper-
ating the same for gas. West Virginia Central Gas Company, a cor-
poration, is the owner of certain leasehold estates in the gas, and
Eastern Oil Company is the owner of certain leasehold estates in the
oil, in said Lots Nos. 4 and 3, containing 8 acres and 17 acres, re-

spectively, and said West Virginia Central Gas Company has a producing gas well upon each of said two lots, and is in the possession thereof, operating the same for gas; and with the further exception that West Virginia Central Gas Company, a corporation, owns a right of way or easement over, through and across said Lot No. 1 to maintain, operate and remove a pipe line for the transportation of natural gas.

That it is necessary for petitioner to, and it proposes to construct, lay, maintain and operate its said pipe line in said county of Lewis over and through the said last named three tracts of land of said Franklin McKinley and the oil, gas, coal and other minerals of said Alrose Lucile McKinley, an infant, Lessie Rill McKinley, an infant, Alrose Starcher, Aldo McKinley, and the dower right of Flora A. Smith in said Lot No. 1, and over the leasehold rights of said petitioner, and said West Virginia Central Gas Company and
564 Eastern Oil Company, and over the easement or right of way of said West Virginia Central Gas Company, as to Lot No. 1, and that it desires to proceed with the laying and construction of said pipe line over and through the said lands.

That petitioner desires and proposes to take for the purpose of constructing, laying and maintaining its said pipe line, a right of way or easement to lay, construct, operate and maintain over and in the certain piece, parcel or strip of said land hereinafter described, along the center line hereinafter set out of the survey over said land, such six inch line of wrought iron or steel pipe for transporting natural gas for public use; which said piece, parcel or strip of said land is bounded and described as follows, to-wit: A strip of land situated in Freemans Creek District, Lewis County, West Virginia, 20 feet in width, being in line 10 feet on each side of a center line, which said center line begins at a point in the line between the lands of Franklin McKinley and R. H. Hall, said point standing N. 10° E. 709 feet from a fence post corner of R. H. Hall and George McKinley heirs, thence extending across the lands of Franklin McKinley South 74° 30′ east 230 feet to a stake; thence South 66° 30′ east 871 feet to a point on the boundary line between the lands of said Franklin McKinley and Sim Hall, which point stands on said boundary line S. 8° E. 172 feet from a fence post, a common corner between lands of Franklin McKinley and Sim Hall.

Your petitioner files herewith as part hereof a plat of said piece, parcel or strip of said land through which it proposes to take said right of way or easement, which plat is marked "Plat" for identification.

That the said right of way or easement for such line of pipe over and in said piece, parcel, or strip of said land is proposed to be taken by your petitioner, and is intended by your petitioner
565 to be appropriated for the purpose of constructing, laying, maintaining and operating such pipe line for transporting natural gas for public use, under and by virtue of its new or amended and modified charter or certificate of incorporation, under the laws of said State. That petitioner will appropriate and use said right

of way or easement for such line of pipe over and in said piece, parcel or strip of land for public use and for the purpose of constructing, laying, maintaining and operating such pipe line for transporting natural gas for public use, and intends to, and will, use said line of pipe for transporting natural gas for public use.

That petitioner proposes to and will bury the said line of pipe where the same is laid and constructed through said strip, piece or parcel of said land) at a depth of at least twelve inches under the surface, and all excavations will be well filled by petitioner and so kept by it. And that the said owner of said land, and others interested, after said line of pipe has been laid and buried, are to, and will, have the full use and enjoyment of the surface of said land for agricultural and other purposes in like manner as before the entry of your petitioner on the same, and are to, will and shall have the full use and enjoyment of said land in all other respects after said line of pipe is laid, the same as before, except as to the space under the surface occupied by said line of pipe, and except as to such temporary use as shall be necessary in maintaining said line of pipe and in taking up and removing the said line of pipe after the abandonment of said line and easement.

That an easement or right of way in, over and through said strip of said land is essential and necessary for the use of petitioner in the construction and maintenance of its pipe line, and it
566 cannot construct and maintain such line without said easement or right of way.

That the use and purpose to which petitioner intends and proposes to, and will, put and appropriate said easement or right of way is a public use and purpose.

That the said Franklin McKinley is the sole owner of said land, and Alrose Lucile McKinley, an infant, and Lessie Rill McKinley, an infant, and Flora A. Smith, are the sole owners of said oil, gas, coal and minerals in said Lot No. 1, and that Alrose Starcher is the sole owner of said oil, gas, coal and minerals in said Lot No. 4, as hereinbefore shown, and that Aldo McKinley is the sole owner of the oil, gas, coal and minerals in said Lot No. 3, as hereinabove shown, so far as known to petitioner, and that (as above shown) the nature of the interests of said owners is fee simple title, except that Flora A. Smith has a dower right only in the oil, gas, coal and minerals in Lot No. 1, as above shown, and except that West Virginia Central Gas Company has an easement only in Lot No. 1, as above shown. And your petitioner further avers and shows that petitioner owns and holds a lease for oil and gas purposes upon said Lot No. 1, containing 19 acres, and that West Virginia Central Gas Company as to the gas, and Eastern Oil Company, as to the oil, own and hold leases for oil and gas purposes upon said lots No.'s 4 and 3, containing 8 acres and 17 acres, respectively, which leases are, as petitioner is advised, in full force and effect. That the same are made upon the usual terms of oil and gas leases in that neighborhood, and grant to said lessees, respectively, the rights and privileges for operating, developing and producing the oil and gas in said lands. If insisted upon, your petitioner will file as parts of this

petition certified copies of said oil and gas leases, and the record evidence of the title to said lessees.

567 That petitioner does not find upon the records of said Lewis County any lien, except the following recorded lien, upon and against said 44 acres of land and upon and against the interests of all of the owners thereof, or of interests and rights therein as hereinbefore shown, that is to say: A vendor's lien to secure the title to another tract of land, reserved in a conveyance of 200 acres, which included said 44 acres, in a deed dated July 20, 1846, executed by James Woofter and wife to Evan Carmack, of record in Lewis County Clerk's office in Deed Book "S," page 11; but petitioner avers that said lien has been fully discharged and satisfied, and that the persons in whose favor said lien was retained have long since died, and that the rights and liabilities of all persons under said lien have long since terminated, and that in fact the same constitutes no present lien upon the said 44 acres of land, or of any interest therein. That petitioner does not find upon the records of said Lewis County any other claims to said land, or to any interest therein, or to any part thereof, than those hereinabove set out. That it does not find any conflicting claims thereto, or to any interest therein, or any part thereof.

That J. H. Smith is the guardian of said Alrose Lucile McKinley, an infant, and of Lessie Rill McKinley, an infant, and A. S. Starcher is the husband of Alrose Starcher.

That what is hereinbefore said in respect to the nature of the respective interests of the owners of said land, is all the information possessed by petitioner, or ascertainable by it touching the same; and the same is correct so far as known to your petitioner.

Petitioner further shows and represents that it has attempted to, but is unable to, agree with the owners of said land and the persons owning the said oil, gas, coal and mining rights and privileges

568 underlying the same, and the owners of said easement or right of way across Lot No. 1, and the owners of said oil and gas leases upon said land, aggregating 44 acres, an easement or right of way through which is so proposed to be taken by petitioner for the said public use and purposes as aforesaid, as to the amount of compensation for said easement or right of way in and through said parcel or strip of said land so proposed to be taken. That said owners will not agree to a fair price for said easement or right of way in, over and through said strip or parcel of said land so proposed to be taken; and also refuse to give your petitioner a right of way or easement over, in or through said land.

That the survey, location and route of petitioner's said pipe line aforesaid, so located and surveyed through the said county of Lewis, as well as through the said tracts of about 44 acres of land aforesaid in such county, and the aforesaid strip, piece or parcel of such land, has been regularly and duly authorized, selected, located, approved and adopted by the proper officers of petitioner and by its Board of Directors.

Petitioner further represents and avers that it has caused notice to be given to said owners of its intention to file this petition and make this application, as will more fully appear from said notice itself,

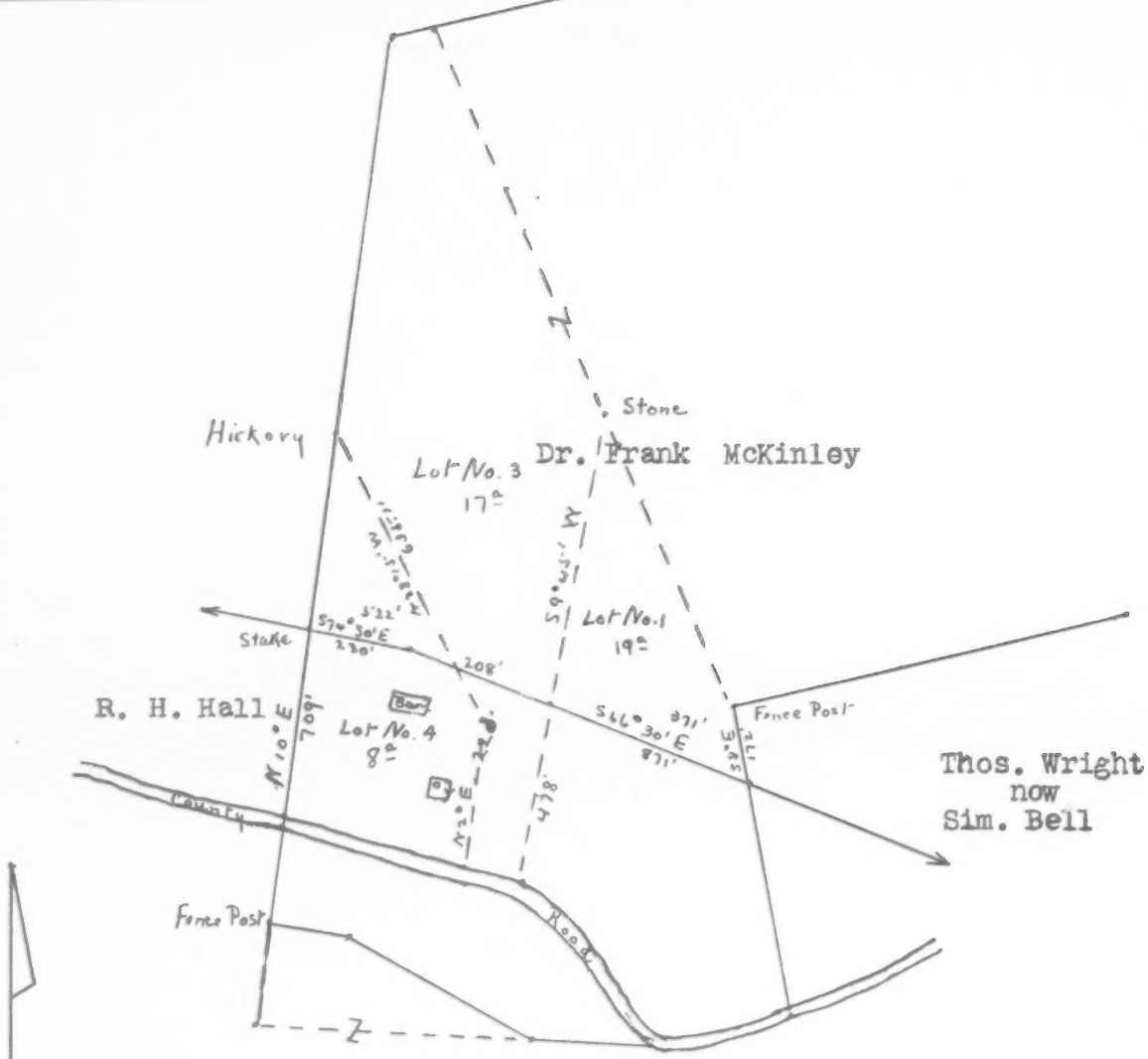


Exhibit "Plat" filed with the Petition.

Survey for proposed 6" gas line
for the Reserve Gas Co., across the
lands of Dr. Frank McKinley
Freeman's Creek Dist., Lewis Co.,
Surveyed Oct.7th, 1912, by J.P.McClintock
Scale 1" = 400' Bk.104, Pp.33-34.

and the evidence of the service of the same endorsed thereon, herewith filed marked "Notice," and here made part of this petition.

That in taking the said easement or right of way aforesaid, so proposed to be taken by petitioner, it will not be necessary to take any dwelling house, yard or garden, nor will any such be taken therein or thereby; and in taking the said easement or right of way, and appropriating and putting the same to the public use and purpose to which petitioner proposes to and will appropriate and put
569 the same and in which it will use the same, it is not, and will not be, necessary to erect or lay any oil tank or gas or oil pipe line within one hundred feet of any occupied dwelling house, nor shall any oil tank, gas or oil pipe line be erected or laid within one hundred feet of any occupied dwelling house.

That said tract of about 44 acres of land aforesaid does not lie within any municipal corporation.

That petitioner has the right to acquire and take said right of way or easement in and by this petition and application under the law.

Petitioner therefore prays that commissioners may be appointed by this Court to ascertain a just compensation to the persons entitled thereto for the said easement or right of way over, in and through the land hereinbefore described, proposed to be taken by your petitioner for the purpose and use aforesaid; that such proceedings may be had in the premises as conform to law; and that upon the payment of the compensation by your petitioner the said above described easement or right of way in, over and through said land may be vested in your petitioner. And your petitioner also asks such other and general relief as the Court may deem proper to award in the premises.

(Signed) RESERVE GAS COMPANY,
By A. B. FLEMING,
W. W. BRANNON,
E. A. BRANNON,
CHARLES POWELL,
KEMBLE WHITE,
Its Attorneys.

(Here follows diagram marked page 570.)

571 (EXHIBIT "NOTICE" FILED WITH THE FOREGOING PETITION.)

To Franklin McKinley, Alrose Lucile McKinley, an Infant; Lessie Rill McKinley, an infant; J. H. Smith, guardian of said Alrose Lucile McKinley and Lessie Rill McKinley, infants; Flora A. Smith, Alrose Starcher, and A. S. Starcher, her husband; Aldo McKinley, West Virginia Central Gas Company, a corporation; Eastern Oil Company, a corporation:

You will please take notice that on the 26th day of November, 1912, at 10 o'clock A. M., an application by petition will be made by the undersigned to the Circuit Court of Lewis County, West Virginia, at the Court House of said county, for the appointment by said Court of commissioners to ascertain a just compensation to the persons entitled thereto, for a right of way or easement to lay, construct, operate and maintain across, in and through the certain piece, parcel or strip of land hereinafter described, situated in Lewis County, West Virginia, (in which some of you are interested as owners in fee, others of you as owners and holders of easements upon portions thereof, and others of you as owners and holders of leases and leasehold rights and estates upon said land, and upon portions thereof, along the center line hereinafter set out of the survey over said land, a six inch line of wrought iron or steel pipe for transporting natural gas for public use, to be buried at a depth of at least 12 inches under the surface; and for such orders and proceedings to be then and there entered and had as may be necessary to condemn the said right of way or easement for such public use and purpose; the said piece, parcel or strip of land being bounded and described as follows, to-wit:

A strip of land situated in Freemans Creek District, Lewis County, West Virginia, 20 feet in width, being in line 10 feet on each side of a center line, which said center line begins at a point in
572 the line between the lands of Franklin McKinley and R. H. Hall, said point standing N. 10° E. 709 feet from a fence post corner of R. H. Hall and George McKinley heirs, thence extending across the lands of Franklin McKinley South 74° 30′ east 230 feet to a stake; then South 66° 30′ east 871 feet to a point on the boundary line between the lands of said Franklin McKinley and Sim Hall, which point stands on said boundary line S. 8° E. 172 feet from a fence post, a common corner between lands of Franklin McKinley and Sim Hall.

The plat of said land marked "Plat" is filed with the application in writing in the case.

And which right of way or easement for such line of pipe across, through, in and over said piece, parcel or strip of land is proposed to be taken by the undersigned Reserve Gas Company, a corporation duly created and acting under and by virtue of the laws of the State of West Virginia, and is intended by said Company to be appropriated for the purpose of constructing, operating and maintaining such pipe line for transporting natural gas for public use, under and by virtue of its charters, under the laws of said State.

You, the said owners of said land, and of portions thereof, and of interests, rights and estates therein and thereto, and portions thereof, and persons holding easements therein, after said line of pipe has been laid and buried, to have the full use and enjoyment of the surface of said piece, parcel or strip of land for agricultural and other purposes in like manner as before the entry of the undersigned, and to have the full use and enjoyment of said land in all other respects after said line of pipe is laid, the same as before,
573 except as to the space under the surface occupied by said line of pipe, and except as to such temporary use as shall be necessary in maintaining said line of pipe, and in taking up and removing said line of pipe after the abandonment of said line of pipe and easement.

Dated this 13th day of November, 1912.

(Signed) RESERVE GAS COMPANY,
By A. B. FLEMING,
W. W. BRANNON,
E. A. BRANNON,
CHARLES POWELL,
KEMBLE WHITE,
Its Attorneys.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

J. U. Jolliff, being duly sworn, says that he executed the within notice upon the within named Franklin McKinley, Alrose Starcher and A. S. Starcher, her husband, and Aldo McKinley by delivering to each of them in person in Lewis County, West Virginia that being the County wherein the said parties reside, a true copy thereof, on the 16th day of November, 1912.

(Signed) J. U. JOLLIFF.

Subscribed and sworn to before me, a Notary Public in and for the County of Harrison, State of West Virginia, by the said J. U. Jolliff, this 21st day of November, 1912.

(Signed) P. E. HILL,
Notary Public, Harrison County, West Virginia.

My commission expires June 17, 1917.

574 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

John C. Long, being first duly sworn, on his oath says that he served the within notice upon the within named Alrose Lucille McKinley, Lessie Rill McKinley and J. H. Smith as Guardian of Alrose Lucille McKinley and Lessie Rill McKinley, infants, and Flora A. Smith on the 18th day of November, 1912, by delivering to them and to each of them in person, in the County of Wirt, West Virginia, a true copy hereof.

(Signed) JOHN C. LONG.

Taken, sworn to and subscribed before me on this the 19th day of November, 1912.

(Signed) PHILIP P. STEPTOE,
Notary Public for Harrison County, West Va.

My commission expires Feb. 23, 1914.

575 RESERVE GAS COMPANY

vs.

FRANKLIN MCKINLEY et al.

Upon Proceeding to Take an Easement in, Over, and Through Land for Public Use.

(*Order Entered November* 29, 1912.)

This day came Reserve Gas Company, a corporation, by A. B. Fleming, W. W. Brannon, E. A. Brannon, Charles Powell and Kemble White, its attorneys, and presented a notice given by it to Alrose Lucile McKinley, an infant, Lessie Rill McKinley, an infant, J. H. Conrad, Guardian of said Alrose Lucile McKinley, infant, and of Lessie Rill McKinley, infant, and to Flora A. Smith, notifying them that said Reserve Gas Company would at this time and place file its application by petition for the appointment by the court of commissioners to ascertain a just compensation to the persons entitled thereto for a right of way or easement to lay, construct, operate and maintain across, in and through that certain piece, parcel or strip of land in said notice particularly described, along the center line particularly described therein, a line of wrought iron or steel pipe of the diameter of six inches for transporting natural gas for public use, to be buried at a depth of at least twelve inches below the surface; and for such orders and proceedings to be entered and had as may be necessary to condemn the said right of way or easement for such public use or purpose.

And thereupon the petitioner and applicant moved the court that said notice be filed and made part of the record herein.

And the court having seen and inspected said notice and return of service endorsed thereon, and it appearing that the said
576 notice was duly served upon said Alrose Lucile McKinley, an infant, Lessie Rill McKinley, an infant, J. H. Smith, Guardian of said Alrose Lucile McKinley, infant, and of Lessie Rill McKinley, infant, and upon Flora A. Smith, in Wirt County, West Virginia, on the 18th day of November, 1912, and that each of said four persons has had more than ten days' notice of the filing of said petition and application in writing, for the purposes mentioned in said notice; it is therefore ordered that the said notice be and the same is hereby filed, and made part of the record of this proceeding.

On motion of said petitioner and applicant, John H. Conrad is appointed Guardian ad litem for the two infant defendants, Alrose Lucile McKinley, infant, and Lessie Rill McKinley, infant.

Thereupon came the said John H. Conrad, Guardian ad litem as aforesaid, and filed in open court his answer as such guardian ad litem for said two infant defendants, duly verified by affidavit, to the petition and application of the applicant herein, to which answer the applicant replies generally. And came also the defendant Franklin McKinley in person and by Thomas I. Cummings, his counsel.

And it further appearing to the court that this proceeding is regularly matured for hearing upon the application and petition, as to all defendants; and the court having read and inspected said petition and application and plat and exhibits therewith, finds that it describes the said lands, a right of way or easement across, through and in which, for laying, constructing, operating and maintaining a line of wrought iron or steel pipe of the diameter of 6 inches, for transporting natural gas for public use, it proposed to take, and states the name of the owners of said land and the
577 nature of the interest of said parties therein, and the purpose for which said easement or right of way is proposed to be taken, and that said applicant has been unable to, and has failed to, agree with said owners as to the compensation to be paid them therefor, and also states the other matters and things required by law to be stated in such application, the court doth therefore find and order that the use for which the land or easement sought to be appropriated by the applicant in this case is to be taken is a public use, and that said land or easement or right of way is necessary to be taken by said applicant for the use and purposes as in said application and petition alleged, and that this case is one in which the applicant has the right to condemn for the use and purposes averred in its said application the said easement therein set out, and has a lawful right to take the said easement or right of way, that is to say: An easement or right of way for the purpose of laying, constructing, maintaining, operating and removing a line of wrought iron or steel pipe of the diameter of 6 inches of the applicant for transporting natural gas for public use in, over and through a certain piece, strip or parcel of land (containing about 44 acres) belonging to said Franklin McKinley, Alrose Lucile McKinley, an infant, Lessie Rill McKinley, an infant, J. H. Smith, Guardian of said Alrose Lucile McKinley and Lessie Rill McKinley, infants, Flora A. Smith, Alrose Starcher and A. S. Starcher, her husband, Aldo McKinley, West Virginia Central Gas Company, a corporation, Eastern Oil Company, a corporation, bounded and described as follows, viz: A strip of land situated in Freemans Creek District, Lewis County, West Virginia, 20 feet in width, being in line 10 feet on each side of a center line, which said center line begins at a point in the line between the lands of Franklin McKinley and R. H. Hall, said point standing N. 10° E. 709 feet from a fence
578 post corner of R. H. Hall and George McKinley heirs, thence extending across the lands of Franklin McKinley South 74° 30′ east 230 feet to a stake; thence South 66° 30′ east 871 feet to a point on the boundary line between the lands of said Franklin McKinley and Sim Hall, which point stands on said boundary line

S. 8° E. 172 feet from a fence post, a common corner between land of Franklin McKinley and Sim Hall.

And the said Reserve Gas Company now asking by petition th appointment of five disinterested freeholders to serve as commissio ers to ascertain what will be a just compensation to the perso entitled thereto for the easement so to be taken and appropriat by said Reserve Gas Company as aforesaid, &c.; and the court pr ceeding to the appointment of commissioners as so asked, do hereby nominate thirteen disinterested freeholders in this coun as follows: J. Goodloe Jackson, J. S. Turner, Perry E. Fetty, Fran L. Taylor, John B. Watson, J. E. Swisher, A. M. McQuain, W. Harold, Lee A. Beach, T. J. Lough, George L. Post, Luke Whi and J. W. Duncan, and the said applicant and the defendant Fran lin McKinley now appearing by their respective counsel, and th guardian ad litem also now appearing, proceeded to ascertain, provided by law, from said thirteen disinterested freeholders the fi to act as commissioners, which lot and choice fell upon the follo ing named five freeholders (of said thirteen) to act as such co missioners: Perry E. Fetty, Frank L. Taylor, J. E. Swisher, W. Harold and T. J. Lough.

Thereupon it is further ordered by the court that said five fre holders so selected as such commissioners shall act as such, and th after being duly sworn for the purpose, they do proceed with all co venient speed and after viewing said premises and hearin
579 any proper evidence offered, ascertain according to law wh will be a just compensation to the parties entitled thereto f the right of way or easement to lay, construct, operate and maint said line of wrought iron or steel pipe for transporting natural g for public use on, over and through the said strip or parcel of lan so proposed to be taken by the applicant in this case, as well damages to the residue of said real estate beyond the peculiar benef which will be derived in respect to such residue from the work to constructed, or from the purpose to which the part to be taken the applicant is to be appropriated, and make report of their pr ceedings to this court according to law.

580 RESERVE GAS COMPANY

VS.

FRANKLIN MCKINLEY et al.

Upon Proceeding to Take an Easement in, Over, and Throu Land for Public Use.

(*Order Entered December* 23, 1912.)

This day came the applicant, Reserve Gas Company, by A. Fleming, W. W. Brannon, E. A. Brannon, Charles Powell an Kemble White, its attorneys, and came also the defendant Fran lin McKinley by Thomas I. Cummings, Esq., his attorney, and cam also John H. Conrad, Guardian ad litem for the infant defendan

Alrose Lucile McKinley and Lessie Rill McKinley, and on motion of the applicant the oath taken by the commissioners appointed in this case, duly certified, as required by law, is now filed in the papers of this case. And upon like motion of said applicant, the report of the four of said commissioners who acted (the other commissioner not having acted), which was filed in the clerk's office December 20, 1912, is now filed in the papers of this case, said report bearing date December 20, 1912; and to which report the defendant, Franklin McKinley, has made and filed exceptions and demanded that the question of compensation to be paid for the land or easement proposed to be taken by the applicant in this proceeding be ascertained by a jury of twelve freeholders to be selected and empaneled for the purpose in the manner provided by law, which said exceptions to said report, as well as said demand, are attached to the said report. And on the further motion of the applicant, it is ordered that the said report of commissioners, together with the oath so taken
581 by said commissioners and certified as aforesaid and filed by this order, and the said exceptions made and filed to said report, be recorded in full in the law order book of this court, all of which is now done; said report, oath and exceptions being in the words and figures following, to-wit:

(*Oath.*)

"RESERVE GAS COMPANY, a Corporation,

vs.

FRANKLIN MCKINLEY and Others.

Upon Proceeding to Take an Easement in, Over, and Through Land for Public Use.

STATE OF WEST VIRGINIA,
County of Lewis, To wit:

I, John H. Conrad, Clerk of the Circuit Court of Lewis County, West Virginia, do hereby certify that Frank L. Taylor, J. E. Swisher, W. C. Harold and T. J. Lough, Commissioners appointed by the Circuit Court of Lewis County, West Virginia, upon the application of the Reserve Gas Company, a corporation, to ascertain a just compensation to the said Franklin McKinley and others, owners of land proposed to be taken by said Company for public purposes, and described in the petition of said Company, led in the said Court on the 26th day of November, 1912, personally appeared before me in my said County on this day, and each of them, before entering upon the discharge of his duties as such Commissioner, made oath that he will honestly and impartially perform his duties as such Commissioner to the best of his skill and judgment.

Given under my hand this 20th day of December, 1912.

(Signed) JOHN H. CONRAD,
Clerk Circuit Court Lewis County, West Virginia.

582 (*Report.*)

RESERVE GAS COMPANY, a Corporation,

vs.

FRANKLIN MCKINLEY and Others.

Upon Proceeding to Take an Easement In, Over, and Through Lan for Public Use.

Report of Commissioners.

To the Honorable Charles W. Lynch, Judge of the Circuit Cou of the County of Lewis, State of West Virginia:

We, the undersigned Commissioners, appointed by the Circui Court of Lewis County, West Virginia, by an order made on th 29th day of November, in the year 1912, on the application of th Reserve Gas Company, a corporation, respectfully report, that, hav ing been first duly sworn, we viewed the real estate owned by Frank lin McKinley and others, as fully mentioned and described in th petition and application of the Reserve Gas Company, filed in th above styled proceeding, on the 26th day of November, 1912, an are of opinion that One Hundred and Thirty-three and 40/10 ($133.40) Dollars will be a just compensation for so much of th said real estate as is proposed to be taken by the said applicant; tha is to say: The right of way or easement to lay, construct, maintain operate and remove, in and through that certain parcel or strip o land hereinafter described, situate in Lewis County, West Virginia along the center line hereinafter set out, on the survey over sai land, a line of wrought iron or steel pipe, six inches in diameter of the applicant for transporting natural gas for public use, the sai parcel of land being bounded and described as follows, to wit:

A strip of land situated in Freeman's Creek District, Lewis County West Virginia, twenty-feet in width, being in line ten feet on each side of a center line, which said center line begins at a poin

583 in the line between the lands of Franklin McKinley an R. H. Hall, said point standing N. 10 E. 709 feet from fence post, corner of R. H. Hall and George McKinley heirs thence extending across the lands of Franklin McKinley, South 7 30′ E. 230 feet to a stake; thence South 66 30′ East 871 feet to point on the boundary line between the lands of said Franklin Mc Kinley and Sim Hall, which point stands on said boundary lin S. 8 E. 172 feet from a fence post and common corner between land of Franklin McKinley and Sim Hall; which said piece, parcel o strip of land is fully described in the petition filed by the Reserv Gas Company in the Circuit Court of Lewis County, West Virginia as aforesaid, and on the plat filed therewith, which plat is marked "Plat," for identification, as well as for damages to the residue o the said real estate beyond the peculiar benefits which will be derive

in respect to such residue from the work to be constructed or from the purpose to which the part to be taken by the said applicant is to be appropriated.

Given under our hands, this 20th day of December, 1912.

(Signed) F. L. TAYLOR,
J. E. SWISHER,
W. C. HAROLD,
T. J. LOUGH,
Commissioners.

Costs and Expenses:

Frank L. Taylor, 2 days, 14 miles	$5.40
J. E. Swisher, 2 days, 15 miles	$5.50
W. C. Harold, 2 days, 37 miles	$7.70
T. J. Lough, 2 days, 13 miles	$5.30
	$23.90

584 (*Exception.*)

The defendant, Franklin McKinley, excepts to the within report of Commissioners upon the ground the amount ascertained by them and therein reported as compensation and damages to exceptor and defendant is entirely too small and insufficient.

And the said Franklin McKinley demands that the question of the said compensation be ascertained by a jury of twelve freeholders to be selected and empaneled in the manner provided by law.

(Signed) FRANKLIN McKINLEY,
By THOMAS I. CUMMINGS,
W. J. SMITH,
His Attorneys."

And thereupon the said applicant, Reserve Gas Company, paid into court to the Clerk thereof, the said sum of $133.40, that being the sum ascertained by said commissioners as compensation and damages to the persons entitled thereto (being the defendants, or such of them as may be entitled to the same) for the land proposed to be taken in and by the petition and application of said Reserve Gas Company, &c.

And the said applicant, Reserve Gas Company, having so as aforesaid paid into court the said compensation and damages so ascertained by said commissioners, it is further considered and ordered that the said Reserve Gas Company, notwithstanding the pendency of further proceedings, enter upon, take and use for the purposes specified in its said application and petition that part of the land in respect to which such payment is made, and generally that the said applicant shall have all such rights, privileges and franchises as in the said application and petition are asked and as are conferred upon it by Section 20 of Chapter 42 of the Code of West Virginia as amended.

And the said Franklin McKinley having filed exceptions to said report of said commissioners, and demanded that the question
585 of compensation to be paid by the applicant be ascertained by a jury, it is further ordered that the question of the compenstion to be paid by said Reserve Gas Company for said land proposed to be taken by it in and by this proceeding and its application herein, be ascertained by a jury of twelve freeholders, who shall be selected and empaneled for the purpose in the manner provided by law.

It is further ordered that the Clerk of this court do take charge of and hold the said sum of $133.40 subject to the further order of the court.

586 STATE OF WEST VIRGINIA,
County of Lewis, To wit:

I, Geo. Woofter, Clerk of the Circuit Court of Lewis County, State of West Virginia, do certify that the foregoing are true, correct and complete copies of the petition and exhibits therewith filed on November 26, 1912, and of the orders made and entered on November 29, 1912, and December 23, 1912, in the condemnation proceeding of Reserve Gas Company, a corporation, versus Franklin McKinley and others, lately pending in said Circuit Court, as the same remain of record in my said office.

In testimony whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31st day of January, 1921.

[Seal of the Circuit Court, Lewis County, West Virginia.]

GEO. WOOFTER,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Haymond Maxwell, Judge of the Circuit Court of Lewis County, State of West Virginia, do certify that George Woofter, by whom the foregoing attestation was made, was, at the date thereof, clerk of said Court duly qualified, and that said attestation is in due form of law and made by the proper officer.

Witness my hand and seal on this the 31st day of January, 1921.

HAYMOND MAXWELL. [SEAL.]

587 STATE OF WEST VIRGINIA,
County of Lewis, To wit:

I, Geo. Woofter, Clerk of the Circuit Court of Lewis County, State of West Virginia, do certify that the Honorable Haymond Maxwell, by whom the above certificate was given, and whose name is thereto subscribed in his own proper handwriting, was, at the date

thereof, Judge of the said Circuit Court of Lewis County, duly commissioned and sworn and acting.

In witness whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31st day of January, 1921.

[Seal of the Circuit Court, Lewis County, West Virginia.]

GEO. WOOFTER,
Clerk.

588 [Endorsed:] Fee $1.00 paid by Steploe & Johnson.

589 HOPE V. RHODES COND. W. VA. EX. 46.

EX. W. VA. NO. 46. O. L. H.

HOPE NATURAL GAS COMPANY

v.

ARTHUR W. RHODES, et al.

Condemnation.

Petition for Condemnation of Right of Way for Pipe Line for Transportation of Natural Gas.

Filed in the Circuit Court of Harrison County December 29, 1909.

To the Honorable Charles W. Lynch, Judge of the Circuit Court of Harrison County, West Virginia:

Your petitioner, Hope Natural Gas Company, a corporation created, organized and existing under and pursuant to the laws of the State of West Virginia, respectfully represents unto your Honor that it is such corporation created, organized and existing under the laws of said State; that it obtained its original certificate of incorporation or charter from the Secretary of State of said State on the 17th day of September, 1898, by which the corporators are declared to be from the said date until the 1st day of August, 1948, a corporation
590 by the name of Hope Natural Gas Company.

That for the purpose of enlarging and modifying its powers rights and privileges, and with a view of investing itself with additional powers, rights and privileges, a resolution was adopted by the stockholders of your petitioner in stockholders' meeting assembled on the 21st day of January, 1904, providing that the objects and purposes for which said corporation was incorporated be enlarged and modified in accordance with and by virtue of the authority of Section 10 of Chapter 54 of the Code of West Virginia, so that said objects and purposes should be those set forth in a new agreement

(which was then adopted), and which new agreement is by said resolution adopted in lieu and instead of the one under which said corporation was theretofore organized.

That the said new agreement so adopted by said resolution in lieu and instead of the one under which petitioner corporation was organized, was duly executed and acknowledged by the stockholders signing the same, and the said resolution and new agreement duly acknowledged, and accompanied by the proper certificates and affidavits, were delivered to and filed with the Secretary of State of said State of West Virginia in his office on the 1st day of February, 1904; and thereupon the said Secretary of State, on the said resolution and new agreement, and certificates and affidavits accompanying the same, issued to the stockholders named in said new agreement, and all the other stockholders of said corporation, and their successors and assigns, an amended or modified charter or certificate of incorporation of this petitioner, thereby declaring the stockholders named in said new agreement and all the other stockholders of said corporation and their successors and assigns to be, from the date thereof (February 1st, 1904), until the 1st day of August, 1948, a corporation by the name and for the purposes and objects set forth in the said new agreement; and further thereby declaring that the said corporation shall henceforth be subject to such new agreement as set forth in said certificate in lieu of its original certificate of incorporation.

591 Your petitioner if required will file as part of this petition duly certified copies of the said original charter or certificate of incorporation and the said new or amended and modified charter or certificate of incorporation, marked and designated "Exhibit No. 1;" and prays that the same if, and when, filed may be taken, read and considered as part hereof, and your petitioner invites the attention of the Court especially to the said resolution and new agreement and the said new or amended and modified charter or certificate of incorporation.

That as shown by said resolution and new agreement and the said new or amended and modified charter or certificate of incorporation, petitioner is thereby continued as such corporation by the name of Hope Natural Gas Company; and that petitioner is incorporated for the objects and purposes following:

For drilling, boring, mining and operating for the production of natural gas; the producing, dealing in, buying and selling, acquiring, storing, transporting by pipes and otherwise natural gas for its own use and for the selling and supplying of natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and purchasers for use in cities, towns, villages, districts and other municipalities and places in the State of West Virginia, as well as elsewhere, where the said natural gas may be discovered, purchased, stored or transported by the said Hope Natural Gas Company; for the erecting, laying, maintaining, operating, repairing and removing derricks, pipes, lines of pipes, connections and regulators, pump stations, buildings, shops, structures, tanks, pumps,

compressors, gasometers, valves, gates, telegraph and telephone poles and lines, and all other structures and appliances, including street mains, pipes and conduits necessary, incident and convenient to the production, storage, piping and transporting and conveyance
592 of natural gas and petroleum oil; for the production, saving, storing, dealing in and selling petroleum oil and such other volatile substances as may be found in the drilling and mining for the production of natural gas. Also for the purchasing, leasing, acquiring, holding, owning, granting and conveying all such lands and leaseholds for oil and gas purposes and such other real and personal property, including right-of-way, as may be necessary and convenient for the purpose of producing, transporting, selling and supplying natural gas and petroleum oil, and for the full and complete exercise and enjoyment of each and all of the powers and purposes hereinbefore as well as hereinafter set forth, and with the right and power, from time to time, to sell, lease, surrender and dispose of any or all of such real and personal property. Also to have, exercise and enjoy the right of eminent domain, and in the exercise of such right to take, condemn, use and enjoy such lands, rights-of-way, easements and property as shall be necessary to enable it to lay and construct its mains, pipes and conduits, pump stations, telegraph and telephone lines and other structures and appliances necessary and required for the transportation of natural gas; and also to have the right and power to subscribe for and purchase and acquire the stocks, bonds and securities of other companies, and to have the right and power to do all other acts, and to have and possess all other powers and privileges necessary for the carrying out of the objects and purposes of this corporation, as above set forth.

Petitioner further shows and represents that since the granting to it of the said new or amended and modified certificate of incorporation, it has been operating under the same and exercising the powers, rights and privileges thereby conferred upon it and with which it is thereby invested.

That since the granting of said new or amended and modified charter or certificate of incorporation, as well as for several
593 years before, petitioner has been, and is, engaged in the business of selling and supplying natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and purchasers for use in incorporated cities, towns, villages, districts and other municipalities and places in the State of West Virginia, and has been and is supplying natural gas to the public for fuel, illuminating and other purposes, and has been, and is still, at great expense and cost to it, erecting, laying, maintaining and operating pipes and lines of pipe, etc., for transporting natural gas with which to supply the public and said other purchasers and consumers with natural gas for fuel, illuminating, heat, power and other purposes; and that it has been and is transporting natural gas to be supplied to the public and said other purchasers and consumers for fuel, heat, illuminating, power and other purposes by and through its said pipes and pipe lines.

That petitioner in the exercise of its rights, powers and privileges, and in the conduct of its business, has been and is supplying natural gas for public use for the purpose of heating and illumination to the following named incorporated cities and towns in the State of West Virginia, and to the inhabitants thereof, that is to say: The City of Mannington, in Marion county, West Virginia; the incorporated towns of Smithfield, Pine Grove, Wileyville, Hundred and Littleton, in the county of Wetzel, in the State of West Virginia; the incorporated town of Fairview, in Marion County, West Virginia, and the incorporated town of West Milford, in Harrison county, West Virginia. That petitioner supplies the greater number of said incorporated cities and towns with natural gas for street lights and other heating and illuminating purposes and public uses.

594 That in addition to the above enumerated incorporated cities and towns, petitioner supplies natural gas for heating, illuminating, power, fuel and other purposes to the citizens of a large number of unincorporated towns and villages in the State of West Virginia, and to persons residing in and inhabitating such unincorporated towns and villages; that among the latter are the villages and towns of Wallace, in Harrison county; Folsom, in Wetzel county; Metz and Glover's Gap, in Marion county; Wadestown, in Monongalia county.

That in addition to the incorporated cities and towns, and the inhabitants thereof, and the unincorporated towns and the inhabitants thereof, aforesaid, to which petitioner supplies natural gas for the purposes aforesaid, it also supplies natural gas for such purposes to various school houses and school sub-districts in the counties of Harrison, Wetzel, Monongalia and Marion, in the State of West Virginia; and to a large number of contractors and persons, firms and corporations drilling oil, gas and other wells in said counties (or a part of them), and to a large number of other persons, firms and corporations for use in pumping wells, operating water stations, oil pumping stations, manufacturing plants, etc.

That natural gas so supplied by petitioner to incorporated cities and towns and the inhabitants thereof for heating and illuminating purposes, as well as to school sub-districts and houses, individuals, water stations, oil pumping stations and other consumers is so supplied under contracts; and that where the same is supplied for heating and illuminating purposes to incorporated cities and towns, it is so done under contract with such cities and towns, and where the same is supplied to school houses, it is so supplied under contract with the proper school officers. That petitioner has existing valid contracts extending into the future, for supplying natural gas to said towns, inhabitants and consumers.

595 That petitioner in supplying natural gas to the said incorporated cities and towns, and their inhabitants, for the purpose of heating, illumination, etc., has been and is occupying the streets and alleys of such incorporated cities and towns for the purpose by means of the location therein of its pipes, connections, boxes, valves and other fixtures, under (in most instances) an ordinance of the said city or town. That in the City of Mannington and the

towns of Littleton, Fairview, Wileyville and West Milford aforesaid, in particular, petitioner has ordinances authorizing it to locate, lay and maintain in the streets and alleys thereof pipes, connections, boxes, valves and other fixtures for the purpose of supplying natural gas to the city and town and their inhabitants.

That in the said incorporated towns of Hundred and Fairview, petitioner has the due and legal authority of each of said towns to supply natural gas thereto, and to the inhabitants thereof, by means of occupying the streets and alleys with its pipes, connections, etc., for the purpose; and it repeats that it supplies the said towns and other towns under contract with natural gas for heating and illuminating purposes.

That the above named towns of Smithfield and Pine Grove have each been incorporated since the pipes, connections, boxes, valves and other fixtures of petitioner were laid in the streets and roads which now comprise the streets and alleys of said towns; and that petitioner both before and since the incorporation of such towns, has been and is occupying and using the said streets and alleys with its said pipes, connections, etc. That petitioner is advised that having the right to so occupy said streets and roads before the incorporation of said towns, that it still has the right and authority so to do, notwithstanding the incorporation thereof, and without obtaining specific ordinances from the said municipalities authorizing it to continue to so occupy and use said streets and alleys. However, it avers that it has the consent and approval of the municipal authorities in 96 so doing.

That petitioner, as is its bounden duty, furnishes, and is ready and willing to furnish, at uniform and reasonable rates, natural gas for heating, illuminating, fuel, power and other purposes to every inhabitant of the several incorporated cities and towns above named who applies therefor, and complies with the regulations prescribed by the ordinances of such of said cities and towns as have fixed ordinances authorizing the same, and who complies with the regulations fixed by the council of such of said towns as have not a specific ordinance, and also furnishes and is willing to furnish all other consumers therewith, at uniform and reasonable rates.

That petitioner is the owner of the ordinances and franchises above specified granted and enacted by the council of the said City of Mannington and of the said town of Littleton, and of the franchises, rights, privileges and ordinances granted, allowed and permitted in regard to the supplying and using of natural gas by the said other incorporated towns aforesaid.

That the said franchises and ordinances of said City of Manningon and said town of Littleton, as well as the franchises, rights and privileges granted to and allowed and permitted to be used and exercised by petitioner in said other incorporated towns by the council thereof, are still in full force and effect, and have never been revoked, annulled, forfeited to or declared void by any of the said councils. That said Mannington and Littleton franchises were made and granted to Flaggy Meadow Gas Co., and have passed by deed and assignment to petitioner. If required a certified copy of said Man-

nington franchise and a true copy of said Littleton franchise will be filed as parts hereof, marked "Exhibits Nos. 2 and 3."

597 That it became necessary for petitioner, in order to supply natural gas to the said several incorporated cities and towns, and their inhabitants, as well as the several other towns, individuals, firms, corporations, co-partnerships, etc., for heating, fuel, illuminating, power and other purposes, and to keep up the required and necessary supply of such gas, that it discover and produce an additional supply of natural gas; that to discover and produce the same, it became necessary for petitioner to drill, at large cost and expense, new wells for the purpose in the county of Harrison and several other counties in the state of West Virginia, and to acquire other wells in said counties; and that petitioner has drilled several new wells in said several counties and has discovered and found a large supply of natural gas in the said wells, and has acquired sundry other wells producing natural gas. That from said wells so drilled by it, as well as from said wells so acquired by it, petitioner produces natural gas with which to supply the said incorporated cities and towns and the said inhabitants thereof, aforesaid, as well as said other purchasers and consumers. And that in order to supply said incorporated cities and towns and the inhabitants thereof, as well as other consumers and prospective consumers in Harrison county, and elsewhere, with such natural gas produced from said last mentioned wells, for heating, illuminating and other purposes it is necessary that petitioner lay, construct and maintain an additional line of pipe from some of the wells in said several counties, through a portion of said Harrison county and portions of other counties in the state of West Virginia, so as to reach the above mentioned incorporated cities and towns, and the inhabitants thereof, as well as said other consumers in Harrison county and elsewhere, with said pipe line for the purpose of transporting such natural gas; and it is also necessary that petitioner transport such natural gas through said pipe line and supply the same for said purposes to said incorporated cities and towns, and the in-

598 habitants thereof, and said other consumers in said Harrison county and elsewhere.

Petitioner avers that it has valid subsisting contracts with inhabitants in said Harrison and said other counties, which contracts require petitioner to supply said last named inhabitants with natural gas, and that in order to enable petitioner to perform the obligations of said contracts and to furnish gas to said inhabitants and other prospective consumers, it is necessary that petitioner lay and construct its pipe line along the route and over, in and through the piece, parcel or strip of land hereinafter particularly described.

That petitioner has surveyed a route for laying and constructing said pipe line from its gas wells through a portion of said county of Harrison as well as portions of others of said counties in the state of West Virginia, and proposes to, and it is necessary for it to, lay and construct for the greater part of the distance along said route an eighteen inch, and for the residue of said distance a twelve inch, line of wrought iron or steel pipe for transporting natural gas for

public use along the route so surveyed and marked out for that purpose; and petitioner has procured rights-of-way or easements for the laying, constructing and maintenance of such pipe line over and through several of the tracts of land through which the same passes on the line or route so surveyed; and that petitioner has begun, and is now engaged in, the actual laying and construction of the said pipe line on the route so selected and surveyed for that purpose through a portion of said Harrison county and portions of other said counties in the state of West Virginia; that among the lands over and through which the said route for said pipe line has been selected, and over and through which it was and is necessary that said pipe line be laid, constructed and maintained, are two tracts of land containing about 226 acres and about 99¼ acres, respectively, lying adjoining, and situated in said Harrison county, said state of West Virginia, adjoining lands of James S. Law and others, which said tracts of land are owned in fee simple by Arthur W. Rhodes, subject to the rights hereinafter set out of Albert L. Green and J. A. Hardaway, with the exception of a certain lease and leasehold rights and estates for oil and gas purposes, which is owned by South Penn Oil Company and Hope Natural Gas Company, your petitioner.

That it is necessary for petitioner to, and it proposes to construct, lay, maintain and operate its said pipe line in said county of Harrison over and through the said last named tracts of land of said Arthur W. Rhodes, and over the leasehold rights of said South Penn Oil Company and Hope Natural Gas Company, your petitioner. That the said line over and through the said 99¼ acre tract is to be of the diameter of eighteen inches and over and through said 226 acres is to be of the diameter of twelve inches. That it desires to proceed with the laying and construction of said pipe line over and through the said lands.

That petitioner desires and proposes to take for the purpose of constructing, laying and maintaining its said pipe line, a right-of-way or easement to lay, construct, operate and maintain over and in the certain piece, parcel or strip of said two tracts of land hereinafter described, along the center line hereinafter set out of the survey over said lands, such line of wrought iron or steel pipe for transporting natural gas for public use; which said piece, parcel or strip of said land is bounded and described as follows, to-wit:

A strip of land situated in Union District, Harrison County, West Virginia, 20 feet in width, being in line 10 feet on each side of a center line, which said center line begins at a point in the center of the West Fork River, where said river forms the boundary line between the lands of Arthur W. Rhodes and James Q. Musser; thence across a tract of 226 acres owned by said Arthur W. Rhodes, N 37° 57′ W 120 feet; thence N 39° 34′ W 958 feet to a point on the boundary line between said Rhodes tract of 226 acres and a tract of 99¼ acres lately owned by William E. Hacker and by him sold, (though not conveyed by deed of record), to said Arthur W. Rhodes; thence across the said tract of 99¼ acres, N 39° 34′ W 265 feet; thence N 19° 51′ W 1371 feet to the

boundary line between said tract of 99¼ acres and the land of William J. Law, at a point which is N 53° E 36 feet from a white oak corner on said boundary line; the said line of pipe to be twelve inches in diameter where it crosses said tract of 226 acres and eighteen inches in diameter where it crosses said tract of 99¼ acres.

Your petitioner files herewith as part hereof a plat in two sections of said piece, parcel or strip of said two tracts of land through which it proposes to take said right-of-way or easement, which plat is marked "Plat" for identification.

That the said right of way or easement for such line of pipe over and in said piece, parcel or strip of said two tracts of land is proposed to be taken by your petitioner, and is intended by your petitioner to be appropriated for the purpose of constructing, laying, maintaining and operating such pipe line for transporting natural gas for public use, under and by virtue of its new or amended and modified charter or certificate of incorporation, under the laws of said state. That petitioner will appropriate and use said right-of-way or easement for such line of pipe over and in said piece, parcel or strip of land for public use and for the purpose of constructing, laying, maintaining and operating such pipe line for transporting natural gas for public use, and intends to, and will, use said line of pipe for transporting natural gas for public use.

601 That petitioner proposes to and will bury the said line of pipe (where the same is laid and constructed through said strip, piece or parcel of said land) at a depth of at least twelve inches under the surface, and all excavations will be well filled by petitioner and so kept by it. And that the said owner of said land, and others interested, after said line of pipe has been laid and buried, are to, and will, have the full use and enjoyment of the surface of said land for agricultural and other purposes in like manner as before the entry of your petitioner on the same, and are to, will and shall have the full use and enjoyment of said land in all other respects after said line of pipe is laid, the same as before, except as to the space under the surface occupied by said line of pipe, and except as to such temporary use as shall be necessary in maintaining said line of pipe and in taking up and removing the said line of pipe after the abandonment of said line and easement.

That an easement or right-of-way in, over and through said strip of said land is essential and necessary for the use of petitioner in the construction and maintenance of its pipe line, and it cannot construct and maintain such line without said easement or right-of-way.

That the use and purpose to which petitioner intends and proposes to, and will, put and appropriate said easement or right-of-way is a public use and purpose.

That the said above named Arthur W. Rhodes is the owner of said two tracts of land, subject to the rights of said Albert L. Green and J. A. Hardaway hereinafter set out.

That when the notice hereinafter set out was given, the legal title to said 99¼ acre tract had not been conveyed by William E. Hacker to said Arthur W. Rhodes, but since the giving of said notice

proper deed of conveyance for said land has been made and delivered by said Hacker to said Rhodes.

That (as above stated) the nature of the interests of said owner is fee simple title to said lands.

And your petitioner further avers and shows that South Penn il Company and Hope Natural Gas Company, your petitioner, rn and hold a lease for oil and gas purposes upon each of the said acts of land, containing 226 acres and 99¼ acres, respectively, hich said leases are, as petitioner is advised, in full force and fect. That the same are made upon the usual terms of oil and s leases in that neighborhood, and each grants to the lessee the ghts and privileges for operating developing and producing the l and gas in the land. If insisted upon, your petitioner will file parts of this petition certified copies of said oil and gas leases.

That petitioner does find upon the records of said county the llowing liens and charges upon and against the said lands of rthur W. Rhodes, that is to say:

1. Under the will of Thomas A. Horner certain provisions are ade in favor of Emma A. Horner and Mary V. Horner (now hodes) whereby should they at the death of their mother not be arried they, or either of them, that may be single, is to have the arm as a home and support for either one or both of them as ng as they may remain unmarried, which said provision petitioner advised was meant to and did and does apply to the said 226 acres f land. Petitioner has named the said Emma A. Horner and the id Mary V. Rhodes in its notice hereinafter referred to and made hem parties hereto, because of said provision, and if it is or beomes necessary in this proceeding to determine whether or not he marriage of said Mary V. Horner terminates her rights under id provision of said will, then petitioner submits the said question o the determination of this Honorable Court.

2. There exists in favor of Nathan Goff a vendor's lien for $650.00 with interest from July 12th, 1883, reserved in deed made by said Goff to Philip H. Hilkey for said 99¼ acres, earing date July 12th, 1883, and recorded in the Clerk's office of he County Court of Harrison County in Deed Book No. 67, page 93.

3. There exists in favor of Phillip H. Hilkey, now deceased, and whose administrator is M. J. Francis, Sheriff of Harrison County nd as such administrator of the personal estate of said Hilkey, a endor's lien in the sum of $875.00, with interest thereon from the 4th day of December, 1885, reserved in a deed of conveyance of aid 99¼ acres executed by said Phillip H. Hilkey and wife to W. S. Horner, bearing date December 14th, 1885, and recorded in the ame office in Deed Book No. —, page 152.

In this connection petitioner further shows and avers that at the ime it gave the notice hereinafter referred to W. S. Horner, who is named in said notice, appeared to have a vendor's lien upon the aid 99¼ acres of land in the sum of $2,200.00, but petitioner avers

that the said Horner has released the same since the giving of the said notice; that the money secured by said lien has been fully paid to said Horner and he has released the same, and has no interest in the said land or this proceeding, and is not a necessary or proper party to the same. Petitioner will, if required, file as a part hereof a duly certified copy of the said release of said lien so executed by the said W. S. Horner.

Petitioner further shows and avers that William E. Hacker named in the said notice, now has no interest in either of the said two tracts of land, and is not a necessary party hereto, the said Hacker having as above stated conveyed the said 99¼ acres
of land in fee simple to the said Arthur W. Rhodes
604 since the giving of said notice.

That J. A. Hardaway, named in said notice, owned the said 99¼ acres of land at one time, and that he conveyed the same to William E. Hacker by deed bearing date the 19th day of April, 1901, and of record in said Clerk's office in Deed Book No. 123, page 173, and that in and by said deed the said J. A. Hardaway reserved from the property conveyed unto himself the ½ of the royalty on the oil and ½ of the rental on each gas well,—reciting in the said deed that the said tract of land is (at the date of said deed) under lease to the South Penn Oil Company.

That while the said William E. Hacker owned the said 99¼ acres of land, to wit, on the 28th day of September, 1903, he and his wife executed to Albert L. Green (named in said notice), a paper writing which was on 4th day of November, 1904, recorded in the Clerk's office of the County Court of Harrison County in Deed Book No. 145, page 218, whereby they released to said Green for building and til-ing purposes only, a lot of land (being a part of said 99¼ acres), bounded as follows: On the east by West Fork River; on the south by lands of Arthur Rhodes; on the north and west by county road. To have and to hold from the date of said writing so long as said Green is an employe at the water station near said lot on Arthur Rhodes' land. And petitioner has made the said Albert L. Green a party to said notice and this proceeding because of his interest and rights under the said paper in and to the said lot or parcel of said 99¼ acres of land.

That James M. Riffee, named in the said notice is, as petitioner is informed and believes, and on such information and belief avers, a tenant of the surface of a portion of said 226 acres of land, in
possession thereof as such tenant.
605 Petitioner further avers and shows that the said vendor's liens of said Nathan Goff and Phillip Hilkey have long since been paid off and discharged as this petitioner is informed and believes, and that the same, and each of them, should be released.

That petitioner does not find upon the records of said Harrison County any other liens or charges upon or against said tracts of land, or either of them, of the said Arthur W. Rhodes, or upon or against any interest therein, other than those hereinabove set out; and does not find upon said records any other claims to said lands, or either tract thereof, or to any interest in either tract thereof, or to

any part of either tract thereof, or any conflicting claims to either of said tracts, or to any interest in or part of either of said tracts, than those hereinbefore in this petition set forth and shown.

That said Emma A. Horner, Mary V. Rhodes, Nathan Goff, M. J. Francis, James M. Riffee, J. A. Hardaway and Albert L. Green each and all reside in said Harrison County, West Virginia.

That what is hereinbefore said in respect to the nature of the respective interests of the owners of said land, is all the information possessed by petitioner, or ascertainable by it touching the same; and the same is correct so far as known to your petitioner.

Petitioner further shows and represents that it has attempted to, but is unable to, agree with the owners of said land, and the owner of said oil and gas lease upon the said land, an easement or right-of-way through which is so proposed to be taken by petitioner for the said public use and purposes as aforesaid, as to the amount of compensation for said easement or right-of-way in and through said parcel or strip of said land so proposed to be taken. That said owners will not agree to a fair price for said easement or right-of-way in, over and through said strip or parcel of said land so
606 proposed to be taken; and also refuse to give your petitioner a right-of-way or easement over, in or through said land.

That the survey, location and route of petitioner's said pipe line aforesaid, so located and surveyed through the said county of Harrison, as well as through the said two tracts of land aforesaid in such county, and the aforesaid strip, piece or parcel of such land, has been regularly and duly authorized, selected, located, approved and adopted by the proper officers of petitioner and by its Board of Directors.

Petitioner further represents and avers that it has caused notice to be given to said owners and lienors and other claimants aforesaid of its intention to file this petition and make this application, as will more fully appear from said notice itself, and the evidence of the service of the same endorsed thereon, herewith filed marked "Notice," and here made part of this petition.

That in taking the said easement or right-of-way aforesaid, so proposed to be taken by petitioner, it will not be necessary to take any dwelling house, yard or garden, nor will any such be taken therein or thereby; and in taking the said easement or right-of-way, and appropriating and putting the same to the public use and purpose to which petitioner proposes to and will appropriate and put the same and in which it will use the same, it is not, and will not be, necessary to erect or lay any oil tank or gas or oil pipe line within one hundred feet of any occupied dwelling house, nor shall any oil tank, gas or oil pipe line be erected or laid within one hundred feet of any occupied dwelling house.

607 That said tracts of land aforesaid do not lie within any municipal corporation.

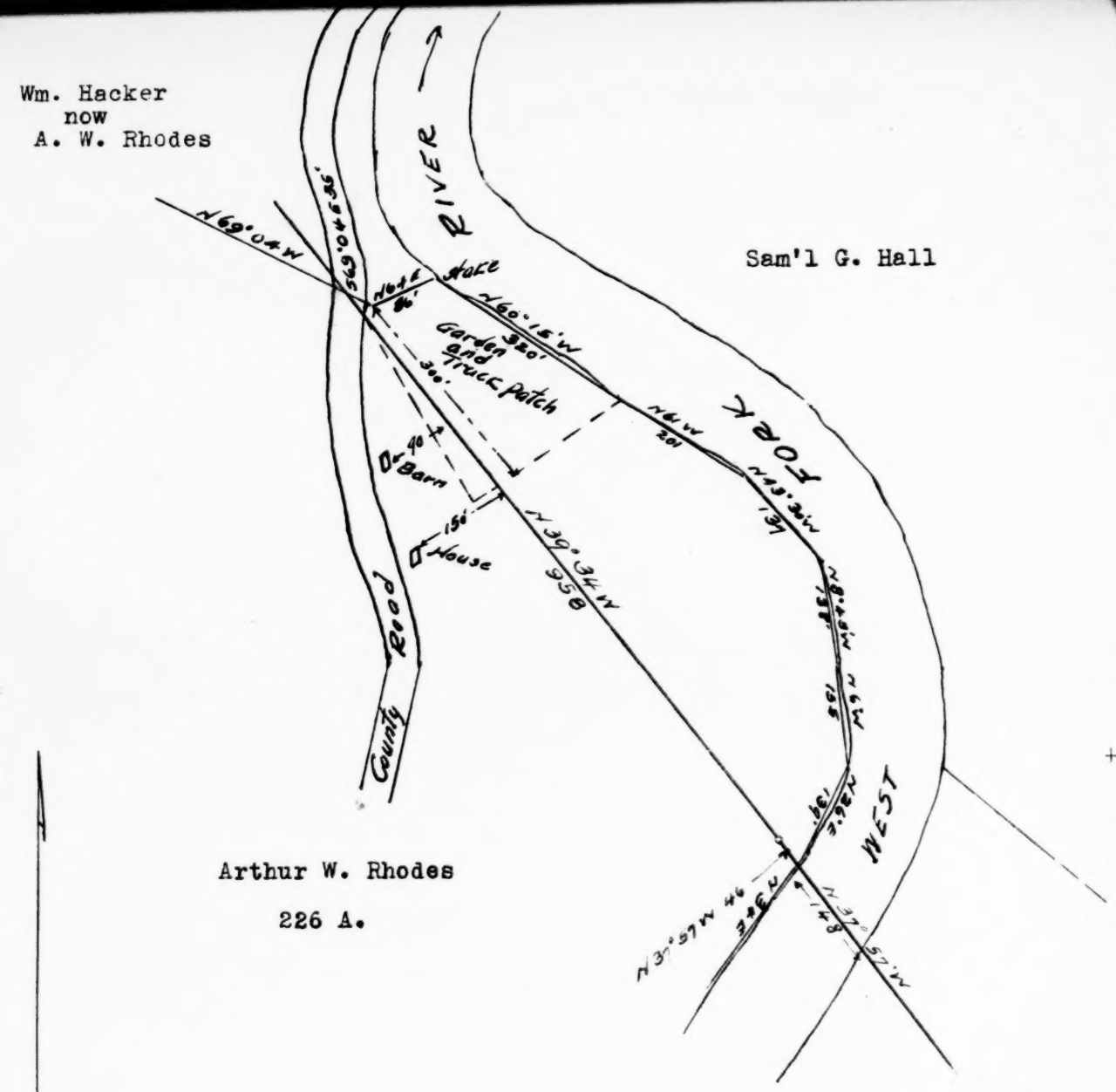
That petitioner has the right to acquire and take said right-of-way or easement in and by this petition and application under the law.

Petitioner therefore prays that commissioners may be appointed by

this Court to ascertain a just compensation to the persons entitled thereto for the said easement or right-of-way over, in and through the land hereinbefore described, proposed to be taken by your petitioner for the purpose and use aforesaid; that such proceedings may be had in the premises as conform to law; and that upon the payment of the compensation by your petitioner the said above described easement or right-of-way in, over and through said land may be vested in your petitioner. And your petitioner also asks such other and general relief as the Court may deem proper to award in the premises.

(Signed) HOPE NATURAL GAS COMPANY,
By A. B. FLEMING,
CHARLES POWELL,
KEMBLE WHITE,
Its Attorneys.

(Here follow diagrams marked pages 608 and 609.)



SURVEY OF PROPOSED 12 INCH GAS LINE FOR

HOPE NATURAL GAS CO.

across the lands of

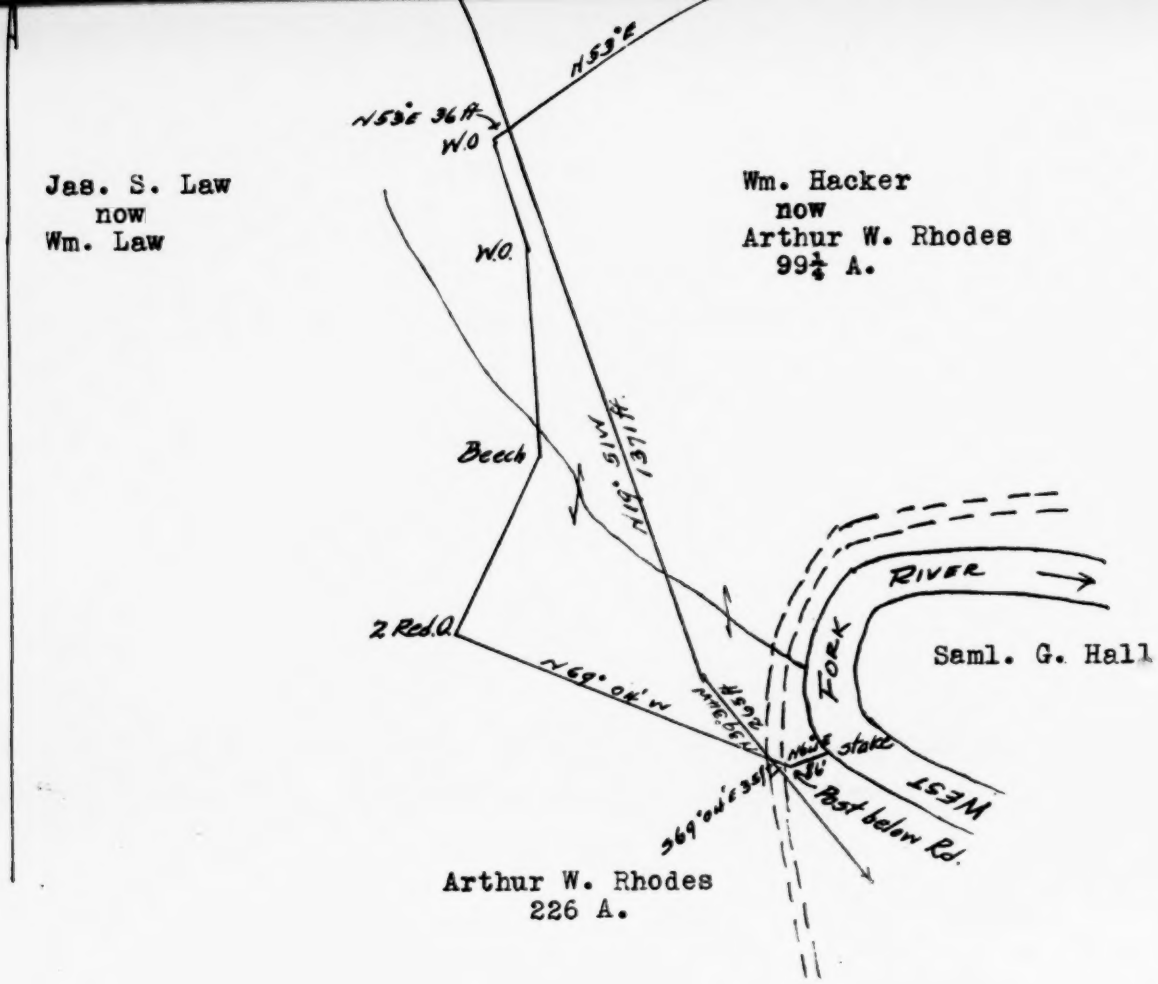
ARTHUR W. RHODES

Union Dist. Harrison Co., West Va.

Surveyed Nov. 10,1909, J. P. McClintock Engr.

Scale 1" = 200'

Exhibit- "Plat", filed with the Petition



SURVEY OF PROPOSED 18 INCH GAS LINE FOR

HOPE NATURAL GAS CO.

Across the lands of

ARTHUR W. RHODES.

Union Dist. Harrison Co., W.Va.

Surveyed Nov.10,1909 J. P. McClintock Engr.

Scale 1" = 200'

Exhibit "Plat" filed with the Petition.

(EXHIBIT "NOTICE" FILED WITH THE FOREGOING PETITION.)

o Arthur W. Rhodes, Mary V. Rhodes, Emma A. Horner, James M. Riffee, William E. Hacker, J. A. Hardaway, Albert L. Green, Nathan Goff, W. S. Horner, M. J. Francis, sheriff and as such administrator of the personal estate of Philip Hilkey, deceased, and South Penn Oil Company, a corporation:

You will please take notice that on the twenty-ninth day of De-mber, 1909, at 9:00 o'clock A. M. or as soon thereafter on said y as counsel may be heard, an application by petition will be made the undersigned to the Circuit Court of Harrison County, West irginia, at the Court House of said County, for the appointment by id court of commissioners to ascertain a just compensation to the rsons entitled thereto for a right of way or easement to lay, con-ruct, operate and maintain, across, in and through that certain rcel or strip of land hereinafter described, situate in said Harrison unty, of which some of you are the owners in fee simple, and upon hich others of you have liens, and two of you are tenants, and in part of which one of you owns an interest in the oil and gas, and pon all of which you, South Penn Oil Company, own all the interest t owned by the undersigned in certain leasehold estates for oil and as purposes, along a center line hereinafter set out of the survey er said land, a line of wrought iron or steel pipe, twelve inches in ameter for the first 1,078 feet of said line as hereinafter described nd eighteen inches in diameter for the remaining length, for trans-rting natural gas for public use, to be buried at a depth of at least elve inches under the surface; and for such orders and proceedings to be then and there entered and had as may be necessary 10½ to condemn the said right of way or easement for such public use and purpose; the said parcel of land being bounded and escribed as follows, to-wit:

A strip of land situate in Union District, Harrison County, West irginia, 20 feet in width, being in line 10 feet on each side of a enter line, which said center line begins at a point in the center of he West Fork River, where said river forms the boundary line be-ween the lands of Arthur W. Rhodes and James Q. Musser; thence cross a tract of 226 acres owned by said Arthur W. Rhodes, N. 7° 57′ W. 120 feet; thence N. 39° 34′ W. 958 feet to a point on he boundary line between said Rhodes tract of 226 acres and a tract f 99¼ acres lately owned by William E. Hacker and by him sold, though not conveyed by deed of record), to said Arthur W. Rhodes; hence across the said tract of 99¼ N. 39° 34′ W. 265 feet; thence N. 19° 51′ W. 1,371 feet to the boundary line between said tract of 99¼ acres and the land of William J. Law, at a point which is N. 53° E. 36 feet from a white oak corner on said boundary line; the said line of pipe to be twelve inches in diameter where it crosses said tract of 226 acres, and eighteen inches in diameter where it crosses said tract of 99¼ acres.

A plat of the survey of said land and proposed line marked "Plat will be filed with the application in writing by petition as aforesaid

The said right of way or easement for such line of pipe across through, in and over said parcel or strip of land is proposed to b taken by the undersigned, Hope Natural Gas Company, a corpora tion, duly created and acting under and by virtue of the laws of th State of West Virginia, and is intended by said Company to be ap
propriated for the purpose of constructing, operating and
611 maintaining such pipe line for transporting natural gas for
public use, under and by virtue of its charters under the laws of said State.

You, owners of said land, and others interested therein, after said line or pipe has been laid and buried, to have the full use and en joyment, according to your respective interests, of the surface of said parcel or strip of land for agricultural and other purposes in like manner as before the entry of the undersigned, and to have the full use and enjoyment of said land in all other respects after said line of pipe is laid, the same as before, except as to the space under the surface occupied by said line of pipe, and except as to such temporary used as shall be necessary in maintaining said line of pipe, and in taking up and removing said line of pipe after the abandonment of said easement.

Dated this 16th day of December, 1909.

HOPE NATURAL GAS COMPANY,
By A. B. FLEMING,
CHARLES POWELL,
KEMBLE WHITE,
Counsel.

612 On the 16th day of December, 1909, in Harrison County, West Virginia, I served the within notice on the within named M. J. Francis, Sheriff, and as such administrator of the personal estate of Philip Hilkey, deceased, by delivering to him in person a true copy hereof; and

On the 16th day of December, 1909, in Harrison County, West Virginia, I served the within notice on the within named Nathan Goff by posting and leaving posted a true copy hereof at the front door of the usual place of abode of the said Nathan Goff, he not being found nor any member of his family above the age of sixteen years being found at his usual place of abode, and the said Nathan Goff not being found; and

On the 17th day of December, 1909, in Harrison County, West Virginia, I served the within notice on the within named Mary V. Rhodes by delivering to her in person a true copy hereof; and

On the 17th day of December, 1909, in Harrison County, West Virginia, I served the within notice on the within named Arthur W. Rhodes by delivering a true copy hereof to Mary V. Rhodes, his wife, a member of his family above the age of sixteen years, giving to her information of the purport thereof, he the said Arthur W. Rhodes not being found at his usual place of abode;

On the 17th day of December, 1909, in Harrison County, West

Virginia, I served the within notice on the within named Emma A. Hornor by delivering a true copy hereof to Mary V. Rhodes, her sister, and a member of her family above the age of sixteen years, giving to the said Mary V. Rhodes information of the purport thereof, she the said Emma A. Hornor not being found; and

On the 17th day of December, 1909, in Harrison County, West Virginia, I served the within notice on the within named James M. Riffee by deliveri..g a true copy thereof to his wife, a
613 member of his family above the age of sixteen years, giving to her information of the purport thereof, he the said James M. Riffee not being found at his usual place of abode; and

On the 17th day of December, 1909, I served the within notice on the within named William E. Hacker in Harrison County, West Virginia, by delivering a true copy hereof to Jennie Hacker, his wife, a member of his family above the age of sixteen years, giving to her information of the purport thereof, he the said William E. Hacker not being found at his usual place of abode; and

On the 18th day of December, 1909, in Harrison County, West Virginia, I served the within notice on the within named J. A. Hardway by delivering to him in person a true copy hereof.

(Signed) J. L. McMILLAN,
D. S., for M. J. Francis, S. H. C.

The within named W. S. Hornor is not found.

J. L. McMILLAN.

Service of the within notice accepted for South Penn Oil Company, December 16, 1909.

(Signed) C. POWELL,
Atty.

On this 18th day of December, 1909, in Harrison County W. Va., I served the within notice on the within named Albert L. Green at his usual place of abode by delivering to Undine Green a true copy hereof and giving to her information of the purport thereof she being a member of his, the said Albert L. Green's family, and over the age of sixteen years, the said Albert L. Green not being found.

(Signed) J. C. ROBINSON,
Deputy Sheriff, for M. J. Francis,
Sheriff Harrison County, West Virginia.

614 HOPE NATURAL GAS COMPANY, a Corporation,

vs.

ARTHUR W. RHODES, MARY V. RHODES, EMMA A. HORNER, JAMES M. Riffee, William E. Hacker, J. A. Hardaway, Albert L. Green, Nathan Goff, M. J. Francis, Sheriff and Administrator, and South Penn Oil Company, Defendants.

Upon Proceeding to Take Right of Way or Easement In, Over, and Through Land for Public Use.

This day came Hope Natural Gas Company, a corporation, by A. B. Fleming, Chas. Powell and Kemble White, its attorneys, and presented to the court a notice given by it to the above named defendants, notifying them that on this day it would make an application by petition to this Court for the appointment of Commissioners to ascertain a just compensation to the persons entitled thereto, for a right of way or easement to lay, construct, operate and maintain in and through the certain piece, parcel or strip of land therein described a pipe line therein described for transporting natural gas for public use, and for such orders and proceedings to be had as may be necessary to condemn the said right of way or easement for such public use and purpose. And it appearing to the court that the said notice was duly served according to law upon the said persons above named and service thereof duly accepted by and on behalf of South Penn Oil Company, more than ten days prior to this date as appears from the returns of service of said notice endorsed thereon, and that they have each had more than ten days notice of said application by petition, it is ordered that the said notice be and the same is hereby filed and docketed.

615 And the said Hope Natural Gas Company, a corporation, in pursuance of said notice, this day presented its application in writing by petition describing the said lands, a right of way or easement in, over and through which for laying, constructing, operating and maintaining said pipe line it proposes to take, with the *plant* of said lands and certain exhibits therewith, and stating in said application the names of the owners thereof, and the nature of the interests of said parties therein, and also stating the purposes for which said easement or right of way is proposed to be taken, and that said corporation has been unable to agree with the owners as to the compensation to be paid therefor. Thereupon, upon motion of the said Hope Natural Gas Company, it is ordered that said application in writing, by petition, and the said plat and exhibits therewith, be and the same are here now filed; and it is further decreed that this proceeding be and the same is here now docketed.

616 And thereupon came the defendant, Arthur W. Rhodes and Mary V. Rhodes, by John Bassel, their attorney. And the court doth find that the use for which the land or easement, or right of way sought to be appropriated by the applicant in this case

is to be taken, is a public use, and that said land, or easement, or right of way, is necessary to be taken by said petitioner or applicant, for the use and purposes as in its petition alleged, and that the applicant has the right to condemn the same for such purposes.

And the said applicant, or petitioner, in pursuance of its notice and application, insisting upon and praying the appointment of commissioners to ascertain a just compensation to the parties entitled thereto for the said right of way, or easement sought to be taken in this case, and it appearing to the court that the petition of the applicant filed herein describes fully the lands in and through which the said easement, or right of way, is proposed to be taken, and states the names of the owners thereof, the nature of the interests of the said parties therein, and the purpose for which said easement, or right of way, is proposed to be taken, and that it will be used therefor, and that said corporation has been unable to agree with the owners as to the compensation to be paid therefor, the court doth further find and order that this case is one in which the applicant has a lawful right to take the said easement or right of way on, over and through the said property described in the said petition for the purposes set out therein. And the court doth hereby nominate thirteen disinterested freeholders of this county, as followers: Perry C. Williams, Charles A. Short, Austin H. Davisson, Lloyd M. Allen, Burgett Swisher, Wesley L. Steel, David L. Hall, Morgan R. Lodge, Cyrus Thompson, Lucian J. Davisson, Samuel S. Faris, Cree B. Bartlett and S. A. Smith. And said appli-
617 cant and the defendants, appearing by their counsel, proceeded to ascertain as provided by law from said thirteen freeholders the five to act as commissioners, while lot and choice fell upon the following named five freeholders, (of said thirteen) to act as said commissioners: Perry C. Williams, Chas. A. Short, Lloyd M. Allen, Morgan R. Lodge, and S. A. Smith. Thereupon it is further ordered by the court that the said five freeholders so selected as such commissioners, shall act as such, and that after being duly sworn for the purpose, they do proceed with all convenient speed, and after viewing said premises, and hearing any proper evidence offered, ascertain according to law what will be a just compensation to the parties entitled thereto for the right of way, or easement, to lay, construct and maintain said line of wrought iron, or steel pipe for transporting natural gas for public use on, over and through the said strip, or parcel, of land so proposed to be taken by the applicant in this case; and make report of their proceedings to this court according to law.

(The foregoing order was entered by the court December 29th, 1909, and is recorded in Law Order Book No. 34, at page 336.)

618 (*Order Entered Jany.* 29. 1910, *Recorded in Law Order Book No.* 34, *Page* 414.)

HOPE NATURAL GAS COMPANY, a Corporation, Applicant,

vs.

ARTHUR W. RHODES et als.

Application and Proceeding to Condemn an Eastment for Pipe-line Purposes.

This day came the applicant, Hope Natural Gas Company, by A. B. Fleming, C. Powell and Kemble White, its attorneys, and came also the defendant Arthur W. Rhodes, by John Bassel, his attorney, and on motion of the applicant the oath taken by Charles A. Short, Morgan R. Lodge, Perry C. Williams, Lloyd M. Allen and S. A. Smith, the commissioners appointed in this case, duly certified by I. Wade Coffman, Clerk of the Circuit Court of Harrison County, as required by law, is now filed in the papers of this case.

And upon like motion of said applicant, the report of said commissioners Charles A. Short, Morgan R. Lodge, Perry C. Williams, Lloyd M. Allen and S. A. Smith is now filed in the papers of this case, said report bearing date the 26th day of January, 1910, and to which report the defendant Arthur W. Rhodes has made and filed exceptions and demanded that the question of compensation to be paid for the land or easement proposed to be taken by the applicant in this proceeding be ascertained by a jury of twelve freeholders to be selected and empaneled for the purpose in the manner provided by law,—which said exceptions to said report, as well as said demand, are attached to the said report. It is ordered that the said report of said commissioners be recorded in the Law Order Book of this court, together with the oath so taken by said com-
619 missioners and certified as aforesaid, and the said exceptions made and filed to said report, and the said demand for a trial by jury of the question of compensation, all of which is now done; said report, oath and exceptions and demand being in the words and figures following, to-wit:

(*Oath.*)

"In the Circuit Court of Harrison County, West Virginia.

HOPE NATURAL GAS COMPANY

vs.

ARTHUR W. RHODES et als.

Condemnation Proceedings.

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, do certify that Charles A. Short, Perry C. Williams, L. M. Allen,

Morgan R. Lodge and S. A. Smith, Commissioners appointed by the Circuit Court of Harrison County upon the application of Hope Natural Gas Company to ascertain a just compensation to the persons entitled thereto for a right-of-way or easement in, over and through certain lands of the defendants in the above styled proceeding, described in the petition of the said Hope Natural Gas Company filed in said court on the 29th day of December, 1909, personally appeared before me in my said County and each of them before entering upon the discharge of his duties as such, made oath that he will honestly and impartially perform his duties as such Commissioner to the best of his skill and judgment.

Given under my hand this 25th day of January, 1910.

(Signed) I. WADE COFFMAN,
Clerk of the Circuit Court of Harrison County."

620 (*Report.*)

"To the Circuit Court of Harrison County:

We, the Commissioners appointed by the Circuit Court of Harrison County by an order made on the 29th day of December, 1909, on the application of Hope Natural Gas Company, respectfully report:

That having been first duly sworn, we viewed the real estate owned by Arthur W. Rhodes, J. A. Hardway (as to part of oil and gas royalty), Albert L. Green (as to easement), Nathan Goff and M. J. Francis, Sheriff and administrator of Phillip Hilkey, deceased, (holding liens on portions thereof), Mary V. Rhodes and Emma A. Horner (holding charges on portions thereof), South Penn Oil Company and Hope Natural Gas Company (lessees of the oil and gas), James M. Riffee (as tenant of the surface), mentioned in said application, and are of opinion that $342 will be a just compensation for so much of the said real estate as is proposed to be taken by the said applicant, that is to say: The right of way or easement to lay, construct, operate and maintain across, in and through that certain parcel or strip of land hereinafter described situate in Harrison County, West Virginia, along the center line hereinafter set out on the survey over said land the line of wrought iron or steel pipe, 12 inches in diameter where it crosses said tract of 226 acres, and 18 inches in diameter where it crosses said tract of 99¼ acres, of the applicant for transporting natural gas for public use, the said parcel of land being bounded and described as follows, to-wit: A strip of land situated in Union District, Harrison County, West Virginia, 20 feet in width, being in line 10 feet on each side of a center line, which said center line begins at a point in the center of the West Fork River, where said river forms the boundary line between the lands of Arthur W. Rhodes and James Q. Musser; thence
621 across a tract of 226 acres owned by said Arthur W. Rhodes N 37° 57′ W. 120 feet; thence N. 39° 34′ W. 958 feet to a point on the boundary line between said Rhodes tract of 226 acres and a tract of 99¼ acres lately owned by William E. Hacker and by

him sold, (though not conveyed by deed of record), to said Arthur W. Rhodes; thence across the said tract of 99¼ acres N. 39° 34′ W. 265 feet; thence N. 19° 51′ W. 1,371 feet to the boundary line between said tract of 99¼ acres and the land of William J. Law, at a point which is N. 53° E. 36 feet from a white oak corner on said boundary line; the said line of pipe to be twelve inches in diameter where it crosses said tract of 226 acres and eighteen inches in diameter where it crosses said tract of 99¼ acres.

As well as for damages to the residue of the said real estate beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed or from the purpose to which the part to be taken by said applicant is to be appropriated.

Given under our hands this 26 day of January, 1910.

(Signed) CHARLES A. SHORT,
MORGAN R. LODGE,
PERRY C. WILLIAMS,
LLOYD M. ALLEN,
S. A. SMITH,
Commissioners.

Costs and Expenses:

Charles A. Short, 1 day's	$2.00
Morgan R. Lodge, 1 day's	2.00
Perry C. Williams, 1 day's	2.00
Lloyd M. Allen, 1 day's	2.00
S. A. Smith, 1 day's	2.00"

622 (*Exception and Demand.*)

"Arthur W. Rhodes hereby excepts to the within report of commissioners Charles A. Short, Morgan R. Lodge, Perry C. Williams, Lloyd M. Allen and S. A. Smith, upon the ground that the amount ascertained by them and therein reported as compensation and damages to the persons entitled thereto, viz: $342.00, is not sufficient and is entirely too low.

And he demands that the question of the said compensation be ascertained by a jury of freeholders to be selected and empaneled in the manner provided by law.

(Signed) ARTHUR W. RHODES,
By JOHN BASSEL,
His Attorney."

And thereupon the said applicant, Hope Natural Gas Compa. paid into Court the said sum of $342.00, that being the sum ascertained by said commissioners as compensation and damages to the persons entitled thereto (being the defendants above named, or such of them as may be entitled to the same) for the land proposed to be taken in and by the petition and application of said Hope Natural Gas Company, &c.

And said applicant, Hope Natural Gas Company, having so as aforesaid paid into court the said compensation and damages so as-

certained by said commissioners, it is further considered and ordered that the said Hope Natural Gas Company may, notwithstanding the pendency of further proceedings, enter upon, take and use for the purposes specified in its said application and petition that part of the land in respect to which such payment is made, and generally that the said applicant shall have all such rights, privileges and franchises as in the said application and petition are asked and as are conferred upon it by Section 20 of Chapter 42 of the Code of West Virginia as amended.

623 And the said Arthur W. Rhodes having filed exceptions to said report of said commissioners, and demanded that the question of compensation to be paid by the applicant be ascertained by a jury, it is further ordered that the question of the compensation to be paid by said Hope Natural Gas Company for said land proposed to be taken by it in and by this proceeding and its application herein, be ascertained by a jury of twelve freeholders, who shall be selected and empaneled for the purpose in the manner provided by law.

It is further ordered that the Clerk of this court do take charge of and hold the said sum of $342.00 subject to the future order of the court.

624 HOPE NATURAL GAS COMPANY, a Corporation,

vs.

ARTHUR W. RHODES et al.

Condemnation.

This day came Hope Natural Gas Company, by A. B. Fleming, C. Powell and Kemble White, its attorneys, and also the defendants Arthur W. Rhodes and Mary V. Rhodes, by John Bassil, Esq., their attorney, and thereupon the petitioner and applicant tendered and asked leave to file herein as part of the record an agreement in writing dated the 23rd day of March, 1910, signed by said defendants Arthur W. Rhodes and Mary V. Rhodes, which is now filed, and from which it appears that the matters in difference in this proceeding have been amicably adjusted and settled between the petitioner and the said defendants and that the said defendants have received from the petitioner a just compensation for the right of way or easement sought to be appropriated in this proceeding, and that by the said agreement in writing the said defendants direct the Clerk of this Court to return to said Hope Natural Gas Company the sum of money heretofore paid into court by it in this proceeding; and it also being now admitted by the applicant and the said defendants that the matters in controversy herein have been settled and that the said Hope Natural Gas Company is entitled to the money so paid into court. It is therefore ordered, by and with the consent of the applicant and said defendants, that the Clerk of this Court do, and he is hereby so directed, return and repay to said Hope Natural Gas Company the sum of $342.00 heretofore paid

into court by it in this proceeding and that this proceeding be and is hereby dismissed.

(The foregoing order was entered by the court April 4th, 1910, and is recorded in Law Order Book 34, at page 483.)

625 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the foregoing are true, correct and complete copies of the petition and exhibits therewith filed on December 29, 1909, and of the orders made and entered on December 29, 1909, January 29, 1910 and April 4, 1910, in the condemnation proceeding of Hope Natural Gas Company, a corporation, versus Arthur W. Rhodes and others, lately pending in said Circuit Court of Harrison County, as the same remains of record in my said office.

In testimony whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 29th day of January, 1921.

[Seal of Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Haymond Maxwell, Judge of the Circuit Court of Harrison County, State of West Virginia, do certify that I. Wade Coffman, by whom the foregoing attestation was made, was, at the date thereof, Clerk of said court duly qualified and that the said attestation is in due form of law and made by the proper officer.

Witness my hand and seal on this the 31st day of January 1921.

HAYMOND MAXWELL. [SEAL.]

626 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the Honorable Haymond Maxwell, by whom the above certificate was given and whose name is thereto subscribed in his own proper handwriting, was, at the date thereof, Judge of the said Circuit Court of Harrison County, duly commissioned and sworn and acting.

In witness whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31st day of January, 1921.

[Seal of Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN, *Clerk.*

[Endorsed:] Hope Natural Gas Company vs. Arthur W. Rhodes et al. Condemnation.

PGH. V. MORRISON COND. W. VA. EX. 47.

EX. W. VA. No. 47. O. L. H.

Petition.

Filed January 31, 1916, in Circuit Court of Harrison County, West Virginia.)

PITTSBURGH & WEST VIRGINIA GAS COMPANY

vs.

ARRIE MORRISON, HARRY C. MORRISON and JAMES E. MORRISON.

Condemnation Proceeding.

The petition of the Pittsburgh & West Virginia Gas Company spectfully represents:

1st. That petitioner is a corporation duly organized and existing nder and by virtue of the laws of the State of West Virginia, for ie purpose of transporting carbon oil and natural gas, or both, by eans of pipe lines, or otherwise, for public use; that petitioner is ow engaged in the business of producing, transporting and selling atural gas for public use and is now producing large quantities of atural gas within the state of West Virginia, and is transporting ie same to market by means of certain pipe lines constructed and aintained by it; that the natural gas so transported by said lines being sold to the public in the following incorporated cities, towns nd villages, to wit: Grafton, Enterprise, Shinnston, Lumberport, aywood, Colfax, Worthington, Simpson, Pruntytown, Blueville, hornton and Flemington, all within the state of West Virginia, nd other places in the state of West Virginia not incorporated nd many persons not living in any city, town or village, are like- ise being supplied with natural gas for domestic and industrial es by this petitioner, by means of its said system of pipe lines; at the transportation of said natural gas and the sale thereof is r the use of the public generally for the purpose of supplying light nd heat to such public; and that your petitioner is ready and willing at all times, and has so held itself out, to sell said gas to the public, or any portion thereof, upon the payment of a reasonable price therefor.

2nd. That petitioner is now engaged in constructing lines of ping over and through the county of Harrison, in the state of est Virginia, as it is by law authorized to do; that when the same re completed it is petitioner's purpose and intention to operate and aintain said pipe lines for the purpose of supplying natural gas the inhabitants of the various incorporated cities, towns and vil-

lages hereinbefore mentioned, and to the public generally and for other lawful uses; that it desires to proceed with the construction of its said pipe line through the lands of said parties (Carrie Morrison), lying in the District of Coal, county of Harrison, and state of West Virginia; that for the purpose of constructing, building and maintaining its said pipe line for the transportation of natural gas for the public uses hereinbefore set out, it desires to acquire an easement or right of way, over across and upon that portion of the land of the person hereinbefore named described particularly as follows:

Beginning on line of lands of H. C. Morrison, at a point located N. 84° E. 350 feet from corner to lands of Prunty & Jacobs, H. C. Morrison and Carrie Morrison, thence S. 0° 30′ E. 466 feet; S. 7° 30′ W. 521 feet to right of way of the B. & O. R. R. Co., at a point located 498 feet in an easterly direction along said right of way from corner to lands of W. M. Joyce and B. & O. R. R. Co., a total distance of 987 feet.

3rd. That petitioner files herewith as part of this petition a plat of said land over which the said easement is proposed to be taken, marked "Gas Company Exhibit No. 1."

4th. That the strip of land hereinbefore described, upon which said easement is proposed to be taken, is owned by the following named persons, to wit: Carrie Morrison, widow of James H. Morrison, deceased, as tenant for life, with remainder in fee
630 simple to Harry C. Morrison and James E. Morrison, jointly, as heirs at law of said James H. Morrison, dec'd.

5th. That there are no liens upon said land, or claims thereto or outstanding estates therein or in any part thereof except as follows:

6th. That all pipe lines to be laid or constructed by it in, upon and through said lands hereinbefore described, are to be and will be buried under the surface of the ground to such a depth as not to interfere with the use of said land for agricultural purposes; that the pipe which petitioner intends to lay and will lay upon said right of way will be 12 inches in diameter; that your petitioner intends to use and will use the said easement or right of way over and upon the land hereinbefore described for the purpose of constructing, maintaining and operating its said pipe line; which pipe line will be used for the public uses hereinbefore set forth; and that the said easement or right of way is necessary for such purpose.

7th. That in taking the said easement or right of way, so proposed to be taken by petitioner, it will not be necessary to take any dwelling house, yard or garden, nor will such be taken therein or thereby; that in taking said easement or right of way and appropriating the same to the public use hereinbefore set forth, it is not and will not be necessary to erect or lay any oil tank or gas or oil pipe within one hundred feet of any occupied dwelling house, nor shall any

oil tank, gas or oil pipe line be erected or laid within one hundred feet of any occupied dwelling house; and that the parcel of land hereinbefore described does not lie within any municipal corporation.

8th. That the survey, location and route of petitioner's pipe line, upon and over the parcel of land hereinbefore described, has been regularly and duly selected, located, approved and adopted
631 by the proper officers of the petitioner thereunto duly authorized by its Board of Directors.

9th. That petitioner, in pursuance of the provisions of Section 20 of Chapter 74 of the Acts of West Virginia for the year 1907, attempted to agree with the said owners of said land over which said easement or right of way is proposed to be taken, as aforesaid, as to the amount of damages or compensation for the said easement or right of way so proposed to be taken; that petitioner was, nevertheless, unable to agree with said owners, and the said owners failed and refused to accept a reasonable price for said easement or right of way; that petitioner thereupon offered to pay to the said owners the sum of one hundred and seventy-nine and 45/100 Dollars ($179.45), for said easement or right of way, but the said owners refused to accept the same; that petitioner thereupon tendered to the said owners, to wit, on the 11th day of November, 1915, a bond in the penalty of $1,000.00, with the National Surety Company as surety therein, conditioned according to law; which penalty petitioner avers to be more than sufficient to cover or secure any damages which the said owner may sustain in the premises, and the surety in which bond is sufficient. The said bond, together with a plan thereto attached, and an affidavit showing a proper tender thereof, is filed herewith as part of this petition, marked "Exhibit Bond and Tender," and petitioner asks that the recitals in said affidavit may be read as part of this petition. And the said bond is here now presented to your Honor's court.

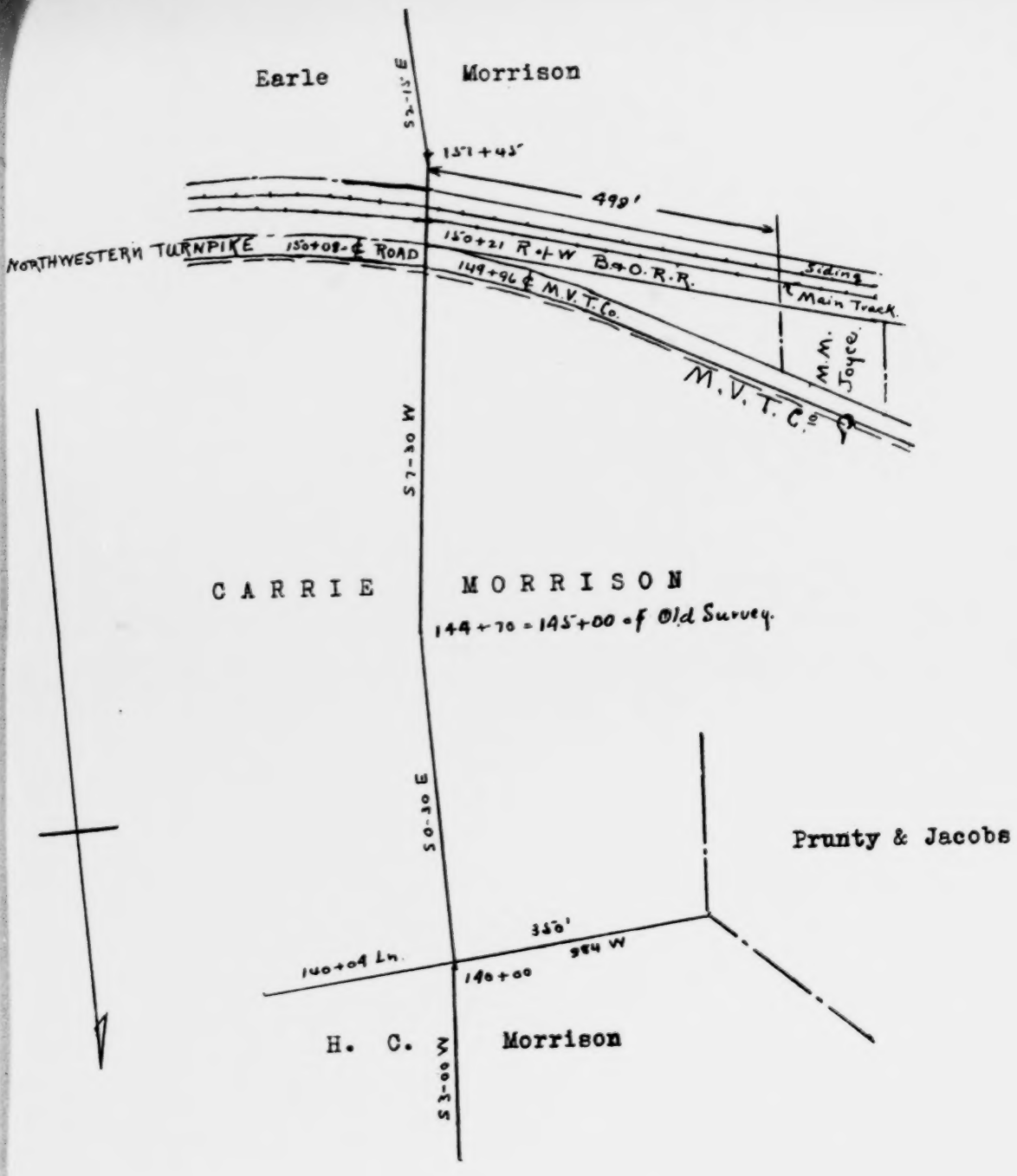
10th. That petitioner has caused notice to be given to the said owners and to all persons having liens upon, interests in or claims against the land upon which the said easement or right of way is proposed to be taken, of petitioner's intention to file this petition and make this application, as will more fully appear from said notice and the evidence of the service thereof thereon en-
632 dorsed, which is hereby filed and prayed to be read as part hereof marked "Exhibit Notice."

Petitioner therefore prays that said bond may be approved and that the same, together with the plan thereto attached, may be filed for the benefit of the owners of said land and of this petitioner, and that petitioner may be authorized to enter upon the enjoyment of said easement or right of way described in this petition and said bond; that after the filing of said bond, if any party in interest require it, commissioners may be appointed by this court to ascertain a just compensation to the owners thereof for the easement or right of way hereinbefore described and proposed to be taken by your

petitioner for the purpose aforesaid; that such other proceedings may be had in the premises as conform to law; and that upon the payment or securing of compensation by your petitioner in the manner required by law, the title to the above described easement or right of way may be decreed to be vested in your petitioner for the uses and purposes aforesaid; and that such other, further and general relief may be granted as to the court may seem proper or the nature of the case may require.

(Signed) PITTSBURGH & WEST VIRGINIA GAS COMPANY,
By DAVIS, SWARTZ & TEMPLEMAN,
Its Attorneys.

(Here follows diagram marked page 633.)



Gas Company Exhibit No. 1.

Survey of Pittsburgh and West Va. Gas Co's. 12 in. line crossing over lands of Carrie Morrison, Coal Dist., Harrison Co., W. Va.

Scale: 1" = 200'

November 5, 1915.

634 ("EXHIBIT BOND AND TENDER" FILED WITH THE PETITION).

Bond.

Know all men by these presents:

That we, Pittsburgh & West Virginia Gas Company, a corporation under the laws of the State of West Virginia, as principal, and National Surety Company, of New York, its surety, are held and firmly bound unto Carrie Morrison, Harry C. Morrison and James E. Morrison, in the sum of One Thousand and No/100 ($1,000.00) Dollars, for the payment whereof, well and truly to be made, we bind ourselves, our successors and assigns, jointly and severally, by these presents.

In testimony whereof these presents are signed with our corporate names and sealed with our corporate seals, by our proper officers, respectively, thereunto duly authorized, this 9th day of November, 1915.

The condition of the above obligation is such that whereas the above bound Pittsburgh & West Virginia Gas Company, being a pipe line company organized under the laws of the State of West Virginia for the purpose of transporting carbon oil and natural gas by means of pipes, and being desirous of securing an easement or right of way over the lands of said obligees situate in Coal District, Harrison County, West Virginia, for the purpose of laying and constructing a pipe line twelve inches in diameter for the transportation of natural gas for public use, has attempted to agree with the said owners of said land as to the damage properly payable for such easement or right of way, and whereas, the said Pittsburgh & West Virginia Gas Company and the said owners have failed to agree
635 as to the said damages and the said Pittsburgh & West Virginia Gas Company is desirous of taking possession of the said right of way or easement, at once, as provided by Section 20 of Chapter 74 of the Acts of 1907 of West Virginia, in advance of fixing of said damages, in the manner provided by said Chapter:

Now, therefore, if the said Pittsburgh & West Virginia Gas Company shall pay to the said Carrie Morrison, Harry C. Morrison and James E. Morrison, owners as aforesaid, any and all damages which said owners may sustain or incur by reason of the said Pittsburgh & West Virginia Gas Company taking possession of the said easement or right of way and laying a pipe line upon the same, as well as any and all damages which may hereafter be assessed by any court in favor of the said owners by reason of the taking of said easement or right of way, and any and all costs properly chargeable against the above bound Pittsburgh & West Virginia Gas Company, then this obligation to be void, otherwise to remain in full force and effect.

A plan is hereto attached showing the route of the proposed pipe line over said land, marked for identification, "Gas Company Exhibit No. 1."

[SEAL.] (Signed) PITTSBURGH & WEST VIRGINIA GAS COMPANY,
By J. F. GUFFY,
President.

Attest:
W. B. CARSON,
Secretary.

[SEAL.] NATIONAL SURETY COMPANY,
By E. B. TEMPLEMAN,
Attorney in Fact.
A. F. DENNISON,
Attorney in Fact.

636 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Osman E. Swartz, a notary public in and for the said county of Harrison, do certify that E. Bryan Templeman and A. F. Dennison this day personally appeared before me in my said county and being by me first duly sworn, did depose and say: That they are attorneys-in-fact for the National Surety Company of New York, the corporation described in the writing hereto annexed bearing date the 9th day of November, 1915, authorized by said corporation to execute and acknowledge deeds and other writings of the said corporation; that the seal affixed to the said writing is the corporate seal of the said corporation, and that the said writing was signed and sealed by them in behalf of said corporation by its authority duly given. And the said E. Bryan Templeman and A. F. Dennison acknowledged the said writing to be the act and deed of the said corporation.

Given under my hand this 11th day of November, 1915.

(Signed) OSMAN E. SWARTZ,
Notary Public.

My commission expires Dec. 2, 1924.

637 STATE OF PENNSYLVANIA,
County of Allegheny, To wit:

I, H. K. Bragdon, a notary public in and for the said County of Allegheny, do certify that J. E. Guffey this day personally appeared before me in my said county and being by me first duly sworn, did depose and say: That he is the President of the Pittsburgh & West Virginia Gas Co., the corporation described in the writing hereto annexed bearing date the 9th day of November, 1915, authorized by said corporation to execute and acknowledge deeds and other writings of the said corporation; that the seal affixed to the said writing is the corporate seal of the said corporation and that the said writing was signed and sealed by him in behalf of the said corporation by it

authority duly given. And the said J. F. Guffey acknowledged the said writing to be the act and deed of the said corporation.

Given under my hand this 9th day of November, 1915.

(Signed) H. K. BRAGDON,
Notary Public.

My commission expires 21st day of February, 1919.

638 ("EXHIBIT NOTICE" FILED WITH THE PETITION.)

Notice.

To Carrie Morrison, Harry C. Morrison, and James E. Morrison:

Take notice, that on the 17th day of November, 1915, at 9 o'clock A. M., or as soon thereafter as the matter can be heard, the undersigned will present to the Honorable Haymond Maxwell, Judge of the Circuit Court of Harrison County, West Virginia, in vacation of said court at Weston, West Virginia, for approval, that certain bond, in the penalty of $1,000.00, this day tendered to you, which bond is conditioned for the payment to you of such damages as you may sustain by reason of the appropriation by the undersigned of an easement or right of way for a pipe line over lands owned by you or in which you are interested, the route and location of said pipe line being shown by a plan attached to the said bond tendered to you as aforesaid. Take notice further, that unless exceptions to the form, amount or surety of said bond shall be filed within three days after its presentation, the said bond will be approved by the court. Take notice further, that at the time and place above stated the undersigned will tender and ask leave to file its petition against you, and will ask the court to take such other proceedings against you as conform to law and are necessary for the lawful appropriation of said easement by the undersigned.

Yours, etc.,

(Signed) PITTSBURGH & WEST VIRGINIA GAS COMPANY,
By DAVIS, SWARTZ & TEMPLEMAN,
Its Attorneys

639 *Affidavit.*

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, E. B. Templeman, a notary public in and for the said County of Harrison, do certify that J. A. Joliffe, this day personally appeared before me in my said county, and being by me first duly sworn, did depose and say: That he is agent of Pittsburgh & West Virginia Gas Company, duly authorized by said Company to agree, if possible, with the owners of land for easements or rights of way in, on and over their lands for the construction of pipe lines for the transportation of natural gas, and upon failing to agree with said land owners,

to tender bonds to secure to said owners the payment of damag
properly payable for such easement.

That affiant, in pursuance of his said duties, on the 11th day
November, 1915, called upon Carrie Morrison, Harry C. Morris
and James E. Morrison the parties named as obligees in the fo
going bond, and attempted to agree, on behalf of said company,
to the damages properly payable to the said owners for the easeme
described in the foregoing bond and plan thereto annexed; that t
said owners refused to agree upon such damages with affiant; th
afterwards, to wit, on the day and year last aforesaid, affiant offer
to the said owners the fair market price of said easement or right
way, to wit, the sum of one hundred seventy-nine and 45/100 D
lars, ($179.45), which offer was refused; that thereafter, on the d
and year last aforesaid, affiant tendered to the said owners the bo
hereto annexed, and the said owners refused to accept said bond.

That affiant thereupon served the notice hereto annexed upon t
said owners, in the manner and at the time and place hereinaft
stated, that is to say: Upon the within named Carrie M
640 rison, Harry C. Morrison and James E. Morrison by deliv
ing to them and each of them in person, in Harrison Count
a true copy thereof, on the 11th day of November, 1915.

(Signed) J. A. JOLLIFFE.

Taken, subscribed and sworn to before me in my said county th
11th day of November, 1915.

(Signed) E. B. TEMPLEMAN,
Notary Public.

My commission expires May 10, 1919.

641 (*Order Entered Jan.* 31, 1916; *Recorded in Law Order Bo
No.* 38, *Page* 161.)

In the Circuit Court of Harrison County, West Virginia

PITTSBURG & WEST VIRGINIA GAS COMPANY

vs.

HARRY MORRISON et al.

Condemnation Proceeding.

This day came the petitioner, Pittsburg & West Virginia G
Company, by Davis, Swartz & Templeman, its attorneys, and th
defendants, Carrie Morrison, Harry C. Morrison and James E. Mo
rison, by Ray L. Strother, their attorney, and upon motion of th
said petitioner it is ordered that the petition of the said Pittsburg
West Virginia Gas Company which was lodged in the office of th
clerk of this court by vacation order entered on the 17th day
November, 1915, be and it is here now filed in open court and th
proceeding is, upon like motion, placed upon the docket of th

court. It is further ordered that the bond heretofore tendered herein be, and the same is hereby approved and filed for the benefit of said landowners.

Thereupon the said petitioner by its said attorneys and the said defendants by their said attorney, concurrently, moved the court for the appointment of commissioners to ascertain a just compensation to the parties entitled thereto, the owners of the land in the petition described, for the right of way or easement sought to be taken in this proceeding. Whereupon the court nominated thirteen disinterested freeholders of this county, to-wit: Cree M. Bartlett,
642 Clarence W. Leggett, Charles L. Ladwig, Scott H. White, Okey B. Lawman, P. C. Sturm, Nelson Robinson, Perry C. Williams, Howard B. Post, John J. Dolan, Truman J. Lynch and John C. Johnson. And the parties, by their counsel, proceeded to ascertain as provided by law from said thirteen freeholders, the five thereof to act as commissioners, which choice and lot fell upon the following named, to-wit: Clarence W. Leggett, Okey B. Lawman, Perry C. Williams, Howard B. Post and Truman J. Lynch.

And thereupon it is ordered by the court that said five freeholders so selected to act as such commissioners do proceed with all convenient speed and after viewing said premises and hearing any proper evidence offered, ascertain according to law what will be a just compensation to the parties entitled thereto for the easement so proposed to be taken as aforesaid, and make report of their proceedings to this court according to law.

643 (*Order Entered Feb.* 19, 1916; *Recorded in Law Order Book No.* 58, *Page* 192.)

In the Circuit Court of Harrison County, West Virginia.

PITTSBURG & WEST VIRGINIA GAS COMPANY

vs.

CARRIE MORRISON et al.

Condemnation.

This day came the parties by their attorneys, and it appearing to the court that the commissioners appointed to ascertain the compensation to which the defendants are entitled for the easement sought to be taken in this proceeding, filed their report with the Clerk of this court on the 19th day of February, 1916, which report bears date the 15th day of February, 1916, fixing the compensation of the said defendants for the easement taken, as well as for damages to the residue of their land beyond the peculiar benefit which will be derived in respect to such residue from the work to be constructed, at Two Hundred and Twenty-five Dollars, ($225.00), and the said defendants, Carrie Morrison, Harry C. Morrison and James

E. Morrison, by Ray L. Strother, their attorney, having excepted to the said report and award of commissioners because the same is inadequate, and having demanded that the compensation to which the said defendants are entitled by tried by jury at the bar of the court; now, therefore, it is ordered that a jury be summoned to try said issue in the manner provided by law and that this proceeding be continued until the next term of court.

644 (*Order Entered June 2, 1917; Recorded in Law Order Book No. 39, Page 19.*)

In the Circuit Court of Harrison County, West Virginia.

PITTSBURG & WEST VIRGINIA GAS COMPANY

vs.

CARRIE MORRISON et al.

Condemnation.

This day came again the parties by their attorneys and the defendants, Carrie Morrison, Harry C. Morrison and James E. Morrison by Ray L. Strother, their attorney, asked leave to withdraw their exception to the report of commissioners filed in this court on the 19th day of February, 1916, which report bears date the 15th day of February, 1916, which leave is hereby granted and said exception is withdrawn.

And there being no other or further exceptions to said report of commissioners and the same appearing to be in all respects regular, the said report is, on motion of the petitioner, hereby ratified, approved and confirmed and ordered to be recorded in the law order book of this court, which report is in the words and figures following, to-wit:

(*Report of Commissioners.*)

"In the Circuit Court of Harrison County, West Virginia.

PITTSBURG & WEST VIRGINIA GAS COMPANY

vs.

CARRIE MORRISON et al.

Condemnation.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court within and for the county and state aforesaid, do hereby certify that Perry
645 C. Williams, Howard B. Post, Okey B. Lawman and Truman J. Lynch, four of the commissioners appointed by the

rcuit Court of Harrison County upon the application of Pittsburg West Virginia Gas Company to ascertain a just compensation to rrie Morrison, Harry C. Morrison and James E. Morrison for a tain easement proposed to be taken by said company for public e and described in the petition of said company filed in said cause the 31st day of January, 1916, personally appeared before me in said county this day, and each of them, before entering upon e discharge of his duties as such, made oath that he will honestly l impartially perform his duties as such commissioner to the t of his skill and judgment.

Given under my hand this 15th day of February, 1916.

(Signed) I. WADE COFFMAN,
Clerk Circuit Court.

the Circuit Court of Harrison County:

We, the commissioners appointed by the Circuit Court of Harn County by and order entered on the 31st day of January, 16, upon application of the Pittsburg & West Virginia Gas Comny, respectfully report: That having been first duly sworn, we wed the real estate owned by Carrie Morrison as life tenant, and Harry C. Morrison and James E. Morrison as remaindermen, ntioned in said application, and heard the testimony of witnesses o had been first duly sworn, and are of opinion that Two Hund and Twenty-five Dollars, ($225.00), would be a just compenion for the easement or right of way proposed to be taken by the d applicant, that is to say, an easement or right of way for a pipe e twelve (12) inches in diameter for the transportation of natural s over, across and upon that portion of the lands of said Carrie rrison, Harry C. Morrison and James E. Morrison described particularly as follows:

Beginning on the line of lands of Harry C. Morrison at a point located N. 84° E. 350 feet from the corner of lands Prunty and Jacobs, Harry C. Morrison and Carrie Morrison; nce S. 0° 30′ E. 466 feet; thence S. 7° 30′ W. 521 feet to right way of the Baltimore & Ohio Railroad Company, at a point lo-ed 498 feet in an Easterly direction along said right of way line m corner to lands of W. M. Joyce and the Baltimore & Ohio ilroad Company, a total distance of nine hundred and eighty-en (987) feet.

As well as for the damage to the residue of said real estate beyond e peculiar benefit which will be derived in respect to such residue m the work to be constructed.

We further report that the taxation of costs hereunto annexed is ue and correct.

Given under our hands this 15th day of February, 1916.

(Signed) PERRY C. WILLIAMS.
HOWARD B. POST.
O. B. LAWMAN.
TRUMAN J. LYNCH.

In the Circuit Court of Harrison County, West Virginia.

PITTSBURG & WEST VIRGINIA GAS CO.

v.

CARRIE MORRISON et al.

Condemnation Proceeding.

Statement of Costs Before Commissioners.

Perry C. Williams,	Commissioner,	1 day's,	8 mi.....	$.....
Howard Post,	do.	1 do.	8 do.....	.....
O .B. Lawman,	do.	1 do.	8 do.....	.....
Truman J. Lynch,	do.	1 do.	8 do.....	.....
Dr. H. J. Brown,	Witness,	one do.	four do.....	.....
John T. Flynn,	"	one "	four "	.....
G. L. Pettrey,	"	one "	four "	.....
J. F. Strother,	"	one "	four "	.....
John B. Strother,	"	one "	four "	.....

647

Henry Wickenhoofer,	"	one "	four "	.....
Harry Morrison,	"	one "	four "	.....
Ross F. Stout, Sheriff, serving 7 subpœnas.....				$1.75

And it appearing to the court that the petitioner has paid to th said defendants the sum of Two Hundred and Twenty-Five Dollar ($225.00), compensation awarded to the said defendants in sai report of commissioners, it is considered, adjudged and ordered tha the said petitioner do take and hold the easement in said repo described for the uses and purposes set out in the petition and pr ceedings in this cause. It is further ordered that the petitioner d pay the costs of this proceeding and that the same be and it is hereb retired from the docket.

648 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the foregoing ar true, correct and complete copies of the petition and exhibits there with filed on January 31, 1916, and of the orders made and entered on January 31, 1916, February 19, 1916 and June 2, 1917, in the condemnation proceeding of Pittsburgh & West Virginia Gas Company, a corporation, versus Carrie Morrison and others, lately pend ing in said Circuit Court of Harrison County, as the same remains of record in my said office.

In testimony whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 29th day of January, 1921.

[Seal of Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Haymond Maxwell, Judge of the Circuit Court of Harrison County, State of West Virginia, do certify that I. Wade Coffman, by whom the foregoing attestation was made, was, at the date thereof, Clerk of said court duly qualified and that the said attestation is in due form of law and made by the proper officer.

Witness my hand and seal on this the 31st day of January 1921.

HAYMOND MAXWELL. [SEAL.]

649 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the Honorable Haymond Maxwell, by whom the above certificate was given and whose name is thereto subscribed in his own proper handwriting, was, at the date thereof, Judge of the said Circuit Court of Harrison County, duly commissioned and sworn and acting.

In witness whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31st day of January 1921.

[Seal of Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

650 [Endorsed:] Pittsburgh & West Virginia Gas Company vs. Carrie Morrison, Harry C. Morrison and James E. Morrison. Condemnation.

651 PHILA. V. CURRY COND. W. VA. EX. 48.

EX. W. VA. NO. 48. O. L. H.

(*Petition. Filed June* 22, 1912.)

In the Circuit Court of Harrison County, West Virginia.

THE PHILADELPHIA COMPANY OF WEST VIRGINIA

vs.

W. M. CURRY.

Condemnation of Pipe Line Right of Way.

To the Honorable Charles W. Lynch, judge of said court:

The petition of The Philadelphia Company of West Virginia respectfully represents:

1st. Your petitioner is a corporation organized under the laws of the state of West Virginia, having been incorporated September 26th, 1895, for the purpose of mining, boring, digging for or otherwise obtaining from the earth petroleum, rock or carbon oils and natural gas, and manufacturing, buying, selling and transporting the same in the crude and in the refined states; for the purpose of constructing and maintaining lines of tubing and piping for the transportation of such oils and gas, or either of them, for the public generally, as well as for the use of said corporation; for the purpose of transporting such oil or gas, or either of them, by means of such pipes or otherwise and selling and supplying the same to others; and generally for the purpose of doing such acts and carrying on such business as pertains to such works and improvements; a true and correct copy of its certificate of incorporation being attached hereto, made a part hereof, and marked "Exhibit A." Your petitioner is,
by virtue of the laws of said state, a common carrier of
652 natural gas; and is recognized by the Administrative Department of said State as the owner and operator of pipe lines within said state used for the transportation of gas for public use and the said petitioner, as such pipe line company and public service corporation, regularly makes to the Board of Public Works of said State a return in writing, required by Section 84, Chapter 29 of the Code of said state; and the said petitioner is by said Board of Public Works duly and regularly assessed for taxation as such pipe line company and public service corporation. Its tax paid to the said state for such purpose during the year 1911 amounted to $49,993.15.

2nd. Your petitioner since its incorporation has been engaged in the business of producing and marketing natural gas and is supplying gas to thirty-four school houses, four churches, five manufacturing concerns, three hundred thirty dwellings and four gas com-

anies, a true and correct list of said consumers being attached hereto, ade a part hereof, and marked "Exhibit B."

3rd. Your petitioner is constantly increasing the number of its onsumers and is desirous of largely increasing its sales of gas in the arious counties of West Virginia traversed by its lines. Your peti- oner is ready and willing to sell gas to all parties within reaching istance of its pipe lines, who apply for the same, at reasonable rates. our petitioner, being a public service corporation, as hereinbefore ated, is ready and willing to furnish gas at all times to the public, aforesaid.

4th. Your petitioner, during some of the winter months of 1909, as not able, because of the inadequacy of its pipe lines, to supply sufficient quantity of gas to a number of its consumers, among em being the Grafton Electric Railway, Thornton Fire Brick Com- any, Beaumont Glass Company, Baltimore & Ohio Railroad Com-
pany, Grafton Window Glass Company, Crystal Ice Company,
53 Grafton Wood Working Company, Grafton Gas & Electric Light Company, Fairmont Gas & Light Company and the hiladelphia Company. At times such shortage amounted to from ree to five million cubic feet of gas per day, and your petitioner, ecause of the fact that its present lines are not sufficient to supply e anticipated demand for gas during the coming winter, due to the ct that the condition of its wells is causing it to go further afield ch year for its supply of gas, finds that it is necessary for it to uild certain additional pipe lines to convey to its consumers a pply of gas during the coming winter.

5th. The Board of Directors of The Philadelphia Company of est Virginia, by a resolution unanimously adopted at a meeting f said Board on June 6th, 1912, having decided that it would be ecessary in the conduct of its business to have a pipe line from its ump Station No. 18, Freemans Creek District, Lewis County, West irginia, to connect with the sixteen-inch line on the Sarah Maloney arm, McClellan District, Doddridge County, West Virginia, had a rvey made for said proposed line, which survey was adopted by e said company and determined upon as the route best adapted r the company's purpose and is located so that the same does not ass within one hundred feet of any occupied dwelling, nor does it ke or pass through any dwelling house, yard or garden, nor does it e wholly or in part in any municipal corporation. The only pipe ne which your petitioner intends to lay upon said route will be ixteen inches in diameter; will be used exclusively for the trans- ortation of natural gas; is necessary to supply with gas the afore- id consumers and such new consumers as your petitioner expects to ecure in the near future and will be buried under the surface to uch a depth as will not interfere with the use of the land for gricultural purposes.

54 6th. The said proposed line passes over and upon lands be-
longing to W. M. Curry situate in Union District, Harrison County, West Virginia, bounded by lands of H. Richards, B. F.

Boner, E. D. Ferris et al., the route described being as follows, to-wit:

Beginning at the line of H. Richards, at a point S. 45° 45′ E. 395 feet distant from Post, corner to B. F. Boner, H. Richards and W. M. Curry; thence N. 19° 45′ W. 224 feet to a point; N. 10° 00′ W. 273 feet to a point; N. 10° 15′ E. 59 feet to line of B. F. Boner, at a point N. 32° 30′ E. 309 feet distant from Post, corner aforesaid, a total distance of 556 feet. And thence beginning again at the line of B. F. Boner, at a point S. 14° E. 80 feet from stone, corner to E. D. Ferris, B. F. Boner and W. M. Curry thence N. 5° 00′ W. 71 feet to line of E. D. Ferris, at a point S. 86° 30′ E. 17 feet distant from said corner. A total distance of 71 feet. And the right of way sought to be taken is twenty feet in width or ten feet on each side of said center line.

7th. Your petitioner, through its field agent, R. E. Clark, attempted to purchase from the said W. M. Curry an easement or right of way over his land for the purpose of constructing thereon a pipe line as hereinbefore described for the transportation of gas along the route aforesaid, and the said R. E. Clark offered to the said W. M. Curry a fair market price for said easement, to-wit: the sum of Three and no/100 (3.00) Dollars per rod; but the said W. M. Curry refused to grant to your petitioner a right of way or easement for said pipe line, and thereupon the said R. E. Clark tendered to the said W. M. Curry a bond from The Philadelphia Company of West Virginia in the sum of One Thousand and No/100 (1,000.00) Dollars, with the Citizens Trust and Guaranty Company of West Virginia as surety, together with a plan attached thereto showing the location of said proposed pipe line, in accordance with the
655 terms of the Act of the Legislature of West Virginia in such cases made and provided, which bond, with plan attached thereto, is attached hereto, made a part hereof, and marked "Exhibit C." The said Citizens Trust and Guaranty Company of West Virginia is a trust company duly authorized under the laws of the state of West Virginia to do business in that state; the said company has in all respects complied with the requirements of the laws of the said state and is, and has for many years, been amply solvent and well able to perform all of its obligations, and the said company is in fact a good and sufficient surety for the bond above mentioned.

8th. The said W. M. Curry refused to accept the said bond and thereupon the said R. E. Clark served upon him a notice that the said bond would be presented to court to be approved and filed for his benefit, on the 22nd day of June, A. D. 1912, a copy of said notice, together with proof of service thereof, is attached hereto, made a part hereof, and marked "Exhibit D."

9th. The said W. M. Curry is the owner of the land hereinbefore described, over which a right of way is proposed to be taken. There are no liens upon the said real estate, created by judgment, deed of trust or otherwise, nor conflicting claims thereto.

10th. Your petitioner avers that the pipe line which it proposes to build is an internal improvement for public use; that delay in

securing the said right of way will interfere with the proper development of its gas territory in this vicinity and will interfere with the performance of its duties to the land owners who have made oil and gas leases to your petitioner and will also injuriously delay its consumers in obtaining the necessary supply of gas.

11th. Your petitioner, under the law, has the right to acquire and take the said right of way or easement in and by this peti-
656 tion, application and bond.

Wherefore, your petitioner prays this Honorable Court to approve said bond and to direct that the same be filed for the benefit of the said W. M. Curry, in accordance with the Act of the Legislature of West Virginia in such cases made and provided. Your petitioner further prays that it be allowed to enter upon the easement as soon as the said bond has been approved, for the purpose of constructing its pipe line without delay; and your petitioner further prays that commissioners may be appointed by this Court to ascertain a just compensation to the said W. M. Curry for the said easement or right of way, in and through the land hereinbefore described and proposed to be taken by your petitioner for the purpose and use aforesaid, and that such proceedings may be had in the premises as conform to law; and your petitioner also asks such other and additional relief as the Court may deem proper to award in the premises.

(Signed) THE PHILADELPHIA COMPANY OF WEST VIRGINIA,
By J. F. GUFFEY, *President.*

Attest:

[Corporate Seal.]

W. B. CARSON,
Secretary.

657 STATE OF PENNSYLVANIA,
County of Allegheny, ss:

Personally appeared before me, the undersigned authority, J. F. Guffey, who, being duly sworn according to law, deposes and says that the facts set forth in the foregoing petition are true and correct.

(Signed) J. F. GUFFEY.

Sworn and subscribed to before me this 20" day of June, A. D. 1912.

[SEAL.] (Signed) HOWARD K. BRAGDON,
Notary Public.

My commission expires February 21, 1915.

STATE OF PENNSYLVANIA,
Allegheny County, ss:

I, William H. Coleman, Clerk of the Court of Quarter Sessions in and for the County of Allegheny, in the Commonwealth of Pennsyl-

vania, the same being a Court of Law and Record, do by these presents certify that Howard K. Bragdon, Esquire, before whom the foregoing affidavit was taken, and who has hereunto, in his own proper handwriting, subscribed his name, was at that time and is a notary public in and for said county of Allegheny duly commissioned and sworn, and authorized by law of the Commonwealth of Pennsylvania to take affidavits and acknowledgments of deeds for lands and real estate in said Commonwealth of Pennsylvania, and to all whose acts as such due faith and credit are, and of right *out* to be given throughout the United States and elsewhere. And further, that I am acquainted with his handwriting and verily believe the signature thereto to —.

658 I further certify that the foregoing affidavit was taken in accordance with the laws of the state of Pennsylvania.

In testimony whereof, I have hereunto set my hand and affixed the seal of the Court, at Pittsburgh, this 20th day of June, A. D. 1912.

[Official Seal.] (Signed) W. H. COLEMAN,
Clerk.

659 "EXHIBIT A."

Certificate of Incorporation.

State of West Virginia.

The Philadelphia Company of West Virginia.

I, W. E. Chilton, Secretary of State of the State of West Virginia, hereby certify that an agreement, duly acknowledged and accompanied by the proper affidavits, has been this day delivered to me, which agreement is in the words and figures following:

The undersigned agree to become a corporation by the name of The Philadelphia Company of West Virginia, for the purpose of constructing and maintaining lines of tubing and piping for the transportation of such oils and gas, or either of them, for the public generally, as well as for the use of said corporation; for the purpose of transporting such oil or gas, or either of them, by means of such pipes or otherwise and selling and supplying the same to others; and generally for the purpose of doing such acts and carrying on such business as pertains to such works and improvements.

Which corporation shall keep its principal office or place of business at Pittsburgh, in the County of Allegheny and State of Pennsylvania, and is to expire on the 31st day of December, 1944. And for the purpose of forming the said corporation, we have subscribed the sum of Five Hundred Dollars to the capital thereof, and have paid in on said subscriptions the sum of Fifty Dollars, and desire the privilege of increasing the said Capital, by the sale of additional shares from time to time, to One Million Dollars, in all. The Capital so subscribed is divided into shares of Fifty Dollars each, which are held by the undersigned respectively, as follows, that is to say:

660

Names.	Residence.	No. of shares.
By Geo. H. Browne.....	Pittsburgh, Pa.	2
" J. R. McGinley.....	" "	2
" W. D. Uptergraff	" "	2
" T. W. Siemon.....	" "	2
" W. P. Hubbard	Wheeling, W. Va.	2

And the Capital to be hereafter sold is to be divided into shares of the like amount.

Given under our hands this 23rd day of September, 1895.

GEO. H. BROWNE.
J. R. McGINLEY.
W. D. UPTERGRAFF.
T. W. SIEMON.
W. P. HUBBARD.

Wherefore, The corporators named in the said agreement, and who have signed the same, and their successors and assigns, are hereby declared to be from this date until the thirty-first day of December, nineteen hundred and forty-four, a corporation by the name and for the purposes set forth in said agreement.

Given under my hand and the Great Seal of the said State, at the City of Charleston, this twenty-sixth day of September eighteen hundred and ninety-five.

[SEAL.] (Signed) W. E. CHILTON,
Secretary of State.

661

EXHIBIT B.

Detailed Statement of Certain Parties to Whom the Philadelphia Company of West Virginia Furnishes Gas and the Use to Which said Gas Is Put.

School-houses Supplied by the Philadelphia Company of West Virginia.

Name.	Location.
Bookers Mills School.....	Bookers Mills, W. Va.
Bearwallow School.....	Artisan, W. Va.
Elm Grove School.....	Elm Grove, W. Va.
Board of Education School #3.....	Burton, W. Va.
Board of Education School #8.....	Daybrook, W. Va.
Board of Education School #15.....	Amos, W. Va.
Board of Education School #21.....	Amos, W. Va.
Board of Education School #26.....	Amos, W. Va.
Cross Border School.....	Kodal, W. Va.
Eagle District School #6.....	Shinnston, W. Va.
Eagle District School #7.....	Shinnston, W. Va.
Eagle District School #16.....	Shinnston, W. Va.
Eagle District School #17.....	Baker, W. Va.

Name.	Location.
Eagle District School #21	Shinnston, W. Va.
Fairview School #17	Mobley, W. Va.
Fallen Timber School	Smithfield, W. Va.
Kendall School #38	Mobley, W. Va.
Lincoln District School #7	Mannington, W. V
Liston School #4	Littleton, W. Va.
Board of Education School #12	Farmington, W. Va
Board of Education School #10	Shinnston, W. Va.
Board of Education School #11	Farmington, W. Va
Board of Education School #26	Worthington, W. V
Low Gap School	Wilbur, W. Va.
Board of Education School #23	Mannington, W. Va
Maple School #4, Batelle Dist	Burton, W. Va.
Ott Border School #36	Sincerity, W. Va.
Stewarts School	Athens, W. Va.
Sub District School #15	Salem, W. Va.
Sub District School #2, McClellan Dist	Salem, W. Va.
Sub District School #22 McClellan Dist	Salem, W. Va.
Sub District School #24 McClellan Dist	Salem, W. Va.
Oak Grove School	Lowman, W. Va.
Walnut Fork School	Cork, W. Va.

Churches Supplied by the Philadelphia Company of West Virgi

Name.	Location.
Christian Church	Lowman, W. Va.
Stringtown Chapel	Stringtown, Mann ton, W. Va.
Ten Mile Baptist Church	Rose Bud, W. Va.
Valley Chapel M. E. Church	Burton, W. Va.

662 Domestic Consumers in Various Towns, etc., at Present S plied with Gas by the Philadelphia Company of V Virginia.

Amos:
F. M. Brookover.
Morgan Connors.
L. R. Darrah.
Geo. M. Davis.
W. L. Heck.
F. E. Shoman.
David Tennant.
Enoch J. Tennant
Trainer Tennant.
Elihu Tuttle.
L. B. Underwood.
Stephen Williams.
Mary A. Moore.
Catherine Varner.
J. J. Ammons.

Blue:
Martha Spencer.

Bristol:
E. L. Loughery.
Guy Goodwin.

Brown:
John C. Harbert.

Clarksburg:
J. M. Clark.

Centerpoint:
W. D. Ashcraft.

Amos:
M. L. Haught.
H. G. Keck.
Sanford Mason.
Stephen Mason.
D. L. Moore.
Unice D. Tennant.
Sherman Tuttle.
Adam W. Wilson.
E. L. Wilson.
Eli Wright.
L. S. Youst.
Harry Youst.
Elroy Yost.

Broomfield:
A. W. Benton.
Bert Clevenger.
Jas. King.

Burton:
D. L. Tennant.
Urias Shriver.

Cork:
A. Thompson.

Anthon:
Geo. Anderson.

Artisan:
H. W. Shreeves.
E. H. Shreeves.

Big Moses:
J. S. Myers.
W. J. Weekley.

663

Blacksville:
M. L. Clovis.
Frank Myers.

Jacksonburg:
L. A. Lemasters.
D. C. Mahall.
Stephen Morgan.
Ben McLaughlin.

Janelew:
Dora E. Frashuer.
A. H. Reed.
Am. M. McDonald.
E. G. Oldaker.

Daybrook:
J. O. Cook.
J. W. Devine.
A. L. Headley.

Dola:
C. F. Stirl.
Mary Lang.

Enterprise:
Daniel Flogracy.

Fallen Timber:
U. Grant Edgell.

Farmington:
James Cooper.
Spray Millian.

Fairmont:
Otio F. Martin.

Freemansburg:
Lawrence Henry.
H. S. Root.
J. B. Halterman.
Geo. Waggoner.
M. N. Pringle.

Glovergap:
S. J. Thomas.

Littleton:

Johns:
A. L. Tennant.
W. J. Stewart.
John Wyckoff.
Archie Marshall.
Thos. Metz.
Israel Anderson.
J. R. Roy.
Frank Beever.
Harry Bradley.
Wm. Hinerman.
Jno. A. Hunt.
D. W. Lemley.

Kodal:
H. A. Shupp.
Thos. Williams.

Hildreth:
Ira Dye.

Hundred:
Charles Bradley.
Ben Lewis.
Joseph Mackey.
W. M. Dailey.
Noah Henderson.
Sam Himelrick.
R. H. Hunt.
Geo. Milliken.
Bruce Reed.
Criss Renner.
John Selos.
S. J. Talkington.
John H. Whisler.
Joe Woods.
M. C. Henderson.
C. E. Hunt.
Percy Jackson.
J. H. Ross.
John Bean.
Geo. Hixenbaugh.
Amos Hostettler.
S. S. Lemley.
E. L. Litman.

Littleton:
J. F. Ashenhart.
Cora Bradley.
J. W. Cumberledge.
T. F. Dunnington.
T. E. Dent.
Peter Henderson.
J. F. McNary.

664

B. E. Teagarden.
J. K. Anderson.
J. E. Brookover.
William Garrison.
John Hennen.
David Hix.
Kate Hudson

Little Battle Creek:
D. E. Allen.

Lost Creek:
J. P. Post.
S. C. Allen.
J. W. Law.
W. T. Law.
D. O. Morgan.
M. L. Nutter.

Lowman:
James Clayton.
G. S. Goodrich.
Geo. Spray.
I. Y. Dulaney.
W. F. Moore.
Jack Shreeves.
F. K. Willey.
W. S. Wright.
E. N. Wright.

Mobley:
W. T. Francis.

Mannington:
W. M. Bradley.
M. E. Carroll.
F. J. Jones.
G. H. Myers.
J. T. Myers.
Albert Rice.
Riley Robinson.
J. E. Toothman.
Fred Crim.
J. H. Crim.
R. H. Joliffe.
Otto Smith.
J. D. Snider.
The Fairmont & Manning
Traction Co. (car bar

Ned:
C. B. Bissett.

Orlando:
W. H. H. Thompson.

Littleton:
W. H. Kimble, Sr.
W. A. Marshall.
James Sanney.
E. E. Sexton.

Pine Grove:
William Nolan.

Pentress:
C. F. Strosnider.
Simon F. Foley.

Reader:
Frank Kidder.
Mrs. J. North.

Roanoke:
R. L. Hall.
J. W. Ellis.
Jas. Malia.

Rose Bud:
A. W. Rittenhouse.
A. C. Swiger.
J. H. Cunningham.
Geo. H. Williams.

Ross:
W. W. Tustin.
Simon King.

Salem:
M. L. Campbell.
M. S. Frye.
C. L. Huston.
E. F. Huston.
Iven Hutson.
Jamison Hutson.
M. H. Hutson.
W. O. Seckman.
Geo. M. Golden.
E. M. Stout.
R. E. Allen.
C. E. Davidson.
N. F. Ford.
Blaine Singer.
Wm. Sterling.
665

Shirley:
J. E. Myer.

Smithfield:
Sam Villers.
J. L. Price.
J. C. Snodgrass.
Jno. Welsh.

W. M. Agnew.
W. A. Wilhelm.

Sugar Camp:
A. J. Davis.
Chas. McLain.
A. F. Randolph.

Uniontown:
W. W. Postlewaite.
Geo. Wisman.

Wallace:
T. B. Bates.
Francis Robinson.
E. A. Higginbotham.

Weston:
A. F. Clark.
Lee Price.
Ralph Turner.
Fred Yates.
Elias C. Fisher.
Ralph M. Leland.
J. A. Devar.
John Hammer.
W. J. Ward.

West Union:
W. S. Stinespring.

Wolf Summit:
Ora Bennett.

Wilbur:
J. S. Pratt.

Worthington:
U. W. Hess.
J. U. Parrish.

Shinnston:
S. C. Wagner.

Sandy:
Isaac Ammons.
Joseph Chisler.
Marion Tennant.
R. F. Chisler.

Sedalia:
W. Underwood.

Worthington:
B. F. Hess.
T. F. Sturm.
Mary C. Tetrick.
E. N. Heldreth.
B. F. Davis.
Mary E. Glover.
Jas. L. Heldreth.
Edna Hess.
G. W. Starrett.
R. F. Wood.

Manufacturers, etc. Supplied with Gas by the Philadelphia Company of West Virginia.

Name.	Location.
Hundred Milling Company, Flour Mill..	Hundred, W. Va.
J. A. Connelly, Stone Quary.....	Littleton, W. Va.
Eureka Pipe Line Company, Pump Station	Lewis Co., W. Va.
Eureka Pipe Line Company, Pump Station	Shinnston, W. Va.
Calvin W. Kerr.	Littleton, W. Va.

Gas Companies Supplying Gas to the Public in Various Towns and Cities to Which Gas Is Furnished by the Philadelphia Company of West Virginia.

Name.	Location.
Wetzel Natural Gas Company.....	Hundred, W. Va.
The Fairmont & Grafton Gas Company.. (Supplying 2,804 domestic consumers and 32 manufacturers).	Grafton, W. Va.
The Fairmont Gas & Light Company.... (Emergency service.)	Fairmont, W. Va.
Philadelphia Company.....	Pittsburgh, Pa.

666 List of New Consumers Not Yet Tabulated as to Location.

Name.	Location.
W. J. Anderson.....	Kodal, W. Va.
W. O. Ball.....	Rosebud, W. Va.
C. B. Berry.....	Broomfield, W. Va.
Harvey Booher.....	Fallen Timber, W. Va.
Hood Brohard.....	Ross, W. Va.
J. J. Brookover.....	Amos, W. Va.
W. S. Brown.....	Sycamore, W. Va.
L. W. Cain.....	Salem, W. Va.
Thos. Carrico.....	Shinnston, W. Va.
Jos. Content.....	Rosebud, W. Va.
I. C. Cosgray.....	Glovergap, W. Va.

Name.	Location.
C. D. Cottrill	Centerpoint, W. Va.
J. E. Crowel	Weston, W. Va.
J. N. Curry	Burton, W. Va.
M. O. Davis	Camp, W. Va.
J. A. Debar	Weston, W. Va.
Jas. Dennison	Rosebud, W. Va.
Mrs. Ida Garner	Burton, W. Va.
R. E. Gassett	Rosebud, W. Va.
E. B. Glover	Mannington, W. Va.
Mary E. Glover	Worthington, W. Va.
J. E. Gary, "Special"	Deep Valley, W. Va.
Silas E. Gochnour	Mineral, W. Va.
F. L. Harbert	Rosebud, W. Va.
A. L. Headley	Saybrook, W. Va.
Jessie H. Headley	Fairview, W. Va.
Wm. Hedge	Littleton, W. Va.
Wilford Hinchgliffe	Shirley, W. Va.
Georgia Ireland	Deer Valley, W. Va.
Archie Jackson	Antrim, W. Va.
F. D. Jones	Amos, W. Va.
Dalos Jordon	Mineral, W. Va.
Howard Kearns	Weston, W. Va.
Neal Keller	Worthington, W. Va.
John Kennedy	Wallace, W. Va.
N. S. Kinsley	Freemansburg, W. Va.
J. T. Lanham	Wallace, W. Va.
W. G. Lester	Freemansburg, W. Va.
J. J. Lough	Weston, W. Va.
T. E. Loy	Farmington, W. Va.
John M. Luning	Burton, W. Va.
Jas. McCormick	Fairmont, W. Va.
Wm. Marshall	Littleton, W. Va.
L. H. Michael	Worthington, W. Va.
Ollie Michael	Worthington, W. Va.
Presley Minor	Hundred, W. Va.
O. C. Moore	Amos, W. Va.
F. S. Morris	Bristol, W. Va.
Jos. T. Myers	Mannington, W. Va.
L. O. Parrish	Mannington, W. Va.
James Perkins	Joseph Mills, W. Va.
E. M. Pigott	Worthington, W. Va.
M. O. Polon	Blandville, W. Va.
John Reese	Broomfield, W. Va.
O. C. Richard	Reynoldsville, W. Va.
667 G. W. Robinson	New Milton, W. Va.
W. M. Rose	Smithfield, W. Va.
A. P. Shreve	Lowman, W. Va.
Jasper Shriver	Wadestown, W. Va.
Chas. H. Skinner	Weston, W. Va.
Hugh Smith	West Union, W. Va.

Name.	Location.
H. L. Smith	Broomfield, W. Va.
Jacob C. Smith	West Union, W. Va.
James Smith	Camp, W. Va.
P. A. Smith	Camp, W. Va.
Wm. Smith	West Union, W. Va.
Wm. Smith	Earnshaw, W. Va.
W. F. Smith	West Union, W. Va.
Ray Tomerville	Wolf Summit, W. Va.
G. H. Spray	Shirley, W. Va.
T. B. Spruce	Rosebud, W. Va.
Henry Sterling	Lowman, W. Va.
E. P. Stout	Freemansburg, W. Va.
Isaac Sturm	Worthington, W. Va.
Marion Tenant	Fairview, W. Va.
T. T. Toothman	Amos, W. Va.
S. T. Toothman	Mannington, W. Va.
Malinda Van Horn	Hundred, W. Va.
Ed Waggoner	Freemansburg, W. Va.
E. W. Waggoner	Freemansburg, W. Va.
Isaiah Weekley	Camp, W. Va.
N. Weekley	Mobley, W. Va.
J. W. Willey	Lowman, W. Va.
Fran Williams	Rosebud, W. Va.
Presley Williams	Kodal, W. Va.
Thos. Williams	Fairview, W. Va.
Mrs. N. F. Wilson	Mannington, W. Va.
John W. Wise	Wilbur, W. Va.
Ruben Wise	Wilbur, W. Va.
J. P. Wright	Worthington, W. Va.
D. F. Yonst	Mannington, W. Va.
F. A. Yost	Mannington, W. Va.
Festus Yost	Amos, W. Va.
L. J. Zirkle	Brown, W. Va.
Harrison Grubb	Worthington, W. Va.
W. J. Hibbs	Weston, W. Va.

668 ("EXHIBIT C" WITH THE FOREGOING PETITION.)

EXHIBIT "C."

Know all men by these presents:

That the Philadelphia Company of West Virginia, a corporati of the State of West Virginia, and the Citizens Trust and Guaran Company of West Virginia, of Parkersburg, West Virginia are he and firmly bound unto W. M. Curry in the sum of One Thousa and No/100 (1,000.00) Dollars, lawful money of the United Stat of America, to be paid to the said W. M. Curry, his heirs, executo administrators and assigns, to which payment, well and truly to made, the said The Philadelphia Company of West Virginia and t

Citizens Trust and Guaranty Company of West Virginia bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

Witness the common seal of The Philadelphia Company of West Virginia and the hand of its President, and the corporate seal of said surety, this 17th day of June, A. D. 1912.

Whereas, the said The Philadelphia Company of West Virginia, under lawful authority, has surveyed a route for, and is about to construct a sixteen-inch pipe line for the transportation of natural gas from its Pump Station No. 18, Freemans Creek District, Lewis County, West Virginia, to connect with the sixteen-inch line on the Sarah Maloney farm in McClellan District, Doddridge County, West Virginia, over and upon, inter alia, certain lands of W. M. Curry situate in Union District, Harrison County, West Virginia, bounded by lands of H. Richards, B. F. Boner, E. D. Ferris et al., the route described being as follows, to-wit:

Beginning at the line of H. Richards, at a point S. 45° 45′ E. 395 feet distant from Post, corner to B. F. Boner, H. Richards and W. M. Curry; thence N. 19° 45′ W., 224 feet to a point N. 10°
669 00′ E., 273 feet to a point N. 10° 15′ E., 59 feet to line of B. F. Boner, at a point N. 32° 30′ E., 309 feet distant from Post, corner aforesaid, a total distance of 556 feet.

And thence beginning again at the line of B. F. Boner, at a point S. 14° E., 80 feet from Stone, corner to E. D. Ferris, B. F. Boner and W. M. Curry.

Thence N. 5° 00′ W., 71 feet to line of E. D. Ferris, at a point S. 86° 30′ E., 17 feet distant from said corner.

A total distance of 71 feet.

And whereas, the said The Philadelphia Company of West Virginia is desirous of obtaining an easement or right of way over the said land twenty (20) feet in width, or ten (10) feet on each side of the above described center line, and is unable to agree with the said W. M. Curry upon the amount to be paid for the said right of way, and is condemning, under its power of eminent domain, the said right of way, in accordance with the provisions of the Act of 1907:

Now the condition of this obligation is such that if the above bounden The Philadelphia Company of West Virginia, its successors and assigns, or the said Citizens Trust and Guaranty Company of West Virginia, its successors and assigns, or either of them, shall and do well and truly pay, or cause to be paid unto the said W. M. Curry the damages he may sustain by reason of the construction of the said pipe line over the property aforesaid, and all the damages he may sustain by reason of the entering upon said land by The Philadelphia Company of West Virginia, and shall pay all
670 such sums as are by law payable by reason of the premises, then this obligation to be void; otherwise to be and remain in full force and virtue.

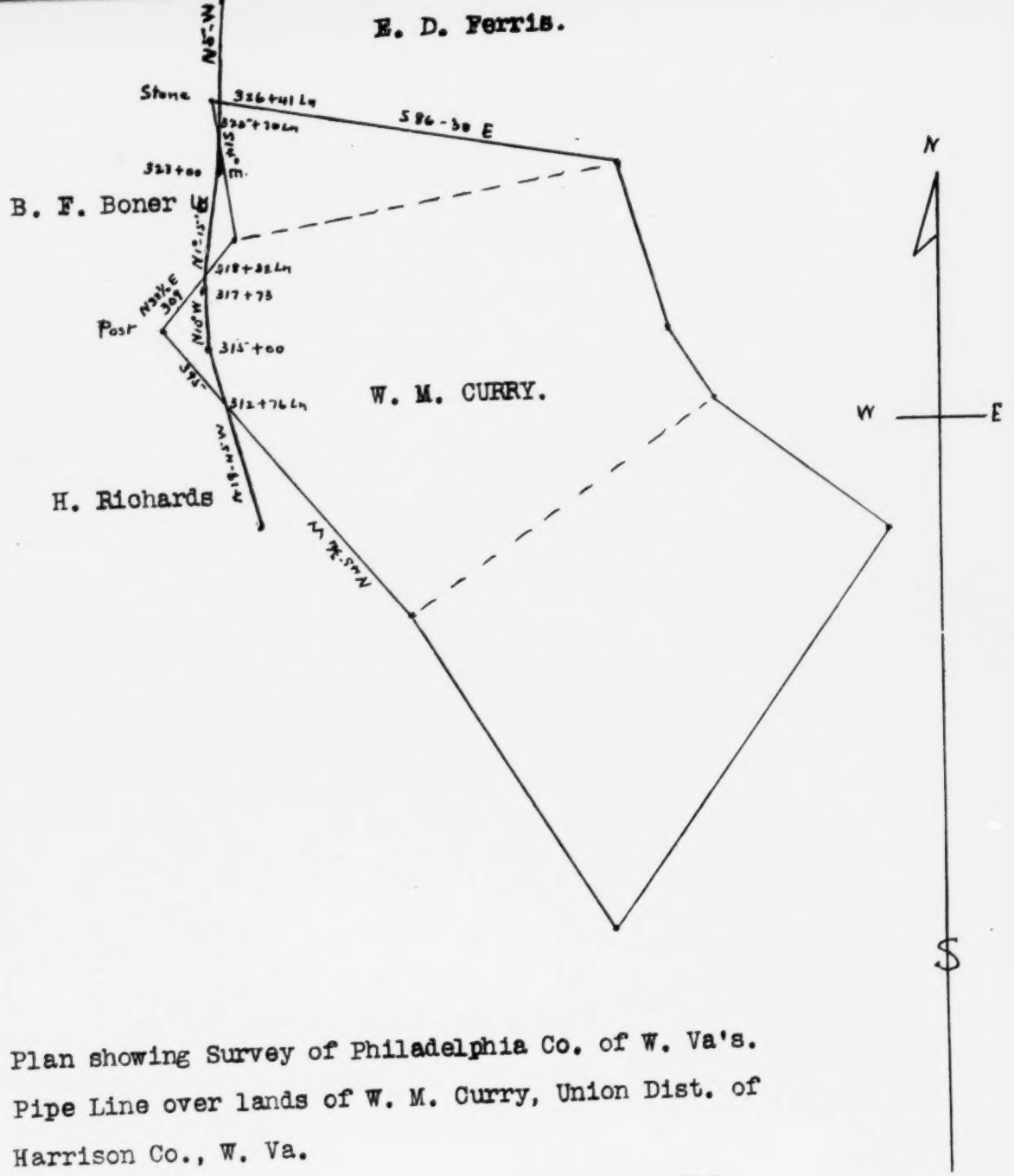
[SEAL.] THE PHILADELPHIA COMPANY OF WEST VIRGINIA,
By J. F. GUFFEY,
President.

Attest:
W. B. CARSON,
Secretary.

[SEAL.] CITIZENS TRUST AND GUARANTY COMPANY OF WEST VIRGINIA,
By WM. H. TAYLOR,
Its Attorney in Fact.

Attest:
W. FRANK DENNISON,
Agent.

(Here follow plans of survey of Philadelphia Co. of West Va., marked pages 671-671½.)



Plan showing Survey of Philadelphia Co. of W. Va's. Pipe Line over lands of W. M. Curry, Union Dist. of Harrison Co., W. Va.

Scale: 1" = 40 rods. June 4th, 1912.

672 ("EXHIBIT D" WITH THE FOREGOING PETITION.)

W. M. Curry:

You are hereby notified that on the 22nd day of June, A. D. 1912, at 9 o'clock A. M., or as soon thereafter as counsel can be heard, The Philadelphia Company of West Virginia will present to Honorable Charles W. Lynch, Judge of the Circuit Court of Harrison County, West Virginia, at Clarksburg, West Virginia, for the approval of said Court, the bond of said Company, with surety, in the sum of One Thousand Dollars and no/100 ($1,000.00), to secure to you the damage properly payable for an easement in your land situated in Union District, Harrison County, West Virginia, for the construction of a sixteen inch pipe line for the purpose of transporting natural gas.

A plan will be attached to said bond showing the route of the said pipe line over your land.

A petition will be presented at the same time and place, praying the Court, inter alia, that the said bond be approved; that the possession of the said easement be at once given to the petitioner, and that commissioners be appointed to determine the amount to be paid for said easement.

Unless exception to the form, amount of surety be filed within three (3) days after presentation, the said bond may be approved by the Court.

This 17th day of June, A. D. 1912.

THE PHILADELPHIA COMPANY OF WEST VIRGINIA,
By DAVIS & DAVIS,
Counsel.

673 STATE OF WEST VIRGINIA,
County of Harrison, ss:

R. E. Clark, being duly sworn, deposes and says:

That he is the Agent of The Philadelphia Company of West Virginia, duly authorized by the said Company to agree, if possible, with the owners of land for easement in, on or over their land for the construction of pipe lines for the purpose of transporting natural gas and failing to agree, to tender bonds to secure to the owners the payment of damages properly payable for such easements; and he further says that in pursuance of his duties, he, on the 17th day of June, 1912, called upon W. M. Curry of Union District, Harrison County, West Virginia, and then and there attempted to agree, in behalf of the said Company, with the said W. M. Curry as to the damage properly payable to him for an easement over certain land in Union District, Harrison County, West Virginia, for the construction of a sixteen-inch pipe line for the purpose of transporting natural gas on the lines, courses and distances described in the bond hereto annexed, but the said W. M. Curry refused to agree therefor, after he had offered to him the fair market price for said easement,

to-wit: the sum of Three Dollars per rod; that failing to agree h
then and there tendered the annexed bond to the said W. M. Curr
to secure to him the payment of damages properly payable for suc
easement, but the said W. M. Curry refused to accept the said bond
and that thereupon he served the annexed notice on the said W. M
Curry, on the 17th day of June, A. D. 1912, about the time o
2.30 o'clock P. M.

(Signed) R. E. CLARK.

Sworn to and subscribed before me this 18th day of June, 191
(Signed) S. P. CARNEY,
Notary Public.

My Commission expires: January 26, 1921.

674 (*Order. Entered June* 22, 1912; *Recorded in Law Orde*
Book No. 36, *Page* 64.)

In the Circuit Court of Harrison County, West Virginia. In
Vacation.

THE PHILADELPHIA COMPANY OF WEST VIRGINIA, a Corporation

VS.

W. M. CURRY et als.

Condemnation Proceeding.

This day came The Philadelphia Company of West Virginia, b
counsel, and tendered to the judge of said Court, in vacation, its bon
in the penalty of One Thousand Dollars ($1,000.00) with Citizen
Trust & Guaranty Company of West Virginia, a corporation, a
surety, to secure W. M. Curry in the payment of any damages prop
erly payable to him by reason of said The Philadelphia Company o
West Virginia, taking possession of an easement or right of wa
through the lands of the said W. M. Curry, situate in Union Distric
of Harrison County, West Virginia, for the purpose of constructing
operating and maintaining a pipe line for the transportation o
natural gas, to which bond a plan is attached showing the route o
the proposed line over said land; and at the same time tendered t
the Court and asked leave to file its petition, duly verified, with th
exhibits filed therewith, praying inter alia that the said bond b
approved and that possession of the said easement be given to th
said The Philadelphia Company of West Virginia; and in support o
the said petition tendered and asked leave to file the affidavit o
Robert E. Clark.

And it appearing from proper return thereof that five days' notice
has been given by the said The Philadelphia Company of West
Virginia to the said W. M. Curry that it would on this day
675 present said bond to the Judge of said Court, which notice
states the time and place for the presentation of said bond,
and would also present its petition praying the court among other

things to approve the said bond and give immediate possession of the said easement to the said applicant, it is ordered that the said notice, said petition and exhibits and the said affidavit be and the same are hereby filed and this proceeding docketed.

On consideration whereof the Court is of opinion to approve the said bond unless within three days from this date the defendant shall except to the form, amount or surety of the said bond and file such exceptions with the Clerk of this Court. And to this end the further hearing of this proceeding is continued until the 29 day of June, 1912, in chambers.

Given under my hand this the 22nd day of June, 1912.

(Signed) CHARLES W. LYNCH,
Judge Circuit Court of Harrison County.

To I. Wade Coffman, clerk:

Enter the foregoing order as a vacation order this 22nd day of June, 1912.

(Signed) CHARLES W. LYNCH,
Judge of the Circuit Court of Harrison County, West Virginia.

676 (*Order. Entered June 29th, 1912; Recorded in Law Order Book No. 36, at Page 69.*)

In the Circuit Court of Harrison County, West Virginia. In Vacation.

THE PHILADELPHIA COMPANY OF WEST VIRGINIA, a Corporation,

vs.

W. M. CURRY et als.

Condemnation Proceeding.

This day again came The Philadelphia Company of West Virginia, by counsel, and moved the Court for an order approving the bond heretofore tendered in this case, and asked that the same be filed for the benefit of the said W. M. Curry and of said applicant. And no exceptions to the form, amount or surety of said bond having been filed by the said W. M. Curry before the Clerk of this Court within the time specified by former order entered herein, and the said defendant having failed to appear the Court is of opinion to approve the said bond and both hereby approve the same. And it is ordered that the said bond, with the plan thereto attached be and the same is hereby filed for the benefit of the said W. M. Curry and of said applicant.

And the Court doth find and orders and directs that the petitioner, The Philadelphia Company of West Virginia, is a pipe line Company organized for the purpose of transporting carbon oil and

natural gas or both, and as such has the right to and may at any time, immediately if necessary, enter upon the said easement and right of way for the purpose of constructing the pipe line mentioned and described in said petition: which easement or right of way is twenty (20) feet in width, or ten (10) feet on each side
677 of the center line, which center line is described as follows:

Beginning at the line of H. Richards at a point S. 45° 45′ E. 395 feet distant from a post, corner to B. F. Boner, H. Richards and W. M. Curry; thence N. 19° 45′ W. 224 feet to a point; N. 10° 00′ W. 273 feet to a point; N. 10° 15′ W. 59 feet to the line of 30′ E. 17 feet distant from said corner, being a total distance of 71 feet.

Given under my hand this the 29th day of June, 1912.

(Signed) CHARLES W. LYNCH,
Judge of the Circuit Court of Harrison County, West Virginia.

To I. Wade Coffman, clerk:

Enter the foregoing order as a vacation order this 29th day of June, 1912.

CHARLES W. LYNCH,
Judge of the Circuit Court of Harrison County, West Virginia.

678 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the foregoing are true, correct and complete copies of the petition and exhibits therewith filed on June 22, 1912, and of the orders made and entered on June 22, 1912 and June 29, 1912, in the condemnation proceeding of The Philadelphia Company of West Virginia, a corporation, versus W. M. Curry, lately pending in said Circuit Court of Harrison County, as the same remains of record in my said office.

In testimony whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 29th day of January, 1921.

[Seal of the Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Haymond Maxwell, Judge of the Circuit Court of Harrison County, State of West Virginia, do certify that I. Wade Coffman, by whom the foregoing attestation was made, was, at the date thereof, Clerk of said court duly qualified and that the said attestation is in due form of law and made by the proper officer.

Witness my hand and seal on this the 31st Day of January, 1921.

HAYMOND MAXWELL. [SEAL.]

679 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the Honorable Haymond Maxwell, by whom the above certificate was given and whose name is thereto subscribed in his own proper handwriting, was, at the date thereof, Judge of the said Circuit Court of Harrison County, duly commissioned and sworn and acting.

In witness whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31st day of January, 1921.

[Seal of the Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

680 [Endorsed:] The Philadelphia Company of West Virginia vs. W. M. Curry. Condemnation of Pipe Line Right of Way.

681 CARNEGIE v. SWIGER COND. W. VA. EX. 49.

EX. W. VA. No. 49. O. L. H.

In the Circuit Court of Harrison County, West Virginia.

CARNEGIE NATURAL GAS COMPANY

v.

A. G. SWIGER et al.

Condemnation for Pipe Line Right of Way.

Petition.

Filed July 11, 1911.

To the Honorable Chas. W. Lynch, Judge of said Court:

The petition of the Carnegie Natural Gas Company respectfully represents;

1st. Your petitioner is a corporation organized under the laws of the state of Pennsylvania and authorized to do business in the state of West Virginia under the laws of said State, for the purpose of mining, boring, digging for or otherwise obtaining from the earth petroleum rock or carbon oils and natural gas and manufacturing, buying, selling and transporting the same in the crude and the refined states; for the purpose of constructing and maintaining lines

of tubing and piping for the transportation of such oils and gas or either of them, for the public generally as well as for the use of said corporation; for the purpose of transporting such oil or gas or either of them by means of such pipes and selling and supplying the same to others and generally for the purpose of doing such acts and carrying on such business as pertains to such works and improvements. Your petitioner is by virtue of the laws of said state of West Virginia a common carrier of natural gas; and is recognized by the administrative department of said state as the owner and operator of pipe lines within said state used for the transportation of gas for public use, and the said petitioner, as such pipe line company and public service corporation, regularly makes to the Board of Public Works of said state a return in writing required by Section
682 84 Chapter 29 of the code of said state; and the said petitioner is by said Board of Public Works duly and regularly assessed for taxes as such pipe line company and public service corporation. Its tax paid to the said state for such purpose during the year 1910 amounted to $23,441.02.

2nd. Your petitioner since its incorporation and since receiving its authority to do business in the state of West Virginia, has been engaged in the business of producing and marketing natural gas and at present is supplying gas to 8 school houses, one church, 65 dwelling houses, 2 oil and gas companies, and 5 drilling contractors within the state of West Virginia, a true and correct list of which consumers is attached hereto and made part hereof, marked Exhibit "A," that your petitioner is also supplying gas to 770 customers outside of said state of West Virginia.

3rd. Your petitioner is constantly increasing the number of its consumers and it is desirous of largely increasing its sales of gas in the various counties of West Virginia traversed by its lines. Your petitioner is ready and willing to sell gas to all parties within reaching distance of its pipe lines who apply for the same at reasonable fixed rates which are in general effect throughout the state of West Virginia, and which rate is as follows: 25 cents per thousand cubic foot of gas; also flat rate of $1.50 per month for one fire. Your petitioner being a public service corporation as hereinbefore stated is ready and willing to furnish gas at all times to the public, as aforesaid.

4th. Your petitioner is the owner of seven producing gas wells in and about Logansport in Harrison County, West Virginia, and desires to connect said gas wells with the main pipe line of your petitioner near Dola in said Harrison County. The only practical route from said gas wells to said main pipe line, passes through the lands of A. G. Swiger, hereinafter more particularly described.
683 Your petitioner is now and has been paying rentals on said gas wells amounting to $2,500.00 per year, and has been getting no gas for the reason that it has had no pipe line through which to transport same, while the gas from said wells is being drained by other gas wells upon other and neighboring lands.

5th. Desiring to construct such pipe line as aforesaid, the officers of the said Carnegie Natural Gas Company, your petitioner, provided for the construction of a pipe line from the said seven wells near Logansport, Harrison County, West Virginia, to the main line of your petitioner at or near Dola, for the purpose of transporting gas from said seven wells and furnishing and selling said gas to such persons within and without the state of West Virginia as might desire the same.

6th. In compliance with said order the Carnegie Natural Gas Company, your petitioner, had a survey made of the said proposed pipe line, which survey was adopted by the said Company and determined upon as the route best adapted to the Company's purposes, and was located so that the same does not pass within one hundred feet of any occupied dwelling house, nor does it take nor pass through any dwelling house, yard or garden, nor does it lie wholly or in part in any municipal corporation. The only pipe line which your petitioner intends to lay upon said route will be six inches in diameter; will be used exclusively for the transportation of natural gas; it is necessary to supply with gas the aforesaid consumers and such new consumers within said county and state and elsewhere as your petitioner expects to secure in the near future; and it will be buried under the surface of the ground to such a depth as not to interfere with the use of the land for agricultural purposes.

7th. The said proposed pipe line passes over and upon land belonging to A. G. Swiger, situate in Eagle District, Harrison
684 County, West Virginia, and bounded as follows: On the north by lands of J. N. Swiger and J. C. Bartlett, on the east by lands of C. D. Robinson, on the south by lands of Josephine Swiger heirs, A. G. Swiger and others, and on the west by lands of Omer Swiger, S. R. Michael and others, and the route of said pipe line through said land of A. G. Swiger is described as follows: beginning in the division line between the said land of A. G. Swiger and the land of C. G. Robinson 264 feet distant from the north end of said division line, which north end is a stake corner between said Robinson and Swiger and 99 feet distant from a stone corner to said C. D. Robinson and A. G. Swiger at the southern end of said division line, thence through the lands of said A. G. Swiger N. 84° 25′ W. 1,268 feet to a stake, thence N. 71° 50′ W. 603 feet to a stake, thence S. 84° 35′ W. 304 feet to a stake, thence S. 62° 35′ W. 405 feet to a stake, thence S. 54° W. 208 feet to a point in the division line between the lands of said A. G. Swiger and S. R. Michael, which point is 346½ feet distant from the southern end of said division line and 106 feet distant from the northern end of said division line, which northern end is a white oak corner tree between said Swiger and Michael, a total distance of 2,788 feet. No oil tank, station or building is to be erected or placed upon any part of the said premises sought to be taken by the peitioner.

8th. Your petitioner attempted to purchase from said A. G. Swiger an easement or right of way over his lands for the purpose of con-

structing thereon a pipe line as above described for the transportation of gas along the route aforesaid, and your petitioner offered to said A. G. Swiger a fair market price for the said easement, and through its agent, F. M. Kellar, made a- offer in writing to the said A. G. Swiger, and offered him the sum of $225.00 for such easement and right of way, and in said writing made a tender of such sum for such purpose, but the said A. G. Swiger would not agree with
685 your petitioner upon the damage properly payable for such easement, and would not agree with your petitioner upon a fair price for such easement and right of way, and refused to accept said offer of $225.00 for said easement and right of way, and refused to accept said sum so tendered to him for such purpose, and has refused to give and grant to your petitioner a right of way or easement for said pipe line; your petitioner thereupon, through its agent F. M. Kellar, tendered to the said A. G. Swiger a bond executed by petitioner, Carnegie Natural Gas Company, in the sum of $700.00 with the Fidelity Trust and Deposit Company of Maryland as surety, together with a plan attached thereto showing the location of said proposed pipe line in accordance with the terms of the act of the legislature of West Virginia in such cases made and provided which bond with plan attached thereto is herewith filed made part hereof, marked Exhibit "B". The said Fidelity Trust & Deposit Company of Maryland, is a trust company duly authorized under the laws of West Virginia, and doing business in said state; the said company has in all respects complied with the requirements of said state, and is and has for many years been amply solvent and well able to perform all of its obligations, and the said company is in fact a good and sufficient security for the bond above mentioned. Said written offer and tender made by your petitioner to said A. G. Swiger hereinbefore set forth is herewith filed, marked Exhibit "C" and made part hereof.

9th. The said A. G. Swiger refused to accept the said bond and thereupon said F. M. Kellar on the — day of July, 1911, served upon the said A. G. Swiger a notice that the said bond would be presented to court to be approved and filed for his benefit on the 11th day of July, 1911, a copy of which notice together with proof
686 of service sent out is herewith filed, made part hereof, and marked Exhibit "D".

10th. The said A. G. Swiger is the sole owner of the land hereinbefore described over which said right of way is proposed to be taken by your petitioner. The only liens on said real estate are th following: vendor's lien reserved in deed of Elisha P. Hall and wife to A. G. Swiger bearing date of 30th day of April, 1888, and recorded in the office of the Clerk of the County Court of Harrison County, West Virginia, in Deed Book No. 74, page 332, and vendor's lien in deed of John T. Swiger to A. G. Swiger, bearing date of 29th day of September, 1891, and recorded in said County Clerk's office in Deed Book No. 83, page 506. That the only claims against said real estate are the following: the Hope Natural Gas Company is the

owner of oil and gas rights upon said land by virtue of a lease from said A. G. Swiger, bearing date of 21st day of December, 1908, and recorded in said County Clerk's office in Deed Book No. 176, page 162. Your petitioner is informed and believes that the Swiger Coal Company is the owner of certain coal rights in said lands, the nature of which is unknown to your petitioner. The said Swiger Coal Company is a corporation organized under the laws of the state of West Virginia. There are no other liens against said real estate nor conflicting claims thereto. The said John T. Swiger has departed this life and J. Allen Swiger was appointed his administrator by the County Court of Harrison County, West Virginia, and duly qualified as such according to law. Your petitioner also caused to be served upon the said Elisha P. Hall, J. Allen Swiger, Administrator of John T. Swiger, deceased, Hope Natural Gas Company and Swiger Coal Company the same notice that was served upon said A. G. Swiger aforesaid, as will appear from the return endorsed upon the back of said notice, marked Exhibit "D".

887 11th. Petitioner avers that the pipe line which it proposes to build is an internal improvement for public use; that delay in securing said right of way will interfere with the proper development of its gas territory in this vicinity, and will interfere with the performance of its duty to the land owners who have made oil and gas leases to your petitioner, and will also injuriously delay its consumers in obtaining the necessary supply of gas. Your petitioner further avers that no other market is available for the product of the aforesaid seven wells near Logansport in said Harrison County, and that said wells are at present and have been for a long period of time shut in because of the fact that their products cannot be market without use of the pipe line hereinfore described.

12th. Your petitioner under the law has the right to acquire and take the said right of way or easement in and by this petition, application and bond.

Wherefore, your petitioner prays this Honorable Court to approve said bond and to direct that the same be filed for the benefit of the said A. G. Swiger, and for the benefit of said Elisha P. Hall, J. Allen Swiger, Administrator of John T. Swiger, deceased, Hope Natural Gas Company and Swiger Coal Company, if they or any or either of them are entitled to any benefit, in accordance with the act of the Legislature of West Virginia in such cases made and provided. Your petitioner further prays that it be allowed to enter upon said easement through the lands of said A. G. Swiger as soon as the said bond has been approved, for the purpose of constructing a pipe line without delay; your petitioner further prays that commissioners may be appointed by this court to ascertain a just compensation to said A. G. Swiger, and to said Elisha P. Hall, J. Allen Swiger, Administrator of John T. Swiger, deceased, Hope Natural Gas Company and Swiger Coal Company, if they are entitled to any compensation, for the use of said easement or right of way over, in and upon the lands hereinbefore described and proposed to

888

be taken by your petitioner for the purpose and use aforesaid, and that such proceedings may be had in the premises as conform to law. And petitioner prays for such other further and general relief as the nature of its case may require. And it will ever pray, etc.

(Signed) CARNEGIE NATURAL GAS COMPANY,
By HALL & HALL,
Counsel.

HALL & HALL,
Attorneys for Petitioner.

STATE OF PENNSYLVANIA,
Allegheny County, To wit:

Norwood Johnston, being duly sworn, says that he is the Vice-President of the Carnegie Natural Gas Company, a acorporation, the petitioner named in the foregoing petition, and that he knows the contents thereof; that the facts and allegations therein contained are true, except such as are therein stated upon information and belief, and that as to such allegations he believes them to be true.

(Signed) NORWOOD JOHNSTON,
Vice-President of the Carnegie Natural Gas Company, a Corporation.

Taken, sworn to and subscribed before me, in the county of Allegheny and state of Pennsylvania, this 8th day of July, 1911.

[Official Seal.]

(Signed) HENRY T. HAMILTON,
Notary Public in and for Allegheny County, Pennsylvania.

My commission expires March 3, 1915.

689 STATE OF PENNSYLVANIA,
Allegheny County, To wit:

I, Wm. B. Kirker, Clerk of the Common Pleas Court in and for said county, which court is a court of record, having a seal, do hereby certify that Henry T. Hamilton, before whom the foregoing verification or proof of the foregoing petition was taken was, at the time of taking the same, a notary public residing and authorized to act in said county, and was duly authorized by the laws of said state to take and administer oaths in said county and state and to certify to the same, and further that I am well acquainted with the hand writing of the said Henry T. Hamilton and that I verily believe that the signature to said verification and proof is genuine.

In testimony whereof, I have hereunto set my hand and affixed the seal of the said court, this 8th day of July, 1911.

[Official Seal.] (Signed) WM. B. KIRKER,
Clerk of the Common Pleas Court of Allegheny County, Pennsylvania.

690 (EXHIBIT "A" FILED WITH THE PETITION.)

List Consumers Using Gas and Supplied by Carnegie Natural Gas Company of Pittsburgh, Pennsylvania.

Earnshaw, West Virginia:

U. R. Horner,
M. Teagarden,
W. S. Kern,
Frank Smith,
F. B. Smith,
J. T. Hughes,
R. L. Hughes,
Frank Hupp,
Ben Earnshaw,
Simon Higginbotham,
W. E. Higginbotham,
Oliver McGill,
Carneys School # 2,
Cottentown " # 4,
Round Bottom " # 7,
Rock Camp " # 8,
Earnshaw " # 10,
S. S. Teagarden " # 14,
Christian Church.

Wadestown, West Virginia:

Mt. Tabor School,
St. Cloud School.

Burton, West Virginia:

Geo. M. Stockdale.

691

Hundred, West Virginia:

T. J. White,
W. O. Spitznogle,
W. B. Durbin,
F. M. Anderson,
Wm. Wright,
Rex Milliken,
Spencer Main,
S. S. Teagarden,
Chas. Kimble,
Nat. Kennedy,
A. Hixenbaugh,
John Taylor,

Mannington, West Virginia:

R. E. Dodd.

Farmington, West Virginia:

E. L. Criss,
J. W. Efaw,
Isaac Kuhn,
Peter Henigen,
L. B. Kerr,
Walter Eby,
Ben Stewart.

St. Cloud, West Virginia.

D. A. Six,
S. W. Gilmore,
M. L. White,
J. L. White,
Chas. White,

692

E. E. White,
Oliver Ross,
J. G. White.

Smithfield, West Virginia:

C. L. Bock,
J. H. Bock.

Folsom, West Virginia:

John Robinson,
Mrs. Criss Bates,
Artie Dye,
Lee Bates,
F. A. Miller,
Jas. Cairns.

Atwood, West Virginia:

Dora McHenry,
Atwood School.

Maple, West Virginia:

John Stiles,
Mary A. White,
Jno. & S. L. White,
Geo. M. Six,
J. L. Smith.

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TOO LARGE FOR FILMING

Dola, West Virginia:

H. E. Cayton,
B. Hall.

Rivesville, West Virginia:

Ellis Eddy.

693

Sedalia, West Virginia:

Jas. A. Garrett.

Reader, West Virginia:

W. F. Burgess.

Hero, Pennsylvania:

L. C. Billingsley.

Jollytown, Pennsylvania:

Minor Thomas,
Eliza Thomas,
Henderson Thomas.

Also, to N. S. Snyder & Company, gas supplied to pump Satterfield Well, #1, Mannington District, Marion County, W. Va.

The Philadelphia Gas Company to pump Barney Benner, #1, Battelle District, Monongalia County, W. Va.

And, the following Contractors, for drilling other than the Carnegie Natural Gas Companies' wells.

Weston, West Virginia:

George Hatzel.

Shinnston, West Virginia:

S. W. Barnhart.

Clarksburg, West Virginia:

J. W. Agnew,
Barris & Harkness.

Bellevue, Penna.:

C. W. McCall.

(Here follows map showing proposed 6" gas line through lands of A. G. Swiger, marked page 693*a*.

695 (EXHIBIT "B" FILED WITH THE PETITION.)

Know all men by these presents, that we, the Carnegie Natural Gas Company a corporation, principal, and Fidelity and Deposit Company of Maryland sureties, are held and firmly bound unto A. G. Swiger in the just and full sum of ($700.00) Seven Hundred Dollars, to the payment whereof well and truly to be made to the said A. G. Swiger, as aforesaid, we bind ourselves, our executors, administrators and assigns, jointly and severally, firmly by these presents. Sealed with our seals and dated this 16th day of March, 1911.

The condition of the above obligation is such, that whereas the above bound and named, Carnegie Natural Gas Company, is derirous of securing an easement for a right of way over the lands of the said A. G. Swiger, situate in Eagle District, Harrison County, West Virginia, for the purpose of laying and constructing a pipe line for the purpose of transporting natural gas and constructing telegraph and telephone lines,—a plan or plat of which easement and right of way is attached to and made a part of this bond,—and marked for identification exhibit "A." And whereas the said Carnegie Natural Gas Company has attempted to agree with said Swiger upon a price or upon the damages, or both for said easement or parcel of land. And whereas said company and said Swiger have failed to agree upon the said price and damages. And whereas said gas company is desirous of taking possession of said parcel of land or easement at once for the purpose of laying a pipe line upon the same, as provided by Section 20 of chapter 74 of the Acts of 1907 of West Virginia, in advance of the fixing of the said damages or price, in the manner provided by said chapter.

Now, therefore, if the said Carnegia Natural Gas Company
696 shall pay to said A. G. Swiger any and all damages which he might sustain or incur by reason of said Carnegie Natural Gas Company taking possession of said easement and right of way and laying a pipe line upon the same, then the above obligation to be void, otherwise to remain in full force and effect.

(Signed) CARNEGIE NATURAL GAS CO., [SEAL.]
By S. W. MEALS,
Div. Supt.

FIDELITY AND DEPOSIT CO. OF MD.,
WILLIAM H. TAYLOR,
Attorney in Fact.

Attest:
[SEAL.] R. N. JENKINS,
Agent.

STATE OF WEST VIRGINIA,
County of Wetzel, To wit:

F. M. Kellar, being duly sworn, deposes and says: That he is the Agent of the Carnegie Natural Gas Company, duly authorized by

id Company to agree, if possible, with the owners of land for an sement in, on and over their lands for the construction of pipe nes for the purpose of transporting natural gas, and failing to ree, to tender bonds to secure the owners the payment of damages operly payable for such easement; and he further says that in rsuance of his duties, he, on the 17th day of March, 1911, called on A. G. Swiger of Eagle District, in the County of Harrison d State of West Virginia, and then and there attempted to agree, behalf of the said Company, with the said A. G. Swiger, as to the mage properly payable to him, for an easement in his land, situate Eagle District, in the County of Harrison and State of West rginia, for the construction of a six inch pipe line, on the lines, courses and distances described in the bond hereto annexed, but that the said A. G. Swiger refused to agree therefor; that afterwards on the same day he offered to the said A. G. iger the fair market price for said easement, to-wit, the sum of wo Hundred and Twenty Five Dollars; that failing to agree he, the 14th day of June, 1911, in the District of Eagle and County Harrison and State of West Virginia, tendered the annexed bond the said A. G. Swiger to secure him in the payment of damages operly payable for such easement, but that the said A. G. Swiger fused to accept said bond; and that thereupon he served the an-exed notice on the said A. G. Swiger on the day, month and year st above written.

(Signed) F. M. KELLAR.

Taken, sworn to and subscribed before me in the County of etzel and state of West Virginia, this 15th day of June, 1911.

(Signed) J. B. WHITE,
Notary Public in and for
Wetzel County, West Virginia.

My commission expires Dec. 18" 1919.

Exhibit "Copy of Certificate of Carnegie Natural Gas Company to do Business in West Virginia."

Filed August 15, 1911.

State of West Virginia.

Certificate.

I, Wm. O. Dawson, Secretary of State of the State of West Virginia, do hereby certify that the Carnegie Natural Gas Company, corporation created and organized under the laws of the State of ennsylvania, has this day presented to me in my said office, duly rtified copies of the original articles of association and the amendents thereto, granted by the said state of Pennsylvania, together ith a certified copy of the laws of the State last aforesaid under hich the said Company was incorporated, and thereupon the fore-

going are each and all filed in this office, in compliance with sectio 30 of chapter 54 of the Code of West Virginia.

Given under my hand and the Great Seal of the said State, the City of Charleston, this Fourth day of May 1899.

[G. S.] (Signed) STUART F. REED,
Secretary of State.

699 State of West Virginia.

Certificate.

I, Stuart F. Reed, Secretary of State of the State of West Virginia do hereby certify that the foregoing is a true, full and correct cop of the certificate issued by the Secretary of State of the State o West Virginia, authorizing the Carnegie Natural Gas Company t hold property and transact business in the State of West Virginia as appears from the records of my said office.

Given under my hand and the Great Seal of the said State, the City of Charleston, this Second day of August 1911.

(Signed) STUART F. REED,
[G. S.] *Secretary of State.*

700 (EXHIBIT "D" FILED WITH THE PETITION.)

To A. G. Swiger, Elisha P. Hall, J. Allen Swiger, administrator o John T. Swiger, deceased; Hope Natural Gas Company, an Swiger Coal Company:

You are hereby notified that on the 11th day of July, 1911, a 9:00 o'clock, a. m., or as soon thereafter as counsel can be heard Carnegie Natural Gas Company, a corporation, will present t Charles W. Lynch, Judge of the Circuit Court of the County of Har rison and State of West Virginia, at the Court House of Lewis County West Virginia, in the town of Weston, Lewis County, West Virginia during the vacation of the Circuit Court of said Harrison County for approval by said court, a bond of the said Carnegie Natural Ga Company, with surety, in the sum of Seven hundred dollars, to secur you and each of you the damage properly payable for an easemen in the land of said A. C. Swiger, situate in Eagle District, Harrison County, West Virginia, for the construction of a six inch pipe line for the purpose of transporting natural gas.

A plan is attached to said bond showing the route of the proposed pipe line over said land.

A petition will be presented, at the same time and place, to the court, praying, inter alia, that the said bond be approved and that possession of said easement be given to the petitioner.

Unless exceptions to the form, amount or surety of said bond be filed within three days after presentation, said bond shall be approved by the court.

This 1st day of July, 1911.

(Signed) CARNEGIE NATURAL GAS COMPANY,
By HALL & HALL,
Its Attorneys.

701 STATE OF WEST VIRGINIA,
Wetzel County, to wit:

This day personally appeared berfore me, the undersigned authority, F. M. Kellar, who, after being duly sworn, upon oath says that he executed the within notice on the within named A. G. Swiger and J. Allen Swiger, administrator of John T. Swiger, deceased, by delivering a true copy thereof to each of them, in the county of Harrison and State of West Virginia, on the 5th day of July, 1911; and that he executed the within notice on the within named Elisha P. Hall by delivering a true copy thereof, at his usual place of abode, to Lizzie Murphy, his daughter, who is a member of the family of the said Elisha P. Hall and above the age of sixteen years, and giving information of its purport to her, the said Elisha P. Hall being absent and not found and his wife not being found there, in the County of Harrison and State of West Virginia, on the 5th day of July, 1911; and that he executed the within notice on the within named Swiger Coal Company, a corporation, by delivering a true copy thereof to A. Gilbert Siger, attorney in fact for said Swiger Coal Company, a corporation, and the person appointed pursuant to law to accept service of process of said corporation, in the County of Harrison and State of West Virginia, the said County of Harrison being the county in which the said A. Gilbert Swiger resides, on the 5th day of July, 1911.

(Signed) F. M. KELLAR.

Taken, sworn to and subscribed before me in the County of Wetzel and State of West Virginia, this 7th day of July, 1911.

(Signed) L. S. HALL,
Notary Public in and for
Wetzel County, West Virginia.

My commission expires December 31st, 1919.

702 I, M. J. Rathbone, Attorney in fact for Hope Natural Gas Co., appointed pursuant to law for the purpose of accepting service of process against said corporation, hereby accepts service of the within process, in the County of Wood, State of West Virginia, which County of Wood is the County wherein I reside.

This, the 6th day of July, 1911.

(Signed) M. J. RATHBONE,
Attorney in Fact for Hope Natural Gas Co.

703 CARNEGIE NATURAL GAS COMPANY

VS.

A. G. SWIGER et al.

Upon Condemnation.

(*Order Entered Sept.* 29, 1911.)

The court having maturely considered the motion of defendants A. G. Swiger and the Swiger Coal Company made at a former day, for a continuance in order that they might be given further time to take additional testimony, which motion was supported by the affidavit of Charles G. Coffman, which was heretofore tendered and lodged with these papers, and is now filed, and is marked for identification "Affidavit of Charles G. Coffman relative to taking depositions of Norwood Johnson et als.," doth overrule the same, to which ruling of the court the said defendants except. Thereupon this proceeding came on to be further heard upon the pleas heretofore filed, issues joined thereon, upon the testimony taken upon the part of the petitioner, and upon the part of the defendants A. G. Swiger and the Swiger Coal Company, and upon all motions of whatever nature made by any of the defendants, heretofore. On consideration of said matters, and of the bond heretofore filed by the petitioner, Carnegie Natural Gas Co., with its petition, the court is of the opinion and doth find that the petitioner has the right to condemn in this proceeding, for the purposes set forth in its petition, the right of way and easement which it seeks to condemn herein, and which is fully described in the petition of said Carnegie Natural Gas Company, and the plat and bond filed heretofore herein. Thereupon the defendants A. G. Swiger and the Swiger Coal Company made a motion that the amount of the bond be ascertained by a jury, which motion the court overruled, to which ruling of the court the said defendants A. G. Swiger and the Swiger Coal Company except. The court is further of the opinion to, and doth hereby approve the bond heretofore tendered by the said Carnegie Natural Gas Co., the court finding the same sufficient in all particulars. And the court directs
704 that the said bond, with the plan thereto attached, be filed for the benefit of the owner, A. G. Swiger, and said Carnegie Natural Gas Company, and doth find, order and direct that the petitioner, Carnegie Natural Gas Company, has the right to, and may at any time, immediately, if necessary, enter upon said easement and right of way for the purpose of constructing the pipe line mentioned and described in the said petition of said Carnegie Natural Gas Company, which easement or right of way is described as follows: Beginning in the division line between the land of A. G. Swiger and the land of C. D. Robinson, 264 feet distant from the north end of said division line, which north end is a stake corner between said Robinson and said Swiger, and 99 feet distant from a stone corner to said C. D. Robinson and said A. G. Swiger at the southern end of said

division line, thence through the alnds of said A. G. Swiger N. 84 degrees, 25 Min. W. 1,268 feet to a stake thence N. 71 degrees 50 min., W. 603 feet to a stake thence S. 84 degrees and 35 min. W. 304 feet to a stake, thence S. 62 degrees and 35 min. W. 405 feet to a stake, thence S. 54 degrees W. 308 feet to a point in the division line between the lands of said A. G. Swiger and S. R. Michael, which point is 346½ feet distant from the southern end of said division line, and 106 feet distant from the northern end of said division line, which northern end is a white oak corner tree between said Swiger and said Michael, making a total distance of 2,788 feet; and the said easement or right of way passes over a certain tract of land of said A. G. Swiger, situate in Eagle District, Harrison County, West Virginia, which said tract is bounded as follows, to-wit: on the north by lands of J. N. Swiger and J. C. Bartlett, on the east by lands of C. D. Robinson, on the south by lands of Josephine Swiger heirs, A. G. Swiger and others, and on the west by lands of Omar Swiger, S. R. Michael and others.

705 To which rulings of the court in finding and adjudging that the petitioner Carnegie Natural Gas Company had the right to condemn said right of way and easement, and of the court in approving the said bond tendered by said Carnegie Natural Gas Company, and in adjudging that said Company had the right to enter upon said easement or right of way for the purpose of laying a pipe line thereon, the defendants, A. G. Swiger and Swiger Coal Company except.

Thereupon A. G. Swiger and the Swiger Coal Company moved the court for a rehearing of its findings and judgments in relation to the motion for a continuance, the right to condemn by the plaintiff, the approval of the bond tendered by plaintiff, and the right of the plaintiff to enter upon the lands of said A. G. Swiger, which motion is overruled, to which ruling of the court the said A. G. Swiger and the Swiger Coal Company object and except.

The defendants A. G. Swiger and Swiger Coal Company indicating a desire and intention to apply for an appeal and supersedeas in this proceeding, this order is suspended for a period of thirty days from the rise of this court for the purpose of allowing them to make application to the Supreme Court for said appeal and supersedeas. But this suspension is granted upon condition that the said A. G. Swiger and the Swiger Coal Company, or some one for them file with the Clerk of the Court a suspending bond in the penalty of five hundred dollars, conditioned according to law, within five days from this date, with good and sufficient surety, to be approved by the Clerk of this Court.

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706 (*Mandate of Supreme Court, May 27, 1913, Affirming Orde of the Circuit Court. Recorded in Law Order Book No. 3 Page 382.*)

STATE OF WEST VIRGINIA:

At a Regular Term of the Supreme Court of Appeals, Continue and Held at Charleston, Kanawha County, May 27, 1913, th Following Order was Made and Entered, To Wit:

Absent: Judge Lynch.

CARNEGIE NATURAL GAS COMPANY, Plaintiff Below, Defendant i Error,

vs.

A. G. SWIGER et als., Defendants Below; A. G. SWIGER and SWIGE COAL COMPANY, Plaintiffs in Error.

Upon a writ of error and supersedeas to three judgments of th Circuit Court of Harrison County, rendered on the 18th day of Jul 1911, the 8th day of August, 1911, and the 29th day of Septembe 1911, respectively.

The Court, having maturely considered the transcript of the reco of the judgments aforesaid and the arguments of counsel thereo is of opinion, for reasons stated in writing and filed with the recor that there is no error in said judgments. It is therefore considere by the Court that the judgments of the Circuit Court of Harriso County, rendered in this case on the 18th day of July, 1911, th 8th day of August, 1911, and the 29th day of September, 191 respectively, be and the same are hereby affirmed, and that th defendant in error do recover from the plaintiffs in error thirt dollars damages and its costs about its defense in this Court in th behalf expended; all of which is ordered to be certified to the Circu Court of Harrison County.

707 The decision of points in the foregoing case, as the sam appears from the syllabus and written opinion prepared b Judge Miller, was concurred in by Judges Poffenbarger, Robinso and Williams.

A true copy.

Attest:

(Signed) WM. B. MATHEWS,
Clerk.

Taxation of Costs.

In the Supreme Court of Appeals of West Virginia.

CARNEGIE NATURAL GAS CO., D. E.,

vs.

A. G. SWIGER et als., P. E.

Affirmed May 27, 1913.

Plaintiff in Error's Costs.

Clerk	$5.20
Printing Record	....
Clerk of Circuit Court for Transcript	100.00
Sheriff, Serving process	....
Sheriff, Serving notice	....
Order of Publication	....
Attorney	....
Total	....

Defendant in Error's Costs.

Clerk, paid by Hall & Hall, Attys	$3.80
Printing record paid by Carnegie Nat. Gas Co.	207.00
Clerk of Circuit Court-supp'l transcript	....
Sheriff Harrison Co. serving notice	1.50
Damages, Code Chap. 135, Sec. 27	30.00
Attorney	30.00
Total	....

Attest:

(Signed) WM. B. MATHEWS,
Clerk.

708 (*Order Entered February 7, 1914; Recorded in Law Order Book No. 35, Page 58.*)

CARNEGIE NATURAL GAS COMPANY

vs.

A. G. SWIGER et als.

Condemnation.

It appearing to the court that the commissioners heretofore appointed in this cause, returned their report to the clerk's office of this court on the 8th day of January, 1914, which report is ordered to be

and the same is filed herein. Thereupon came the defendant, A. G. Swiger, by his counsel, as well as Carnegie Natural Gas Company, by its counsel, and the said Swiger moved the court to set aside said report and recommit this cause to the same commissioners or to new commissioners selected according to law, and tendered and offered to file herein to support said motion, the affidavits of D. W. Kemper, Isaac L. Davisson and Marion T. Cunningham, which affidavits having been seen and inspected by the court are ordered to be and the same are hereby filed, and Carnegie Natural Gas Company by its counsel resisted said motion.

Upon consideration whereof, the court is of the opinion to and doth sustain said motion; and it is therefore ordered that said report be and the same is hereby set aside and that this cause be and the same is hereby recommitted to a new set of commissioners, to be ascertained according to law.

Thereupon, the court doth hereby nominate thirteen disinterested free holders of this county, to wit: Emery F. Monroe, T. J. Parrish,
C. E. Rogers, Henry Bennett, Jefferson Robinson, J. Fred
709 Dye, James F. Griffin, Marcus L. Riblett, Cree M. Bartlett,
Lee Boggess, Ferd Gore, Temple Smith and Clarence T. Harbert. And the petitioner, Carnegie Natural Gas Company, and defendant, Swiger, proceeded by counsel to ascertain, as provided by law, five of said thirteen free-holders to act as commissioners, which lot and choice fell upon the following named persons, to wit: Emery F. Monroe, Jefferson Robinson, Cree M. Bartlett, Ferd Gore and Clarence T. Harbert. And therefore, it is ordered by the court that the said five free-holders so selected to act as commissioners, after having been sworn according to law, do proceed with all convenient speed to view said premises and hear any proper evidence offered, and ascertain according to law, what will be a just compensation to the parties entitled thereto, for said right-of-way or easement proposed to be taken by the said applicant, that is to say, an easement or right-of-way for the construction, operation and maintenance of a pipe line, six inches in diameter, for the transportation of natural gas, to be laid on the line of said right-of-way as now located by courses and distances set out in a former order entered herein, including as well the damages, if any, to the residue of said real estate, on account of the work to be constructed. But deducting therefrom, the peculiar benefits, if any, to be derived in respect to such residue from the work to be constructed, and that the said commissioners do make report of their proceedings to this court in the manner required by law. But before said commissioners shall act, three days' notice in writing shall be served upon the defendant, A. G. Swiger, or his attorney of record.

710 (*Order Entered May* 8, 1914; *Recorded in Law Order Book No.* 37, *Page* 112.)

In the Circuit Court of Harrison County, West Virginia.

CARNEGIE NATURAL GAS COMPANY

vs.

A. G. SWIGER et als.

Condemnation.

This day came the Carnegie Natural Gas Company by its counsel, as well as A. G. Swiger by his counsel, and reported to the Court that an agreement had been reached by the respective parties, relative to the amount of compensation for the easement or right-of-way proposed to be taken by said applicant heretofore adjudicated, as well as for damages to the residue of said land beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed; and that said amount for the purposes aforesaid, shall take the place and be in lieu of an assessment by the commissioners heretofore appointed, and the same to be in full force and effect as if ascertained and reported by said commissioners, and the amount thereof and the purposes therefor as follows, to-wit: Four Hundred & Twenty-two and 40/100 Dollars will be a just compensation for the easement or right-of-way proposed to be taken by the said applicant, that is to say, an easement or right-of-way for the construction, operation and maintenance of a pipe line, six inches in diameter, for the transportation of natural gas, to be laid on the line of said right-of-way, as now located, said line being designated as follows, to-wit:

Beginning in the division line between the land of A. G. Swiger and the land of C. D. Robinson, 264 feet distant from the north end of said division line, which north end is a stake corner between said Robinson and said Swiger, and 99 feet distant from a stone, corner to said C. D. Robinson and said A. G. Swiger at the southern end of the said division line; thence through the lands of A. G. Swiger N. 84° 25′ W. 1,268 feet to a stake; thence 71° 50′ W. 603 feet to a stake; thence S. 84° 35′ W. 304 feet to a stake; thence S. 62° 35′ W. 405 feet to a stake; thence S. 54° W. 308 feet to a point in the division line between the lands of said A. G. Swiger and S. R. Michael, which point is 346½ feet distant from the southern end of said division line and 106 feet distant from the north end of said division line, which northern end is a white oak, corner tree between said Swiger and said Michael, making a total distance of 2,788 feet, including as well the damages to the residue of said real estate beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed.

And it appearing to the Court that the petitioner on the 5th day

of May, 1914, paid to A. G. Swiger the sum of Four Hundred & Twenty-two and 40/100 Dollars, being the amount of compensation which was agreed upon, as hereinbefore set out, and to which said defendant is entitled for the easement proposed to be taken and damages to the residue as aforesaid, it is ordered that a right of way or easement to lay, construct and maintain in, over and through the lands in the papers and proceedings in this cause described, and at the places designated by courses and distances aforesaid, a pipe line, six inches in diameter, for the purpose of transportation of natural gas for public use, so paid for by said applicant, for the purpose set out in the petition and application and the orders and proceedings herein, be and the same are hereby fully vested in the said petitioner, Carnegie Natural Gas Company, and that said Car-
712 negie Natural Gas Company do take and use for the purpose specified in said application and petition, that part of the land in respect to which such payment is made, and that said applicant shall do and have all the rights and privileges and franchises as heretofore adjudicated to said applicant and conferred upon it by law.

It is further ordered that the said applicant do pay all the costs of this proceeding which accrued in the Circuit Court of this county, the same to be taxed by the clerk, but is not to be taxed with any costs made by virtue of an appeal of this cause to the Supreme Court of this state.

Nothing further remaining to be done in this case, it is ordered that the same be and it is hereby dropped from the docket of the court.

713 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the foregoing are true, correct and complete copies of the petition and exhibits therewith filed on July 11, 1911, and of the orders made and entered on September 29, 1911, May 27, 1913, February 7, 1914 and May 8, 1914, in the condemnation proceeding of Carnegie Natural Gas Company, a corporation, versus A. G. Swiger and others, lately pending in said Circuit Court of Harrison County, as the same remains of record in my said office.

In testimony whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 29th day of January, 1921.

[Seal of Circuit Court, Harrison County, West Virginia.]

I. WADE COFFMAN,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Haymond Maxwell, Judge of the Circuit Court of Harrison County, State of West Virginia, do certify that I, Wade Coffman, by whom the foregoing attestation was made, was, at the date thereof, Clerk of said court duly qualified and that the said attestation is due form of law and made by the proper officer.

Witness my hand and seal on this the 31st day of January, 1921.

HAYMOND MAXWELL. [SEAL.]

714 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison County, State of West Virginia, do certify that the Honorable Haymond Maxwell, by whom the above certificate was given and whose name is thereto subscribed in his own proper handwriting, was, at the date thereof, Judge of the said Circuit Court of Harrison County, duly commissioned and sworn and acting.

In witness whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31st day of January, 1921.

[Seal of Circuit Court, Harrison County, West Virginia.]

I. WADE COFFMAN,
Clerk.

715 [Endorsed:] Carnegie Natural Gas Company vs. A. G. Swiger et al. Condemnation for Pipe Line Right of Way.

716 FAIRMONT V. THOMPSON COND. W. VA. EX. 50.

EX. W. VA. NO. 50. O. L. H.

(*Petition. Filed July* 2, 1910.)

In the Circuit Court of Harrison County, West Virginia.

THE FAIRMONT & GRAFTON GAS CO.

vs.

RICHARD V. THOMPSON, Guardian, &c.

Condemnation.

To the Honorable Charles W. Lynch, judge of the Circuit Court of Harrison County:

The undersigned petitioner, The Fairmont & Grafton Gas Company respectfully represents:

I. That petitioner is a corporation duly organized and existing under and by virtue of the laws of the State of West Virginia, for the purpose of transporting carbon oil, and natural gas or both, by means of pipes, or otherwise, for public use, as will appear from the charter granted to it by the State of West Virginia, on the 12th day of March, 1894.

II. That this petitioner was duly organized under and by virtue of its charter and proceeded to engage in the business and undertakings thereby allowed and is now so engaged; that it is producing large quantities of natural gas within the State of West Virginia, and is engaged in the business of transporting the same to market by means of certain lines or iron pipe or tubing constructed and maintained by it and that the natural gas so transported by said lines is being sold to the public in the following named incorporated cities, towns and villages, to-wit: the City of Grafton and the towns of Lumberport, Shinnston and Enterprise, all in the State of West Virginia, and other places in the State of West Virginia not incorporated and many persons not living in any city, town
717 or village are likewise being supplied with natural gas both for domestic and industrial uses by this petitioner, by means of its said system of pipe lines; that the transportation of said natural gas and the sale is for the use of the public generally for the purpose of supplying light and heat to such public; and that your petitioner is ready and willing at all times, and has so held itself out, to sell said gas to the public or any portion thereof, upon the payment of a reasonable price therefor.

III. That petitioner is now engaged in constructing lines of piping over and through the county of Harrison in the State of West Virginia, as it is by law authorized to do; that when the same are completed it is petitioner's purpose and intention to operate and maintain said pipe lines for the purpose of supplying natural gas to the inhabitants of the various incorporated cities, towns and villages hereinbefore mentioned, and to the public generally and for other lawful uses; that it desires to proceed with the construction of its said pipe line through the lands of Opal G. Thompson, Worthy R. Thompson and Ethel L. Thompson, all of whom are infants, and whose guardian is Richard V. Thompson, lying in the District of Clay, County of Harrison and State of West Virginia; that for the purpose of building, constructing and maintaining its said pipe line for the transportation of natural gas for the public uses hereinbefore set out, it desires to acquire an easement or right-of-way over, across and upon that portion of the land of the persons hereinbefore named, described particularly as follows:

Beginning at a point in line between lands of E. W. Thompson and of Worthy R. Thompson and others, which point is N 16° 45′ W 243 feet distant from a stone corner; thence with said line, N 16° 45′ W 31 feet to a point; thence S 57° 35′ E 397.5 feet to a point; thence S 65° 35′ E 485 feet to point in line of Nancy Rector; thence

with same N 78° 45′ W 88 feet to a point N 78° 45′ E 605 feet from a stone corner to E. W. Thompson; thence N 65° 35′ W 401 feet to a point; thence N 57° 35′ W 376.5 feet to the place of beginning, containing 38/100 of an acre, more or less.

IV. That petitioner files herewith as a part of this petition a plat of the said lands over which the said easement is proposed to be taken, marked "Thompson Plat."

V. That the strip of land hereinbefore described, upon which said easement is proposed to be taken, is owned in fee simple by the following named persons, to-wit: Worthy R. Thompson, Opal G. Thompson and Ethel L. Thompson, each of whom owns the undivided one-third of said land.

VI. That there are no liens upon the said land or claims thereto or outstanding estates therein or in any part thereof except as follows:

(*a*) an estate in all of the natural gas and the undivided sevenighths of the oil held by T. J. Parrish and F. L. Grove under a onveyance made to them by Richard V. Thompson, Guardian and pecial commissioner, dated the 2nd day of May, 1910, and of ecord in the office of the Clerk of the County Court of Harrison ounty in Deed Book 186, page 318.

(*b*) a right of way for a pipe line supposed to be held by the outh Penn Oil Company under and by virtue of a conveyance from ichard V. Thompson, Guardian, dated the 6th day of August, 909, and of record in said Clerk's office in Deed Book No. 179, age 174.

VII. That all pipe lines to be laid or constructed by it in, upon nd through said lands hereinbefore described and the right-of-way ver which is now sought to be acquired, are to be and will be uried under the surface of the ground to such a depth as not to nterfere with the use of the said land for agricultural purposes; that the pipe line which petitioner intends to lay and will lay upon the said right-of-way will be ten (10) inches in diameter; that your petitioner intends to use and will use he said easement or right of way over and upon the land hereinefore described for the purpose of constructing, maintaining and perating its said pipe line; which pipe line will be used for the ublic uses hereinbefore set forth; and that said easement or right f way is necessary for such purposes.

VIII. That in taking the said easement or right of way, so proosed to be taken by petitioner, it will not be necessary to take any welling house, yard or garden, nor will such be taken therein or hereby; that in taking said easement or right of way and appropriting the same to the public use hereinbefore set forth, it is not and ill not be necessary to erect or lay any oil tank or gas or oil pipe ine within one hundred feet of any occupied dwelling house, nor

shall any oil tank, gas or oil pipe line be erected or laid within one hundred feet of any occupied dwelling house; and that the parcel of land hereinbefore described does not lie within any municipal corporation.

IX. That the survey, location and route of petitioner's pipe line, upon and over the parcel of land hereinbefore described, has been regularly and duly authorized, selected, located, approved and adopted by the proper officers of the petitioner and by its Board of Directors.

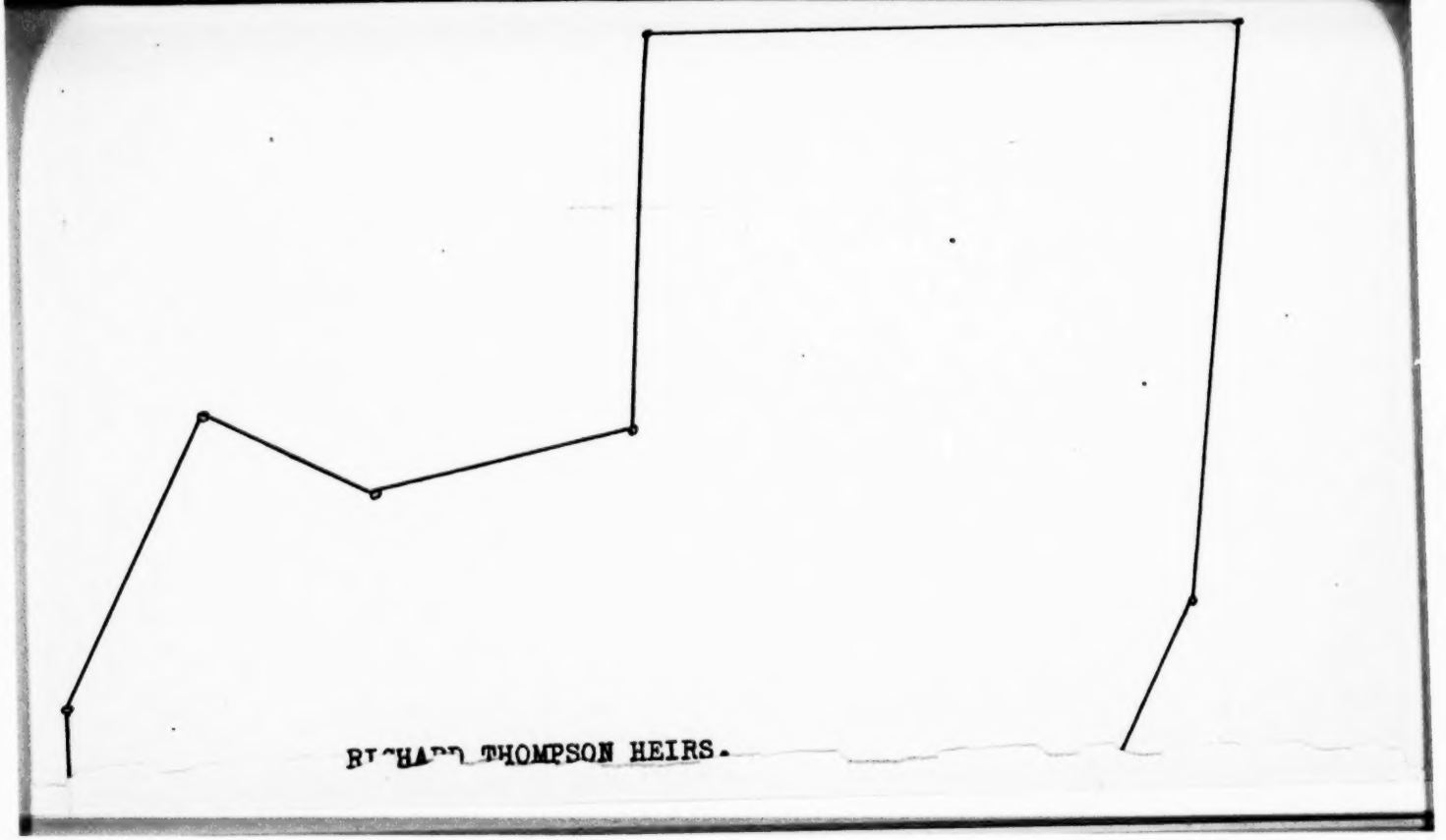
X. That petitioner is unable to agree with the owners of said land over which the easement aforesaid is proposed to be taken as aforesaid, as to the amount of compensation for the said easement or right of way proposed to be taken; that petitioner has offered to pay the sum of $1.00 per lineal rod of pipe line, but the said owners will not agree to said price and have refused to give your petitioner the easement or right of way here now sought to be taken.

720 XI. That petitioner has caused notice to be given to Richard V. Thompson the guardian of said owners, and to all persons having liens upon, interests in or claims against the land upon which said easement or right of way is proposed to be taken, of petitioner's intention to file this petition and make this application, as will more fully appear from the said notice and the evidence of their service thereof thereon endorsed, which is herewith filed and prayed to be read as a part hereof, marked "Exhibit Notice."

Petitioner therefore prays that commissioners may be appointed by this court to ascertain a just compensation to the owners thereof for the easement hereinbefore described and proposed to be taken by your petitioner for the purposes aforesaid; that such other proceedings may be had in the premises as conform to law, and that upon the payment of compensation by your petitioner the title to the above described easement or right of way may be declared to be vested in your petitioner for the uses and purposes aforesaid. And that such other, further and general relief may be granted as to the court may seem proper or the nature of the case may require.

(Signed) THE FAIRMONT & GRAFTON GAS COMPANY,
By DAVIS & DAVIS,
Its Attorneys.

(Here follows Exhibit Thompson Plat, marked page 721.)


RICHARD THOMPSON HEIRS.

22 ("EXHIBIT NOTICE" FILED WITH THE FOREGOING PETITION.)

o Richard V. Thompson, guardian of Worthy R. Thompson, Opal G. Thompson, and Ethel L. Thompson, and to Worthy R. Thompson, Opal G. Thompson, and Ethel L. Thompson, South Penn Oil Company, T. J. Parrish, and F. L. Grove:

You and each of you are hereby notified that on Saturday, the 2nd ay of July, 1910, at 9 o'clock A. M., or as soon thereafter as the natter can be heard, the undersigned, The Fairmont & Grafton Gas ompany, will make application by petition to the Circuit Court of larrison County, West Virginia, at the Court House thereof at larksburg, for the appointment of commissioners to ascertain a just ompensation to the persons entitled thereto, for an easement or ght of way over, across and upon a certain piece or parcel of land, ereinafter mentioned; and for such proceedings to be then and there ad as may be necessary to condemn said easement for public uses ereinafter mentioned. Said piece or parcel of land is situated in lay District, Harrison County, West Virginia, on the waters of oon's Run; is part of a tract of 37.55 acres of land which was set part to Worthy R. Thompson, Opal G. Thompson and Ethel L. hompson, by a decree of Circuit Court of Harrison County made on he 21st day of September, 1899, in the chancery cause of Joshua H. hompson vs. Cyrus Thompson et al.; which decree is of record in he office of the Clerk of the County Court of Harrison County in eed Book No. 109, page 462; and is bounded and described as folws, to wit:

Beginning at a point in line between lands of E. W. Thompson nd of Worth- R. Thompson and others, which point is N. 16° 45' . 243 feet distant from a stone corner; thence with said line N. 16° 45' W. 31 feet to a point; thence N. 57° 35' E. 397.5 feet to a 23 point; thence S. 65° 35 E. 485 feet to point in line of Nancy Rector; thence with same N. 78° 45' W. 88 feet to a point S. 8° 45' E. 605 feet from a stone corner to E. W. Thompson; thence . 65° 35' W. 401 feet to a point; thence N. 57° 35' W. 376.5 feet to he place of beginning containing 0.38 acres, more or less.

The parcel of land above described is owned jointly in fee simple y Worthy R. Thompson, Opal G. Thompson and Ethel L. Thompon, all of whom are infants; but their said estate is subject to a conveyance of all of the natural gas and seven-eighths of the oil, made y Richard V. Thompson, Guardian and Special Commissioner, to . J. Parrish and F. L. Grove, which conveyance bears date the 2nd lay of May, 1910, and is of record in said Clerk's office in Deed Book No. 186, page 318; and is supposed to be subject to a claim of South Penn Oil Company for a right of way for a pipe line thereon, under and by virtue of a conveyance made by Richard V. Thompson, Guardian, dated the 6th day of August, 1909, and of record in said Clerk's office in Deed Book No. 179, page 174.

A plat of said land, marked "Thompson Plat" will be filed with the written application in this case.

The easement in the parcel of land aforesaid is proposed to be taken by The Fairmont & Grafton Gas Company, a corporation under the laws of the State of West Virginia engaged in supplying gas for public use, and is intended by said Company to be appropriated for the purpose of constructing, operating and maintaining thereon a pipe line, ten inches in diameter, for the transportation of natural gas, under and by virtue of its charter and of the laws of said State.

(Signed) THE FAIRMONT & GRAFTON GAS COMPANY,
By DAVIS & DAVIS,
Its Attorneys.

June 17th, 1910.

724 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Joseph A. Joliffe, do solemnly swear that I served the within notice on the within named Richard V. Thompson, Guardian of Worthy R., Opal G. and Ethel L. Thompson, on the 18th day of June, 1910, by delivering a true copy thereof, at his usual place of abode in Harrison County, West Virginia, to Cora Thompson, his wife, and giving to her information of the purport thereof, the said Richard V. Thompson not being found.

(Signed) JOSEPH A. JOLIFFE.

Subscribed and sworn to before me in my said County of Harrison this 29th day of June, 1910.

(Signed) CARL W. NEFF,
Notary Public for Harrison County, West Va.

My commission expires Dec. 14th, 1915.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I. Joseph A. Jolliffe, do solemnly swear that I served the within notice on the within named T. J. Parrish and F. L. Groves, on the 20th day of June, 1910, in Harrison County, West Virginia, by delivering to each of them in person a true copy thereof.

(Signed) JOSEPH A. JOLLIFFE.

Subscribed and sworn to before me in my said County of Harrison this 2nd day of July, 1910.

(Signed) E. B. TEMPLEMAN,
Notary Public for Harrison County, West Virginia.

Commission expires May 10, 1919.

725 In the Circuit Court of Harrison County, West Virginia.

THE FAIRMONT & GRAFTON GAS COMPANY

vs.

WORTHY R. THOMPSON et al.

Condemnation.

(*Order. Entered July* 2, 1910.)

This day came the Fairmont & Grafton Gas Company, a corporation, by Davis & Davis, its attorneys, and presented in open court its application or petition in writing praying for the appiontment of commissioners to ascertain a just compensation to the persons entitled thereto, for a right of way or easement to construct, maintain and operate a pipe line, ten inches in diameter, for the transportation of natural gas for public use, over, through and across a certain strip or parcel of land owned by Worthy R. Thompson, Opal G. Thompson, and Ethel L. Thompson, infants, in said petition fully described and for such further orders and proceedings as may be necessary to condemn and appropriate said right of way or easement for the public use aforesaid; with which petition the said petitioner presented a notice with return of service thereon showing that notice of this application was duly served upon Richard V. Thompson, guardian of said Worthy R., Opal G. and Ethel L. Thompson, and on T. J. Parrish and F. L. Grove, owners of the oil and gas, more than ten days prior hereto. It is therefore ordered that said petition and notice be filed and this proceeding docketed; and that said defendants and their guardian still failing to appear to said application, on motion of the petitioner it is ordered that I. Wade Coffman be and he is hereby appointed guardian ad litem for said infant defendants and required to protecct their interests in this behalf. Thereupon came the said guardian ad litem and appeared to said petition on behalf of his said wards. Thereupon came the defendants South Penn Oil Company and Hope Natural Gas Company and appeared in this case and waived service of notice upon them. Thereupon came
726 Richard V. Thompson, Guardian, by Fred L. Shinn, his attorney, and filed his demurrer to said petition, which demurrer, having been argued by counsel, is overruled.

Thereupon this cause came on to be heard upon the said notice, the petition and exhibits therewith filed, upon consideration whereof the court doth find and adjudge that this case is one in which the applicant has a lawful right to take the said easement or right of way over, through and across the parcel of land in said petition described for the purposes in said petition set forth, and the court doth hereby appoint thirteen disinterested freeholders of this county, to wit: Perry C. Williams, William C. Hiskman, Arthur K. Thorn, Linn K. Richards, A. D. Fitzhugh, E. W. Williams, Corbin B. Bradford, J. H. Somerville, B. M. Despart, Jno. D. McReynolds, Chas. H. Pike,

Jno. W. Stewart and Harry G. Johnson. And the defendants now appearing by Fred L. Shinn, their attorney, the parties proceeded to ascertain as required by law, five of said thirteen freeholders to act as commissioners, which choice and lot fell upon the following named five freeholders, to wit: Perry C. Williams, Corbin B. Bradford, J. H. Somerville, John D. McReynolds and John W. Stewart. Thereupon it is ordered by the court that said five freeholders so selected as such commissioners shall act as such and that after being duly sworn for the purpose, they do proceed with all convenient speed and after viewing said premises and hearing any proper evidence offered, do ascertain according to law what will be a just compensation to the parties entitled thereto for the right of way or easement to construct, maintain and operate said pipe line, for the uses aforesaid, over, through and across the strip or parcel of land proposed to be taken by the applicant and fully described in its petition in this case; and that they do make report of their proceedings to this court.

727 (*Order Entered Sept.* 10, 1910; *Recorded in Law Order Book No.* 35, *Page* 132.)

In the Circuit Court of Harrison County, West Virginia.

FAIRMONT & GRAFTON GAS CO.

vs.

WORTHY R. THOMPSON et al.

This day came the parties, by their attorneys, and thereupon it appearing to the Court that the Commissioners appointed to ascertain the compensation to which the land owner is entitled for the land sought to be taken in this proceeding, filed their report with the Clerk of this Court on the 15th day of July, 1910, and which report bears date the 15th day of July, 1910, fixing the compensation of the said defendant for the easement taken, as well as the damages to the residue beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed, at the sum of $75.00, and the said Worthy R. Thompson, Opal G. Thompson and Ethel L. Thompson, by Fred L. Shinn, their attorney, having excepted to the said report of the commissioners and demanded that the amount of compensation to which said landowner is entitled for the easement or right of way to be taken, as well as for the damages to the residue of said real estate beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed, be tried by a jury at the bar of this Court.

Now, therefore, it is ordered that a jury be summoned to try said issue in the manner provided by law.

728 And it is further ordered that the applicant be allowed to pay into Court the sum of $75.00, and thereupon the said applicant may take immediate possession of the easement or right of way involved in this proceeding; and the Clerk of this Court is or-

ed to receive the same and execute and deliver to the applicant a per receipt therefor, which has heretofore been done by him.

THE FAIRMONT & GRAFTON GAS COMPANY

v.

RTHY R. THOMPSON, OPAL G. THOMPSON, and ETHEL L. THOMPSON, Infants and RICHARD V. THOMPSON, Guardian.

Condemnation Proceeding.

(*Order Entered June* 6, 1911.)

his day came again the parties by their attorneys, and the Court ing considered the matters arising on the motion of the applicant et aside the verdict of the jury heretofore returned in this proling and award it a new trial and the argument of counsel thereon, overrule said motion.

nd, proceeding to enter judgment on the verdict of the jury in r of the land owners for the sum of one hundred and fifty dollars 50.00), and it appearing to the Court that the applicant has tofore paid into court to the clerk the sum of seventy-five dollars 5.00), it is therefore considered by the Court that the clerk of court be and he is hereby ordered to pay to the said land owners, o their attorneys of record in this proceeding, the said sum of nty-five dollars ($75.00), and that the said land owners recover he said applicant the sum of seventy-five dollars ($75.00) with rest thereon from the 10th day of May, 1911, until paid, and r costs by them in this behalf expended.

nd it is adjudged and ordered that the said applicant do take hold an easement or right of way over, across and upon that por- of the land of the said owners, lying in the District of Clay, in rison County, described particularly as follows: Beginning at a t in line between lands of E. W. Thompson and of Worthy R. mpson and others, which point is N. 16° 45′ W. 243 feet distant a stone corner; thence with said line N. 16° 45′ W. 31 feet to int; thence S. 57° 35′ E. 397.5 feet to a point; thence S. 65° 35′ E. 485 feet to point in line of Nancy Rector; thence with same N. 78° 45′ W. 88 feet to a point N. 78° 45′ E. 605 feet from a stone corner to E. W. Thompson; thence N. 65° 35′ 01 feet to a point; thence N. 57° 35′ W. 376.5 feet to the place eginning, containing 38/100 acres, more or less, for the pur- set out in its petition and application herein.

nd nothing further remaining to be done in this proceeding, the is now retired from the docket.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Wade Coffman, Clerk of the Circuit Court of Harrison County, of West Virginia, do certify that the foregoing are true, cor-

rect and complete copies of the petition and exhibits therewith file on July 2, 1910, and of the orders made and entered on July 2, 191 September 10, 1910, and June 6, 1911, in the condemnation pr ceeding of The Fairmont & Grafton Gas Company, a corporatio versus Richard V. Thompson, Guardian, and others, lately pendin in said Circuit Court of Harrison County, as the same remains record in my said office.

In testimony whereof I have hereunto set my hand and affix the seal of said Court, at the Courthouse of said County, on this t 29th day of January, 1921.

[Seal of Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Haymond Maxwell, Judge of the Circuit Court of Harris County, State of West Virginia, do certify that I. Wade Coffma by whom the foregoing attestation was made, was, at the date there Clerk of said court duly qualified, and that the said attestation is due form of law and made by the proper officer.

Witness my hand and seal on this the 31st day of January 192

HAYMOND MAXWELL. [SEAL.]

732 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, I. Wade Coffman, Clerk of the Circuit Court of Harrison Count State of West Virginia, do certify that the Honorable Haymond Ma well, by whom the above [illegible]tificate was given and whose name thereto subscribed in his [illegible] proper handwriting, was, at the da thereof, Judge of the said [illegible]uit Court of Harrison County, du commissioned and sworn and [illegible]ing.

In witness whereof I have hereunto set my hand and affixed t seal of said Court, at the Courthouse of said County, on this t 31st day of January, 1921.

[Seal of Circuit Court, Harrison Co., West Virginia.]

I. WADE COFFMAN,
Clerk.

733 [Endorsed:] The Fairmont & Grafton Gas Co. vs. Richa V. Thompson, Guardian, &c. Condemnation.

734 WHEELING V. TENNANT COND. W. VA., EX. 51.

EX. W. VA. NO. 51. O. L. H.

Compared.

WHEELING NATURAL GAS COMPANY

vs.

ENOS D. TENNANT AND OTHERS.

Condemnation.

The petition in the above-styled case, filed in the Circuit Court of Marion County, in Open Court, on the 12th day of October, 1906, is in words and figures following:

To the Honorable John W. Mason, judge of the Circuit Court of Marion County, West Virginia:

Your petitioner, The Wheeling Natural Gas Company, a Corporation created, organized, existing and doing business under and pursuant to the laws of the State of West Virginia, having its principal office in the City of Wheeling, West Virginia, respectfully represents unto your Honor that it is such corporation duly created, organized, existing and doing business under the laws of the said State; that by its charter it is authorized and is organized for the purpose of boring, digging for or otherwise obtaining from the earth petroleum, rock or carbon oils and natural gas, and manufacturing, buying, selling and transporting the same in the crude and in the refined states; for the purpose of constructing and maintaining lines of tubing and piping for the transporting of such oils and gas, or either of them, for the public generally, as well as for the use of said corporation; for the purpose of transporting such oil and gas, or either of them, by means of such pipes or otherwise, and selling and supplying the same to others; and generally for the purpose of doing such acts and carrying on such business as
735 pertains to such works and improvements.

That petitioner in the exercise of its rights, powers and privileges and in the conducting of its business has been and is supplying the incorporated cities, towns and villages of Benwood, Chester, McMechen, Moundsville, Newell, and other towns and vicinities and manufactories within the State of West Virginia, and the inhabitants of said cities, towns and villages, with natural gas, for heating, fuel, illumination, power and other purposes, under ordinances of said several cities, towns and villages, as well as a large number of unincorporated towns and villages in the said State of West Virginia, and persons residing in and inhabiting such unincorporated towns and villages, and any and all persons residing along the lines of your petitioner, desiring natural gas.

That it is necessary for your petitioner, in order to supply natural gas to the said several incorporated cities, towns and villages, and their inhabitants, as well as the several unincorporated towns and villages, manufactories and persons desiring natural gas for heating, fuel, illumination power and other purposes, and in order to keep up the required and necessary supply of such gas to drill new wells for that purpose, and to acquire by purchase or otherwise other wells from which such supply of natural gas may be obtained.

That your petitioner has acquired sundry wells in the County of Marion, in the said State of West Virginia, producing natural gas, and in order to supply said incorporated cities, towns and villages, and the inhabitants thereof, as well as other consumers and manufactories, with natural gas for heating, fuel, illumination, power and other purposes, it is necessary that petitioner lay,

736 construct and maintain a line of pipe from said wells in the said county of Marion through the said county of Marion and the county of Wetzel, in the said State of West Virginia, to connect with and connecting with its lines of pipe already laid, so as to supply the above named inco-porated cities, towns and villages, and the inhabitants thereof, as well as said other consumers and manufactories, with natural gas, for heating, fuel, illumination, power and other purposes.

That your petitioner has surveyed a route for laying and constructing said line of pipe from said gas wells in said Marion County through a portion of said Marion County, and through a portion of said Wetzel County, and proposes to, and it is necessary for it to, lay and construct a line of pipe for transporting natural gas for public use along the route so surveyed and marked out for that purpose.

That your petitioner desires to proceed with the construction of its said line of pipe in the said County of Marion, and through the lands of Enos D. Tennant, situate lying and being in the District of Lincoln, in said County and State.

That the piece, parcel or section of land belonging to the said Enos D. Tennant, which is proposed to be taken by your petitioner for the purpose of constructing, maintaining and operating its said line of pipe, is particularly described as follows, to-wit:

A strip of land a part of a farm owned by the said Enos D. Tennant, situate in the District of Lincoln, County of Marion, and State of West Virginia, which said strip so proposed to be taken is 24 feet in width and lies one-half thereof on either side of a center line, which said center line is particularly described as follows:

737 (Beginning at a point in the division line between the lands of said Enos D. Tennant and the heirs of Elijah Toothman, who join said land on the northwest, which point is on the northwesterly side of the land of said Enos D. Tennant and 45 rods measured along said division line northeasterly from a C. O. a corner in the division line between the lands of said Enos D. Tennant, Elijah Toothman's heirs and John G. Myers; thence S. 45° E. 80½ rods to a stake in the division line between the

ands of said Enos D. Tennant and John G. Myers; who joins said and on the southerly side and 16 rods measured along said last named division line southeasterly from a W. O. a corner in said division line, and contains .73 acres.)

Your petitioner files herewith as part hereof a plat of the piece, parcel or section of land so proposed to be taken by it, which plat is marked "Plat."

Your petitioner avers that it intends to use the land hereinbefore described for the purpose of constructing, maintaining and operating its said line of pipe, and that said land is necessary for such purpose; that said land so asked to be taken is for public purposes and for public uses; that petitioner expects and intends to use the same for such public purposes and public uses, and that said land is needed for such public uses; and petitioner avers that the said land is such as it has a right to condemn under the provisions of the law and under its charter.

Your petitioner avers that said Enos D. Tennant is the owner of said land in fee simple; that the Nine foot or Pittsburg vein of coal within and underlying said piece, parcel or section of land is owned in fee by the Saint Louis Union Trust Company, a
738 corporation; that James M. Guffey is interested in said Nine Foot or Pittsburg vein of coal by reason of having a purchase money lien upon and against the same; that Alcinda Tennant, Malinda Tennant and Louise A. Ammons are interested in the oil and gas within and underlying said piece, parcel or section of land by reason of a conveyance to them of an interest therein by the said Enos D. Tennant.

Your petitioner further alleges that the foregoing named persons and corporations are the only owners of said land and the only persons interested in or holding liens upon or against the same, so far as known to it; and that there are no conflicting claims to the said land, or to any part thereof, so far as known to it.

Your petitioner further represents that it is unable to agree with the said owners of said land so proposed to be taken by it for the public uses and purposes aforesaid as to the amount of compensation for said piece, parcel or section of land so proposed to be taken, and that the owners of said land refuse to give your petitioner a right of way over the same.

Your petitioner avers that it has caused notice to be given said owners, lienors and parties in interest of its intention to file this petition and make this application, as will more fully appear by said notice and the evidence of service of the same endorsed thereon and therefrom appearing herewith filed marked "Notice" and made a part of this petition.

Your petitioner is willing to take the above described piece, parcel or section of land subject to the conveyance of the Nine Foot or Pittsburgh vein of coal within and underlying the same, together with the mining rights and privileges belonging thereto, and
739 also subject to the rights of said Alcinda Tennant, Malinda Tennant and Louise A. Ammons in the oil and gas underlying the same.

Your petitioner therefore prays that Commissioners may be appointed by this court to ascertain a just compensation to the persons entitled thereto for the land hereinbefore described and proposed to be taken by your petitioner for the purposes aforesaid, subject to, however, and excepting the Nine Foot or Pittsburg vein of coal within and underlying the same; that such proceedings may be had in the premises as conform to law; and that upon the payment of the compensation by your petitioner, the title to the above described piece, parcel or section of land may be vested in your petitioner in fee simple, subject to the conveyance of the Nine foot or Pittsburgh vein of coal within and underlying the same and the mining rights and privileges belonging thereto. And your petitioner also asks for such other, further and general relief as the court may deem proper to award in the premises.

THE WHEELING NATURAL GAS COMPANY,
By C. C. NEWMAN &
G. M. ALEXANDER,
Its Attorneys.

Plat filed with foregoing petition is in the words and figures following:

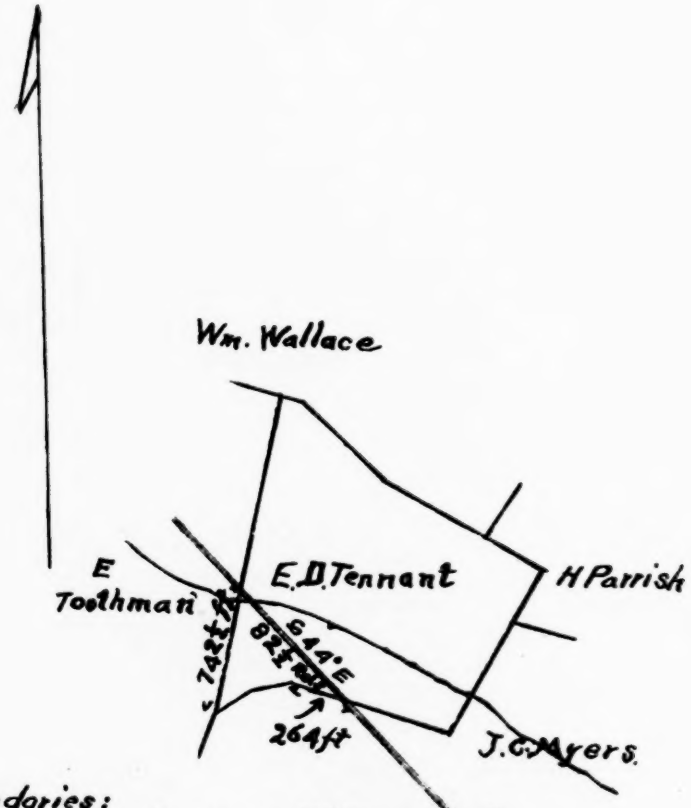
741 Notice with evidence of service endorsed thereon, filed with petition, is in words and figures following:

To Enos D. Tennant, Saint Louis Union Trust Company, a corporation, James M. Guffey, Alcinda Tennant, Malinda Tennant and Louise A. Ammons:

(Here follows plat of survey for 12" pipe line, marked page 740.)

Plat showing survey for 12 inch pipe line for conveying Natural

Plat showing survey for 12 inch pipe line for conveying Natural Gas through the lands of E. D Tennant situate in Lincoln District Marion County W.Va a distance of 821 Rods along a line running 44 degrees South of East



Boundaries:
North by lands of William Wallace
East " " " H. Parrish
South " " " John C. Myers
West " " " E. Toothman.

You will take notice that on Thursday the 11th day of October, 06, at ten o'clock A. M. or as soon thereafter as counsel can be rd, The Wheeling Natural Gas Company, a corporation under laws of the State of West Virginia, will make application by ition to the Circuit Court of Marion County, West Virginia, at egular term thereof, at the Court House of said County, in the y of Fairmont, West Virginia, to appoint Commissioners to ertain a just compensation to the persons entitled thereto for the tain piece, parcel or section of land hereinafter mentioned, the in which is owned by the said Enos D. Tennant, and the coal lerlying which said piece, parcel or section of land is owned fee by the said Saint Louis Union Trust Company, and in which l the said James M. Guffey is interested by reason of having a rchas- money lien upon and against the same, and in which ce, parcel or section of land the said Alcinda Tennant, Malinda nnant and Louise A. Ammons are interested by reason of having interest in the oil and gas within and underlying the same; and such orders and proceedings to be then and there entered and l as may be necessary to condemn the said piece, parcel or section land for the public use and purpose hereinafter named; which l piece, parcel or section of land is proposed to be taken by said e Wheeling Natural Gas Company for the construction of its pipe lines, telegraph and telephone lines to be used by said Company for public purposes and used to convey and transport oil and gas and messages. The said piece, parcel ection of land is described as follows, to-wit:

A strip of land a part of a farm owned by the said Enos D. Tennt, situate in the District of Lincoln, County of Marion and State West Virginia, which said strip so proposed to be taken is 24 feet width and lies one-half thereof on either side of a center line, ich said center line is particularly described as follows: Beginning a point in the division line between the lands of said Enos D. nnant and the heirs of Elijah Toothman, who join said land on northwest, which point is on the northwesterly side of the land of l Enos D. Tennant and 45 rods measured along said division line rtheasterly from a C. O. a corner in the division line between the ds of said Enos D. Tennant, Elijah Toothman's heirs and John Myres; thence S. 45° E. 80½ rods to a stake in the division line ween the lands of said Enos D. Tennant and John G. Myres, who ns said land on the southerly side and 16 rods measured along said t named division line southeasterly from a W. O. corner in said ision line, and contains .73 acres.

The plat of said piece, parcel or section of land marked "Plat" is d with the application in writing in this proceeding.

At which time and place you are notified to be present and do at is necessary to protect your interests.

THE WHEELING NATURAL GAS COMPANY,
By C. C. NEWMAN &
G. M. ALEXANDER,
Counsel.

Served the within writ in Marion County, West Virginia, upon the within named Enos D. Tennant, Alcinda Tennant, and Louise A. Ammons, on the 29th day of September, 1906, by delivering to them in person a copy thereof in writing, upon the within named Malinda Tennant, on the 29th day of September, 1906, by delivering a copy thereof in writing at her usual place of abode, to her father found there (who is a member of the family of said Malinda Tennant, and above the age of 16 years) and giving information of the purport of such copy to him, the said Malinda Tennant not being found at her usual place of abode or elsewhere.

743

W. S. FURBEE,
Deputy, for H. R. Furbee,
Sheriff of Marion County, West Virginia.

Morgantown, West Virginia,
October 1st, 1906.

We hereby accept service of the within notice.

FRAZER & FRAZER,
Counsel for St. Louis Union Trust Company.

I, James M. Guffey, hereby accept service of the within Notice this 1st day of October, 1906.

J. M. GUFFEY.

744 At another day of said Circuit Court to wit, on the 12th day of October, 1906, the following order was entered:

THE WHEELING NATURAL GAS COMPANY, a Corporation,

vs.

ENOS D. TENNANT, SAINT LOUIS UNION TRUST COMPANY, a Corporation, James M. Guffey, Alcinda Tennant, Malinda Tennant and Louise A. Ammons.

Upon a Proceeding to Take Land for Public Use.

This day came The Wheeling Natural Gas Company, a corporation, by its attorneys, and presented in open Court its application in writing by petition describing certain lands situate in Lincoln District, Marion County, West Virginia, which it proposes to take, with a plat of said land so proposed to be taken, and stating the names of the owners thereof, the nature of the interest of said parties therein, and also stating the purposes for which said land is proposed to be taken, and that said corporation has been unable to agree with the owners as to the compensation to be paid therefor, and it appearing to the Court that legal notice has been given by said applicant by legal service thereof to the said Enos D. Tennant, Saint Louis Union Trust Company, a corporation, James M. Guffey, Alcinda Tennant, and Louis A. Ammons, and that said Enos D.

nant, Saint Louis Union Trust Company, James M. Guffey, inda Tennant and Louise A. Ammons, have each had at least days' notice of the intention of said applicant to file said petition. pon motion of said applicant, it is ordered that said notice and said application in writing and the said plat exhibited with said tion, be and are here now filed, and that this proceeding be and is here now docketed.

Defendant Saint Louis Union Trust Company appeared by James C. Frazer, its attorney; also defendant Enos D. nant appeared by B. F. Ramage, his attorney.

t being made to appear to the Court that the said Alcinda Ten- t. Malinda Tennant and Louise A. Ammons no longer own or l any interest in and to the real estate so sought to be taken or he oil and gas within and underlying the same. On motion of applicant, and with the consent of the said Enos D. Tennant, proceeding is dismissed as to the said Alcinda Tennant, Malinda nant and Louise A. Ammons.

Thereupon defendant Enos D. Tennant demurred to said petition writing, in which demurrer the applicant joined. And the e was argued to the court.

pon consideration of which demurrer, the court is of opinion to rrule, and doth overrule, the same, to the action of the court in rruling said demurrer said defendant excepts.

nd it appearing to the Court that the case is one in which the licant has a lawful right to take said property described in said tion and notice for the purposes set out in said petition, and that l land so proposed to be taken is necessary for the purposes a resaid, and will be used therefor. And the said defendants not iring to further plead or answer, and said petitioner praying for appointment of commissioners to ascertain a just compensation he said parties hereinbefore named, the owners of said land, by ing the same for the said purposes as in the said petition asked, court doth hereby nominate thirteen disinterested freeholders said county as follows: H. T. Lough, H. Clark Jones, Eldridge ter, M. V. Millan, W. G. Reese, J. T. Martin, W. B. Charlton, Ward Beaty, J. A. Hess, Robert Reed, J. N. Wood, H. T. Watson, and A. B. Joliff.

And the said applicant and the said defendant Enos D. nant, appearing by counsel, proceeded to ascertain, as provided law, from said thirteen freeholders the five thereof to act as com- sioners, which lot and choice fell upon the following named freeholders, of said thirteen to act as such commissioners, to wit: T. Lough, H. Clark Jones, Eldridge Carter, W. B. Charlton and bert Reed.

And thereupon it is ordered by the Court that the said five free- ders so selected to act as such commissioners do proceed, after ing been duly sworn for the purpose, with all convenient speed, l after viewing said premises and hearing any proper evidence ered, ascertain, according to law, what will be a just compensation the parties entitled thereto for so much of the said real estate as is pposed to be taken by the said applicant, that is to say: A strip

of land a part of a farm owned by the said Enos D. Tennant, situate in the District of Lincoln, County of Marion, and State of West Virginia, which said strip so proposed to be taken is 24 feet in width and lies one-half thereof on either side of a center line, which said center line is particularly described as follows: Beginning at a point in the division line between the lands of said Enos D. Tennant and the heirs of Elijah Toothman, who join said land on the northwest, which point is on the northwesterly side of the land of said Enos D. Tennant and 45 rods measured along said division line northeasterly from a C. O. a corner in the division line between the lands of said Enos D. Tennant, Elijah Toothman's heirs and John G. Myers; thence S. 45° E. 80½ rods to a stake in the division line between the lands of said Enos D. Tennant and John G. Myers, who joins said land on the southerly side and 16 rods measured along said last named division line southeasterly
747 from a W. O. a corner in said division line, and contains .73 acres. Subject to and excepting the Nine foot or Pittsburg vein of coal within and underlying the said strip or parcel of ground, together with the mining rights and privileges belonging thereto. As well as for damage to the residue of said tract. And make report of their proceedings to this court according to law.

This order should have been entered on October 11th 1906, but by inadvertance the entering of the same was overlooked, it is therefore entered on this 12th day of October, 1906, now for then.

748 At another day of said Circuit Court, to wit on the 29th day of October, 1906, the following order was entered:

THE WHEELING NATURAL GAS COMPANY

vs.

ENOS D. TENNANT, SAINT LOUIS UNION TRUST COMPANY, and JAMES M. GUFFEY.

Condemnation Proceeding.

This day came the applicant, The Wheeling Natural Gas Company, by C. C. Newman and G. M. Alexander, its attorneys and came also defendant Enos D. Tennant by B. F. Ramage and Ira L. Smith, his attorneys, and defendant Saint Louis Union Trust Company by J. C. Frazer, its attorney, and by consent of the parties hereto, the following agreement is here now filed in the papers of this cause and made a part of the record of the same; and by like consent, it is ordered that the said agreement be recorded in the Law Order Book of this Court, which is accordingly done. Said agreement being in the words and figures following, to-wit:

THE WHEELING NATURAL GAS COMPANY

vs.

ENOS D. TENNANT & Others.

Condemnation Proceeding.

It is hereby agreed by and between the applicant, The Wheeling Natural Gas Company, and the defendant Enos D. Tennant, that the name of J. Clark Jones selected as one of the commissioners in this proceeding by order entered on the 12th day of October, 1906, should be H. Clark Jones; and that the said H. Clark Jones was the person intended to be selected, and who was in fact selected, and who in fact served, as such commissioner; and that no exception or objection shall be made by any of the parties because
749 of the misdescription or mis-naming of the said H. Clark Jones in the said order.

It is further agreed that Robert Reed, one of the Commissioners named in said order of October 12th, 1906, and R. L. Reed who signed the report of Commissioners in the above case, is one and the same person; and that no exception or objection shall be made by reason thereof.

Witness the signatures of said parties hereto by their attorneys, this 29th day of October, 1906.

THE WHEELING NATURAL GAS COMPANY,
By G. M. ALEXANDER,
Its Attorney.
ENOS D. TENNANT,
By RAMAGE & SMITH,
His Attys.

And on motion of said applicant, the oath taken by H. T. Lough, H. Clark Jones, Eldridge Carter, W. B. Charlton, and Robert Reed, duly certified by R. B. Parrish, Clerk of the Circuit Court of Marion County, West Virginia, as required by law, is now filed in the papers of this cause. And upon like motion of said applicant, the report of said commissioners H. T. Lough, H. Clark Jones, Eldridge Carter, W. B. Charlton and Robert Reed, which bears date the 23rd day of October, 1906, and which was returned and filed with the Clerk of this Court on the 23rd day of October, 1906, to which report no exceptions were taken or filed, is also filed.

And the Court finding that the said report of said commissioners is in all respects regular, it is accordingly considered, adjudged, and ordered that the same be and is hereby confirmed and ap-
750 proved. And it is further ordered that the said report of said commissioners be recorded in the Law Order Book of this Court, together with the oaths so taken by said commissioners and

certified as aforesaid, all of which is now done. Said report and oaths being in the words and figures following, to-wit:

THE WHEELING NATURAL GAS COMPANY

vs.

ENOS D. TENNANT and Others.

Condemnation Proceeding.

STATE OF WEST VIRGINIA,
County of Marion, To wit:

I, R. B. Parrish, Clerk of the Circuit Court of Marion County, West Virginia hereby certify that H. T. Lough, H. Clark Jones, Eldridge Carter, W. B. Charlton and Robert Reed, Commissioners appointed by the Circuit Court of Marion County, upon the application of The Wheeling Natural Gas Company in the above styled proceeding to ascertain what is a just compensation to the above named owners of land proposed to be taken by said Company for its pipe line purposes, and described in the petition of said Company filed in said Court on the 12th day of October, 1906, for so much of said land as is proposed to be taken, as well as for damage to residue of the said real estate beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed, this day personally appeared before me in my said County, and each of them, before entering upon the discharge of his duties as such, made oath that he will honestly and impartially perform his duties as such commissioners to the best of his skill and judgment.

Given under my hand this 16th day of October, 1906.

R. B. PARRISH,
Clerk of the Circuit Court, Marion Co., W. Va.

751 To the Circuit Court of Marion County:

We, the Commissioners appointed by the Circuit Court of Marion County, by an order made on the 12th day of October, 1906, upon the application of The Wheeling Natural Gas Company, respectfully report:

That having been first duly sworn, we have viewed the real estate owned by Enos D. Tennant mentioned in said application, the Nine Foot or Pittsburg vein of coal underlying which, with the mining rights and privileges belonging thereto, being owned by the Saint Louis Union Trust Company, James M. Guffey, holding a purchase money lien on said coal, and are of the opinion that $691.00 will be a just compensation for so much of the said real estate as is proposed to be taken by the said applicant, that is to say: a strip of land a part of a farm owned by the said Enos D. Tennant, situate in the District of Lincoln, County of Marion, and State of West Virginia, which said strip so proposed to be taken is 24 feet in width and lies one-half thereof on either side of a center line, which said

center line is particularly described as follows: Beginning at a point in the division line between the lands of said Enos D. Tennant and the heirs of Elijah Toothman, deceased, who joins said land on the northwest, which point is on the northwesterly side of the land of said Enos D. Tennant and 45 rods measured along said division line northeasterly from a C. O., a corner in the division line between the lands of said Enos D. Tennant, Elijah Toothman's heirs and John G. Myers; thence S. 45 E. 80½ rods to a stake in the division line between the lands of said Enos D. Tennant and John G. Myers, who joins said land on the southerly side and 16 rods measured along said last named division line southeasterly from a W.
752 O., a corner in said division line and contains .73 acres.

Subject to and excepting the Nine foot or Pittsburg vein of coal within and underlying the same, together with the mining rights and privileges belonging thereto, and also subject to and excepting the oil and gas and oil and gas rights and interests upon, within and underlying the same.—as well as for the damage to the residue of said real estate beyond the peculiar benefits which will be derived in respect to such residue from the work to be constructed.

Given under our hands this 23 day of October, 1906.

W. B. CHARLTON.
H. T. LOUGH.
ELDRIDGE CARTER.
R. L. REED.
H. CLARK JONES.

And thereupon the said applicant, The Wheeling Natural Gas Company, paid into Court the said sum of $691.00 that being the sum ascertained by said commissioners as compensation and damages to the persons entitled thereto for the land proposed to be taken in and by the said petition and applicant and also in the said report mentioned and described.

And said applicant, The Wheeling Natural Gas Company, having so as aforesaid paid the said compensation and damages so ascertained by said commissioner as coming to said Enos D. Tennant, Saint Louis Union Trust Company and James M. Guffey, into court for the said defendants Enos D. Tennant, Saint Louis Union Trust Company and James M. Guffey, or such of them as may be entitled to the same; it is further considered and ordered that the title to that part of said land so paid for, for the purpose set out,
753 stated and described in the petition and application of said applicant, and also in the said report mentioned and described, be vested in said petitioner and applicant, The Wheeling Natural Gas Company, subject to the reservations and exceptions set out in said petition and application and in said report of said commissioners; and that said applicant do and shall have all such rights, privileges and franchises as are asked in and by said petition and application and as are by law conferred upon it.

It is further considered and ordered that said applicant, The Wheeling Natural Gas Company, do pay the costs of this proceeding to and including this order

754 At another day of said Circuit Court, to wit, on the 29th day of October, 1906, the following order was entered:

THE WHEELING NATURAL GAS COMPANY

vs.

ENOS D. TENNANT and Others.

Condemnation Proceeding.

This day came the applicant by its attorney, and came also the defendant Enos D. Tennant by his attorneys, and Saint Louis Union Trust Company by J. C. Frazer, its attorney. And it appearing to the Court that the amount of compensation and damages awarded the defendant in this proceeding is the sum of $691.00, and that the same was paid into Court and is now in the hands of the Clerk.

From an inspection of the papers in this proceeding, the Court doth ascertain that the said sum of $691.00 is going to and is properly payable to said Enos D. Tennant.

It is therefore adjudged, and ordered that the Clerk of this Court do pay to said Enos D. Tennant the said sum of $691.00 compensation and damages awarded in this proceeding, taking receipts in duplicate therefor.

755 STATE OF WEST VIRGINIA,
County of Marion, To wit:

I, L. A. Cather, Clerk of the Circuit Court of Marion County, State of West Virginia, do certify that the foregoing are true, correct and complete copies of the petition and exhibits therewith filed on October 12, 1906, and of the orders made and entered on October 12, 1906, October 29, 1906 and October 29, 1906, in the condemnation proceeding of Wheeling Natural Gas Company, a corporation, versus Enos D. Tennant and others, lately pending in said Circuit Court of Marion County, as the same remains of record in my said office.

In Testimony Whereof I have herunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31 day of January 1921.

[Seal of Circuit Court, Marion County, West Virginia.]

L. A. CATHER,
Clerk.

STATE OF WEST VIRGINIA,
County of Marion, To wit:

I, W. S. Meredith, Judge of the Circuit Court of Marion County, State of West Virginia, do certify that L. A. Cather, by whom the foregoing attestation was made, was, at the date thereof, clerk of said Court duly qualified, and that said attestation is in due form of law and made by the proper officer.

Witness my hand and seal on this the 4th day of February 1921.

W. S. MEREDITH. [SEAL.]

756 STATE OF WEST VIRGINIA,
County of Marion, To wit:

I, L. A. Cather, Clerk of the Circuit Court of Marion County, State of West Virginia, do certify that the Honorable W. S. Meredith, by whom the above certificate was given, and whose name is thereto subscribed in his own proper handwriting, was, at the date thereof, Judge of the said Circuit Court of Marion County, duly commissioned and sworn and acting.

In Witness Whereof I have hereunto set my hand and affixed the seal of said Court, at the Courthouse of said County, on this the 31 day of January 1921.

[Seal of Circuit Court, Marion County, West Virginia.]

L. A. CATHER,
Clerk.

757 [Endorsed:] Wheeling Natural Gas Company vs. Enos D. Tennant, and others. Circuit Court, October 12, 1906. Copy. L. A. Cather, Clerk Circuit Court of Marion County, Fairmont, West Va.

758 HIGHWAY FRANCHISES W. VA. EX. 52.

EX. W. VA. NO. 52. O. L. H.

STATE OF WEST VIRGINIA:

At a regular term of the County Court of Harrison County, West Virginia, continued and held at the court house of said County, on the 18th da yof July, 1906, the following order was made and entered:

Reserve Gas Company Granted Permission to Lay Pipe Lines.

The Reserve Gas Company, a corporation doing business in this county this day made application to the Court for license and permission to lay and maintain pipe lines in any of the public roads in this county, for the conveyance of gas, from any well or wells of said company, it is ordered that the said applicant, The Reserve Gas Company, be and it is hereby granted license and permission to lay and maintain in any of the public roads of this county pipe lines for the conveyance of gas from any well or wells of the said company, said pipe lines to be so laid as not to interfere with the use of said public roads and for that purpose to be covered with a covering of not less than twelve inches above said pipe line and also to be laid in such manner as not to interfere with any other pipe line, now laid in or along said road. If at any time, by reason *or* working the roads it should become necessary to lower said pipe, at any point, said company shall lower it at its own expense. This franchise is to expire in fifty years from the date hereof.

759 STATE OF WEST VIRGINIA:

At a regular term of the County Court of Harrison County, Wes Virginia, continued and held at the court house of said county, or the 3d of April, 1907, the following order was made and entered:

Hope Natural Gas Company Franchise Granted.

This day came Hope Natural Gas Company, a corporation, by John G. Pew, its Vice President, and by Kemble White of counsel and asked leave of the court to have docketed for a hearing its peti tion executed under the seal of said corporation, which was filed in the Clerk's office of this court on the 12th day of February, 1907.

And it appearing to the Court that the said petition has been properly filed, and that notice of the application of said Hope Natura Gas Company for a franchise as set up in said petition has been prop erly published according to law, which notice together with the proo of publication thereof was filed in the Clerk's office of this court on the 22nd day of March, 1907.

It is therefore ordered that said petition be filed and that said notice and proof of publication thereof be filed with said petition.

And the court considered the matters arising upon said petition as well as the vari*uos* protests filed against the said petition, and the matters arising thereon were argued at length by counsel for peti tioner as well as by various protestants, and the public at large was given opportunity and was heard on said matters.

Upon consideration whereof, in consideration of the agreements and restrictions hereinafter contained on the part of the Hope Natural Gas Company, a corporation created, organized and
760 existing under the laws of the State of West Virginia, it is ordered that there be and is hereby granted on the part of the County Court of Harrison County to the said Hope Natural Gas Company, such corporation, its successors and assigns, the right and privilege of laying, constructing, maintaining, operating and re-claiming pipe lines of the diameter of Two inches, and smaller for the transportation of natural gas, steam and water, along & across the public roads of Harrison County, and the right and privilege of laying, constructing, maintaining, operating and reclaiming pipe lines for the transportation of Natural Gas, steam and water across the public roads of Harrison County upon such routes as may be necessary or convenient to the business of said Hope Natural Gas Company, for the terms of fifty years (50) from the date of this order, subject, however, to the agreements, conditions and restrictions which are imposed and contained in this ordnance.

(1) The said pipe lines shall not be placed, put or laid along or in said public roads in such a way as to at any point or place obstruct or impair said roads or the ditches, sewers, drains, or culverts thereof, and shall be so laid as not to interfere with public travel on, along or over the said roads as at present afforded by said roads.

(2) Said pipe lines shall be at all places, including any and all places where they cross the said roads, buried at a depth of at least two feet beneath the surface of said roads; the said pipe lines shall be so laid as not to interfere with the proper equipping, keeping, maintaining the said roads, sewers, drains, ditches and culverts of the same.

(3) If at any time by reason of working the roads it should become necessary to lower said pipes at any point or points said Hope Natural Gas Company, upon five days' notice, shall lower said pipes
761 at its own expense, and in the event said Hope Natural Gas Company shall fail to make said changes the County Court of Harrison County may do so at the expense of said Hope Natural Gas Company, which acknowledges itself indebted to said county in such sum as said change may cost said county.

(4) All lines shall be laid and placed along the edge of said road.

Whenever and wherever the words "Hope Natural Gas Company" occur in this ordinance it is understood "its successors and assigns" immediately follow and are to be so construed.

This franchise or ordinance shall become a valid and binding contract when said Hope Natural Gas Company shall have filed with the County Court of Harrison County a written acceptance of this ordinance of franchise over the seal of the Company on or before the 1st day of July, 1907; in which it shall agree to do the things required of it, and to in good faith comply with the provisions of this order.

762 (*Order Entered June* 19, 1907.)

Hope Natural Gas Company Franchise Accepted.

This day came Hope Natural Gas Company, a corporation by its attorneys, A. B. Fleming, Charles Powell and Kemble White, and filed in open court a written acceptance of the ordinance or franchise granted by the County Court of Harrison County to said Hope Natural Gas Company, its successors or assigns, on the 3rd day of April, 1907, which acceptance bears date the 3rd day of May, 1907, and is duly executed over the seal of said Hope Natural Gas Company, by John G. Pew, Vice President, and attested by Christy Payne, Secretary. And it appearing to the Court that the said written acceptance complies in all respects with the requirements of said franchise, it is ordered that said written acceptance be filed with the papers in this matter, and that said Hope Natural Gas Company, its successors and assigns, be allowed to exercise the rights granted by said franchise.

763 STATE OF WEST VIRGINIA:

At a regular term of the County Court of Harrison County, West Virginia, continued and held at the court house of said County, on

the 14th day of September, 1908, the following order was made and entered:

Hope Natural Gas Company, Hutton Gas Company, Franchise Partly Revoked.

This day came William Jarvis, Hannibal Perine and others and presented their petition asking the court to revoke and annul the order entered on the 27th day of June, 1905, directing and authorizing the grant of license and permission to Hutton Gas Company and its assigns to lay pipe lines, for purposes in said order prescribed, in the public roads of said county, and to revoke any license that may exist in pursuance of said order; and presented with said petition a notice to the Hope Natural Gas Company, a corporation, of intention of petitioners to present said petition to the court on this day, on which said notice there appears an acceptance of service thereof by M. J. Rathbone, attorney in fact, of record, for said Hope Natural Gas Company, the 11th day of September, 1908; and the said petition and notice are now here filed. And it appearing to the Court that the said Hutton Gas Company has transferred, or attempted to transfer, to the said Hope Natural Gas Company all of the privileges, if any, of said former company under the order of court aforesaid, and that said privileges are now claimed by said Hope Natural Gas Company by virtue of said assignment, and that it was not necessary or proper for petitioners to give notice of the presentation of this petition of any person, firm or corporation, other than said
764 Hope Natural Gas Company, thereupon, upon argument of counsel for petitioners as well as for said Hope Natural Gas Company, the court, upon consideration of the matters herein presented, is of opinion to, and doth hereby revoke and annul the said order of June 27, 1905, in so far as the same has not been accepted by said Hutton Gas Company and is now in actual use by said Hope Natural Gas Company.

765 STATE OF WEST VIRGINIA:

At a regular term of the County Court of Harrison County West Virginia, continued and held at the court house of said County, on the 27th day of June, 1905, the following was made and entered:

The Hutton Gas Company Franchise Granted.

Upon the application of Hutton Gas Company for license and permission to lay and maintain pipe lines in any of the public roads and bridges of this county, for the conveyance of gas, and the Court having considered such application, it is ordered that the said applicant or his assigns, be granted the right to use the public roads and bridges of Harrison County, where it is a matter of necessity, for the purpose of laying pipe lines through, upon and along the same to transport oil and gas; upon the condition that the said Hutton Gas Co. or his assigns shall so use the said roads and bridges as to cause the least possible damage to the same, and so as not to interfere

with the rights of the public. Said applicant, or assigns shall restore and leave said roads in as good condition after laying such pipe lines as they were before, said pipe lines to be covered with a covering of not less than twelve inches and also to be laid in such manner as not to interfere with any other pipe line now laid in or along said road. And if at any time by reason of working the said roads, it should become necessary to lower such pipe line, at any point, said company shall lower the same at its own expense. It is understood that in the granting of this franchise the said Hutton Gas Company, their successors or assigns, shall, where it is a matter of necessity, to cross any bridge or bridges of this county to lay said line or
766 lines under the floors of said bridges, and to restore the floor- of the same in as good condition as they were before, if in any way injured. And it is further agreed and understood that the traveled bed of any road or roads used by the said Hutton Gas Company, their successors or assigns, shall not be used except where it is unavoidable.

This franchise to expire in fifty years from the date hereof.

Notice of said application was published for 30 consecutive days as required by law in The Clarksburg News, prior to application to the County Court.

767 STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Clair N. Parrish, Clerk of the County Court of Harrison County, State of West Virginia, certify that the foregoing are true, correct and complete copies of the following orders made and entered by said County Court, as follows:

1. Order granting franchise to Hope Natural Gas Co., on April 3, 1907, and order recording acceptance thereof by Hope Natural Gas Co. entered on June 19, 1907.

2. Order granting franchise to Reserve Gas Co. entered on July 18, 1906.

3. Order granting franchise to Hutton Gas Co. entered on June 27, 1905.

4. Order entered Sept. 14, 1908, revoking in part said Hutton Gas Co. franchise as against Hope Natural Gas Co., assignee thereof.

In Testimony Whereof I have hereunto set my hand and affixed the seal of said court, at the court house of said county, on this the 7th day of February, 1921.

[Seal of the County Court, Harrison County, West Virginia.]

CLAIR N. PARRISH,
Clerk.

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, D. W. Cork, President of the County Court of Harrison County, State of West Virginia, do certify that Clair N. Parrish, by whom the foregoing attestation was made, was, at the date thereof, Clerk of the said court duly qualified, and that the said attestation
768 & 769 is in due form of law and made by the proper officer.
Witness by hand and seal on this the 7 day of February, 1921.

D. W. CORK. [SEAL.]

STATE OF WEST VIRGINIA,
County of Harrison, To wit:

I, Clair N. Parrish, Clerk of the County Court of Harrison County, State of West Virginia, do certify that the Honorable D. W. Cork, by whom the above certificate was given and whose name is hereto subscribed in his own proper handwriting, was, at the date thereof, President of the said County Court of Harrison County, State of West Virginia, duly commissioned and qualified.

In witness whereof I have hereunto set my hand and affixed the seal of said Court, at the court house of said county, on this the 7th day of February, 1921.

[Seal of the County Court, Harrison County, West Virginia.]

CLAIR N. PARRISH,
Clerk.

770 HOPE RATE APPLICATION, W. VA. EX. 53.

EX. W. VA. NO. 53. O. L. H.

(Copy.)

State of West Virginia,

Public Service Commission,

Division A, Public Service Corporation

No. 663.

In the Matter of the Application of HOPE NATURAL GAS COMPANY for Authority to Change Its Rates, Tolls, and Charges.

Comes now the above named Hope Natural Gas Company, the Petitioner herein, and respectfully shows to the Commission as follows:

(1) That it is a corporation organized and doing business under the laws of the State of West Virginia.

(2) That its principal place of business is in the following towns here it distributes natural gas and in neighboring country dis-icts and villages, viz: Belmont, Clarington, Colliers, Eureka, Fair-ew, Friendly, Glovers Gap, Littleton, Lima, Lost Creek, Mt. Clare, annington, Metz, Minora, Parkersburg, Paden City, Pine Grove, . Marys, Sistersville, Smithfield, Williamstown and Wileyville, est Virginia, and that is a public service corporation engaged in e management and operation of a natural gas plant in said cities d towns and that as such public service corporation in the service natural gas to the domestic consumer it is subject to the provisions Chapter 9, Acts of the Legislature of West Virginia for 1913 d 1915, and of the Code of West Virginia, applicable to this class corporations.

(3) That on the date hereof it has in effect the schedule of rates d charges shown on its Rate Schedule No. 4 attached hereto and arked Exhibit 1."

(4) That it applies to The Public Service Commission for au-ority to change its rates for the following reasons:

(*a*) To reimburse the company for the expense incurred in ex-aordinary drilling operations in the search for, production and ansportation of gas.

(*b*) To reimburse the company for the increasing cost of gas, bor, materials and operations.

(*c*) To reimburse the company for the increased cost of main-ining its supply by reason of the necessity for drilling and in-easing number of wells by reason of the depletion of the fields.

(*d*) To secure a fair return on capital invested.

(*e*) To secure a fair and reasonable return for the value of the rvice rendered.

(*f*) To obtain a readjustment of rates on an equal basis between ifferent localities and on a fair basis between classes of con-mers.

71 (*g*) To meet changing conditions imposed by reason of communities and industries working upon Federal and war ontracts.

(5) That application is hereby made for authority to change the ates of said applicant and to put into effect the following schedule o become operative and effective on the 1st day of January, 1918:

Rates—Class 1: Domestic Consumers.

Parkersburg, Williamstown, Sistersville, Friendly, Belmont, Paden City, Eureka, Lima, St. Marys, Clarington and neighboring country districts and villages:

25 cents per thousand cubic feet less 2 cents per thousand cubic feet for payment within the discount period. (A.)

Mannington, Mt. Clare, Minora, Lost Creek, Pine Grove, Smithfield, Littleton, Wileyville, Metz, Glovers Gap, Fairview, and neighboring country districts and villages:

23 cents per thousand cubic feet, less 2 cents per thousand cubic feet for payment within the discount period. (A.)

Colliers:

32 cents per thousand cubic feet, less 2 cents per thousand cubic feet for payment within the discount period. (A.)

Discount Period.

The scheduled discount is allowed upon each month's gas bill if paid on or before the last day noted on such bill for the allowance of discount, with the day following as a day of grace; in case of the day of grace falls on Sunday or a legal holiday, the next following business day is recognized as the day of grace. Patrons in order to secure the discount, must make payment of bills during the regular office hours of the Company or during the regular office hours of the banks or offices authorized as collecting agents. A remittance through the mail is not deemed payment within the discount period unless it is received by the Company at one of its offices during business hours before the end of the day of grace. No discounts are allowed unless the current as well as all previous bills are paid in full. Meters are read monthly and bills are rendered as nearly as practicable on the same day of each month and so as to allow for discount, ten days, excluding the day of grace. Patrons are required to pay monthly, and in case bills are not received at the usual time, patrons should inquire for the same within the discount period in order to be entitled to the discount upon payment. (N.)

Rates—Class II: Gas Engines.

Same as for Class I for the first 500,000 cubic feet used in each calendar month, and for all over 500,000 cubic feet used in a calendar month, 5 cents less per thousand cubic feet, subject to the Class I discount. (A.)

772

Rates—Class III.

Parkersburg, Williamstown, St. Marys, Sistersville, Friendly, Paden City, Belmont, Eureka, Lima, Clarington, and neighboring country districts and villages; also Wood and Pleasants Counties; and Calhoun, Ritchie, Wirt, southwest portion of Tyler and western portion of Gilmer Counties, known as Schultz and Southern Districts on the books of the company (including gas by meter for field operations in said districts, such as drilling wells, cleaning out, pumping oil and water, etc.):

24 cents per thousand cubic feet for the first 150,000 cubic feet consumed in a calendar month; 17 cents per thousand cubic

et for the second 150,000 cubic feet consumed in a calendar
onth; 14 cents per thousand cubic feet for all over 300,000
ubic feet consumed in a calendar month. (A.)

ton, Mt. Clare, Minora, Lost Creek, Pine Grove, Smithfield,
on, Wileyville, Metz, Glovers Gap, Fairview, and neigh-
districts and villages, and places included within the
isions known on the books of the company as the fol-
working districts: Bridgeport, Buffalo, Fairview, Fink,
ha, Pine Grove, Mannington, Littleton, Salem, Shirley,
and Wetzel (Including also gas by meter for field opera-
uch as drilling wells, cleaning out, pumping oil and water,
said districts.):
nts per thousand cubic feet for the first 150,000 cubic feet
nsumed in a calendar month; 17 cents per thousand cubic
et for the second 150,000 cubic feet consumed in a calendar
onth; 13 cents per thousand cubic feet for all over 300,000
bic feet consumed in a calendar month.* (A.)

ndow Glass Company near West Union:
nts per thousand cubic feet for the first 150,000 cubic feet
nsumed in a calendar month; 17 cents per thousand cubic
et for the second 150,000 cubic feet consumed in a calendar
onth; 11 cents per thousand cubic feet for all over 300,000
bic feet consumed in a calendar month.* (A.)

Rates—Class IV.

rritory excepting places noted under exceptions:
nts per thousand cubic feet, net. (A.)

Note—Exceptions.

Borough Buildings:
nts per thousand cubic feet net, until expiration of ten
ar contract.

unty Public Jail and Court House:
nts per thousand cubic feet, net. Right of way contract
e. (A.)

Rates—Class V.

rg City Hall and City Utilities, and Sistersville City Water

III Parkersburg and Sistersville rate. (A.)

on Water Works:
ts per thousand cubic feet, net.

: Less 1 cent per thousand cubic feet for payment on or before the
the month following that in which the gas is supplied.

Note to All Meter Service.

Meter service is based upon a meter pressure not exceeding 5 ounces. If gas is supplied at a higher pressure, the meter measurements are corrected according to Boyle's Law.

Flat rate service:

Field operations, such as drilling wells, cleaning out, pumping oil and water, etc., applicable only in the case of isolated wells, all others being embraced in the meter rate for Class III:

Entire territory:

Drilling or cleaning out wells, boiler, single tour of 12 hours or less, $4.00, double tour	$7.50
Forge for drilling or cleaning out, per tour of 12 hours or less	.50
Lawn lights for drilling well, per night	.50
Heating stove with mixer, Nov. 1st to April 1st, per month	7.50
Pumping water for drilling or cleaning out, per day for total days of drilling or cleaning out	1.00
Pumping wells with boiler and engine, per month, steam **	15.50
Pumping wells with gas engine, first well, per month	7.50
Each additional well on same gas engine	3.00
Cleaning out wells, per tour 12 hours or less, gas engine	1.50
Steaming oil, pumping out oil, per tank of 600 bbls., each service	4.00
Steaming oil, pumping out oil, per tank of 250 bbls., each service	1.75
Steaming oil, pumping out oil, per tank of 100 bbls., or under each service	1.00
Pumping water, Donkey pumps, jetting water, steam, per tour 12 hours or less	2.00
Pulling casing rods *, or tubing wells *, 12 hours or less, steam	3.50
Pulling casing, rods, or tubing wells *, 12 hours or less, gas engine	2.00
Drilling machines, 10 H. P. or less, per tour 12 hours or less	3.00

774 NOTE.—The above rates are for low pressure burners only; high pressure burners using 2 pounds or more gauge pressure to the square inch are not permitted; in other respects the rates apply to the customary gas burning appliances in general use; if special appliances are used rates will be quoted on application.

**Charge for pumping wells is $15.50 per month each, whether gas is used one day or a full month.

*No charge for tubing or pulling rods or pumping wells when rate is $15.50 per month for pumping same is paid.

NOTE.—The lawn lights hereinbefore mentioned are Irwin's lawn ghts or burners of like capacity.

Street Lighting.

The rates for street lighting service, based upon the use of natural s from 5 P. M. to 7 A. M. of each day from April 1st to October t, and from 4 P. M. to 8 A. M. each day from October 1st to pril 1st, the consumer furnishing and maintaining the lamps, are follows:

ntire territory, excepting in places noted under exceptions:

$5.00 per year for each lamp with one mantle, and $2.50 per year in addition for each additional mantle in each lamp. (A.)

Note—Exceptions.

irview:

Ten cents per mantle per month, until June 23, 1919; thereafter at the published rate above set forth for the entire territory.

Special Flat Rates.

nnington:

One garbage fire, $10 per month.

All rates are subject to change on notice given according to law d subject to the rules and regulations published on contracts.

(6) The definition of the classification of Class III, Manufacers and other large consumers, is changed to read as follows:

'Class III. Manufacturers and Other Large Consumers (such as sumers using gas for manufacturing purposes and for fuel ler boilers and manufacturing furnaces) who can be shut immediately in order to provide an ample supply to Classes I, and IV. Contracts to be made for short term only. The cots in this class must contain the following clause:

'That the party of the first part shall have the right to discontinue supply of gas under this agreement temporarily, whenever it l deem it necessary to do so in order to deliver a full supply to consumers classified by it as Domestic and Special Consumers.'

This company in selling gas to Classes II and III is not engaged ublic service and does not hold itself out as able or willing to ly patrons with gas for such purposes by special contract; the so sold is surplus gas over and above the amount available for the preferred or domestic service, and being variable in amount can only be contracted to be sold limited as to time, volume and place of delivery but in contracting for the servniformity of price and equality of service is attempted as far as ible. Where application is made by a Class III consumer at a

time when the company is carrying its peak load, conditions n require a refusal of the application or its acceptance on special c ditions as to time and volume."

(7) No other public service corporations are interested in t schedule or change of rates.

Whereas, the said Hope Natural Gas Company prays that af due hearing and investigation, the Public Service Commission n make an order granting the application herein and establish the proposed rates and charges, or such rates and charges as it n find to be equitable within its jurisdiction

Dated at Pittsburgh, Pennsylvania this 26th day of Novemb 1917.

HOPE NATURAL GAS COMPANY
Applica

(Signed) By JOHN G. PEW, *Vice President.*

STATE OF PENNSYLVANIA,
County of Allegheny, ss:

John G. Pew, the Vice President of Hope Natural Gas Compar a public service corporation, the applicant named in the foregoi petition, being duly sworn says that he is the Vice President of t said corporation and knows the contents of said petition, and th the facts and allegations therein contained are true, except such are therein stated upon information and belief, and that as to su allegations he believes them to be true.

(Signed) JOHN G. PEW,
Vice President.

Taken, sworn and subscribed before me this 26th day of Nove ber, A. D. 1917.

(Sgd.) GEO. A. KINLEY,
Notary Public.

My Commission expires: March 25, 1921.

776 STATE OF WEST VIRGINIA, *To wit:*

The Public Service Commission.

I, R. B. Bernheim, Secretary of The Public Service Commissio of West Virginia, do hereby certify that the foregoing is a true an correct copy of the application filed by the Hope Natural Gas Co pany in: Case No. 663, Hope Natural Gas Company, application change rates, now pending before said Commission.

I do hereby certify that the seal of The Public Service Commi sion of West Virginia was lost in the fire which destroyed the Sta House on January 3, 1921.

Given under my hand at the offices of the Commisison in the Cit of Charleston, this 7th day of February, 1921.

[SEAL.] H. B. BERNHEIM,
Secretary.

777 UNITED FUEL RATE APPLICATION, W. VA. EX. 54.

Ex. W. Va. No. 54. O. L. D.

State of West Virginia,

The Public Service Commission,

Charleston.

No. 585.

In the Matter of the Application of UNITED FUEL GAS COMPANY for Authority to Change Its Rates, Tolls, and Charges.

Comes now the above named United Fuel Gas Company, the Petitioner herein, and respectfully shows to the Commission as follows:

(1) That it is a corporation organized and doing business under the laws of the State of West Virginia.

(2) That its principal place of business is in the City of Charleston, West Virginia, and that it is a Public Service Corporation engaged in the management and operation of a natural gas plant in said City and elsewhere, and that as such public service corporation it is subject to the provisions of Chapter 9, Acts of the Legislature of West Virginia for 1913, as subsequently amended.

(3) That the following is a correct schedule of the rates at this time charged by Petitioner for natural gas at the several places mentioned below, to-wit:

Kenova, Wayne County.

Domestic service:

22 cents per thousand cubic feet, subject to a discount of 2 cents per thousand cubic feet for payment on or before the 10th day of the month following that in which the gas is consumed.

Manufacturing service:

First 150,000 cu. ft. each calendar month 21¢ per M cu. ft.
Second 150,000 cu. ft. each calendar month 16¢ per M cu. ft.
All over 300,000 cu. ft. each calendar month 11¢ per M cu. ft.
All subject to a discount of 1¢ per thousand cubic feet if paid on or before the 20th day of the month following that in which the gas is consumed.

778 Ceredo.

Same rate for domestic service as Kenova. No rate for manufacturing service.

Huntington and Barboursville, Cabell County.

Domestic service:

16 cents per thousand cubic feet, subject to a discount of 1 cent per thousand for payment on or before the 10th day of the month following that in which the gas is consumed.

Manufacturing service:

First 150,000 cu. ft. each calendar month 16¢ per M cu. ft.
Second 150,000 cu. ft. each calendar month 15¢ per M cu. ft.
All over 300,000 cu. ft. each calendar month 11¢ per M cu. ft.
All subject to a discount of 1¢ per thousand cubic feet if paid on or before the 20th day of the month following that in which the gas is consumed.

Hurricane, Culloden, Poca, and Ona, Putnam County.

Domestic service:

22 cents per thousand cubic feet, subject to a discount of 2 cents per thousand for payment on or before the 10th day of the month following that in which the gas is consumed.
Rate for street lamps at Hurricane, 25 cents per lamp per month.
No rate for manufacturing service at Hurricane, Culloden, Poca or Ona.

Charleston and Coalburgh, Kanawha County.

Domestic service:

17 cents per thousand cubic feet, subject to a discount of 2 cents per thousand for payment on or before the 10th day of the month following that in which the gas is consumed.

Manufacturing service:

First 150,000 cu. ft. each calendar month 16¢ per M cu. ft.
Second 150,000 cu. ft. each calendar month 12¢ per M cu. ft.
All over 300,000 cu. ft. each calendar month 8¢ per M cu. ft.
779 All subject to a discount of 1 cent per thousand cubic feet if paid on or before the 20th day of the month following that in which the gas is consumed.

(4) Petitioner now applies to The Public Service Commission for authority to change its rates for the reasons that the present rates do not afford to Petitioner an adequate return for the service rendered nor upon its capital invested for the purpose of maintaining such service; that the return to Petitioner from said present rates is not commensurate with the value of the service rendered by it to its patrons, and that the proposed new rates are just and reasonable.

In this connection, Petitioner avers that it purchased the natural gas plant used in the service of all the localities above mentioned in the year 1909, at which time the rates charged by the predecessor of your Petitioner at the places aforesaid was greater than that now charged by Petitioner, notwithstanding the fact that the natural gas supply has, since the acquisition of said plant by your Petitioner, been diminished and the cost of producing natural gas greatly increased. That at the time of the purchase of said plant by Petitioner in the year 1909, the rate charged for domestic service in the City of Huntington and in the smaller towns in the same general vicinity, was thirty cents per thousand cubic feet, with a discount of five cents per thousand for prompt payment, while at the same time the rate charged in the City of Charleston and the smaller towns in that general vicinity for domestic service was twenty-three cents per thousand cubic feet, subject to a discount of three cents per thousand for prompt payment. Petitioner further shows that the rates now charged by it at the several places above mentioned are less than the intrinsic value of the service furnished, and lower than the rates generally charged by other companies, engaged in the same business as your Petitioner, for like service in a greater number of the localities in which natural gas is supplied.

(5) That application is hereby made for authority to change the rates of said applicant and put into effect the following schedule at the several places above mentioned, to become operative and effective on the 1st day of July, 1917, or as soon as authorized by this Commission, except that, for reasons hereinafter mentioned, the proposed new rate for manufacturing service in Charleston
780 and vicinity, including Coalburgh, is not desired to become operative until the 1st day of October, 1917.

Kenova, Huntington, and Barboursville.

Domestic service:

25 cents per thousand cubic feet, subject to a discount of two cents per thousand cubic feet for payment on or before the 10th day of the month following that in which the gas is consumed.

Manufacturing service:

First 150,000 cu. ft. each calendar month 24¢ per M cu. ft.
Second 150,000 cu. ft. each calendar month 19¢ per M cu. ft.
All over 300,000 cu. ft. each calendar month 11¢ per M cu. ft.
All subject to a discount of 1 cent per thousand cubic feet for payment on or before the 20th day of the month following that in which the gas is consumed.

Ceredo.

Domestic service:

25 cents per thousand cubic feet, subject to a discount of 2 cents per thousand cubic feet for payment on or before the 10th day of the month following that in which the gas is consumed.

Hurricane, Culloden, Poca, and Ona.

Domestic service:

24 cents per thousand cubic feet, subject to a discount or 2 cents per thousand for payment on or before the 10th day of the month following that in which the gas is consumed.

Street lamps at Hurricane, 25 cents per lamp per month.

Charleston and Coalburgh.

Domestic service:

22 cents per thousand cubic feet, subject to a discount of 2 cents per thousand cubic feet for payment on or before the 10th day of the month following that in which the gas is consumed.

Manufacturing service:

First 150,000 cu. ft. each calendar month 21¢ per M cu. ft.
Second 150,000 cu. ft. each calendar month 15¢ per M cu. ft.
All over 300,000 cu. ft. each calendar month 9 — per cu. ft.
781 All subject to a discount of 1 cent per thousand cubic feet for payment on or before the 20th day of the month following that in which the gas is consumed.

NOTE.—The proposed new rates set forth in the foregoing schedule relate mainly to domestic service and no change is embodied in said schedule in the rate for manufacturing service at any of said localities, except to change the rate for the first 150,000 cubic feet of gas used during any month to the proposed new domestic rate and to increase the rate for the second 150,000 cubic feet proportionately.

In this connection, your Petitioner shows that on the — day of November, 1916, it filed its application with this Commission to increase the rate charged by it for manufacturing service in the City of Charleston, and vicinity, including Coalburgh, the said application being known as proceeding No. 508. That, during the pendency of said proceeding, your Petitioner made an agreement with its manufacturing consumers in said City of Charleston by which the rate now charged for manufacturing service in said City, as hereinbefore set forth, was fixed by consent to be operative until the 1st day of October, 1917, and said manufacturing consumers in said City of Charleston agreed that they would not oppose a further increase to be operative October 1st, 1917, of an additional one cent per thousand cubic feet for all gas used during any calendar month in excess of 300,000 cubic feet. Because of said arrangement, Petitioner does not now desire that the increased rate for manufacturing service in the City of Charleston and vicinity, including Coalburgh, applied for in this petition, shall be operative prior to October 1st, 1917, but Petitioner prays that the said increased rate herein

pplied for shall be operative in said City of Charleston and vicinity, ncluding Coalburgh, on and after October 1st, 1917. Petitioner erewith refers to the said proceeding known as No. 508 and the rec- rd thereof, and prays that the same may be read as a part of this, s application.

(6) Petitioner says that no other public service corporation has ny direct interest in the schedule or change of rates above set forth, xcept that Huntington Gas and Development Company is engaged in supplying natural gas in competition with your Petitioner 82 in the City of Huntington and the vicinity thereof. Your Petitioner has, for several years, charged the same rate in the aid City of Huntington as its competitor and its present rate in said ity of Huntington was put into operation to meet the said com- etition.

Wherefore, the said United Fuel Gas Company prays that after due hearing and investigation, the Public Service Commission may make an order granting the application herein and establishing the proposed rates and charges, or such rates and charges as it may find o be equitable in the premises, all to be effective as of July 1st, 1917, except the proposed new rate for manufacturing service in the City f Charleston and vicinity to be effective as of October 1st, 1917.

Dated at Charleston, West Virginia, this 21st day of May, 1917.

UNITED FUEL GAS COMPANY,
Applicant,

By R. G. ALTIZER,
Vice President.

STATE OF WEST VIRGINIA,
County of Kanawha, To wit:

R. G. Altizer, Vice President of United Fuel Gas Company, the pplicant named in the foregoing petition, being duly sworn, says hat he is Vice President of the said corporation, and knows the con- ents of said petition, and that the facts and allegations therein con- ained are true, except such as are therein stated upon information nd belief, and that as to such allegations he believes them to be rue.

R. G. ALTIZER,
Vice President.

Taken, sworn to and subscribed before me this 21 day of May, 1917.

D. C. JAY,
Notary Public in and for said County.

My commission expires on the 2d day of Marcy, 1925.

783 STATE OF WEST VIRGINIA, *To wit:*

The Public Service Commission.

I, R. B. Bernheim, Secretary of The Public Service Commission of West Virginia, do hereby certify that the foregoing is a true and correct copy of the application filed by the United Fuel Gas Company in: Case No. 585, United Fuel Gas Company, application for authority to increase rates, lately pending before said Commission.

I do hereby certify that the seal of The Public Service Commission of West Virginia was lost in the fire which destroyed the State House on January 3, 1921.

Given under my hand at the offices of the Commission in the City of Charleston, this 7th day of February, 1921.

[SEAL.] R. B. BERNHEIM,
Secretary.

784 PGH. & W. VA. RATE APPLICATION, W. VA. EX. 55.

EX. W. VA. No. 55. O. L. H.

Before the Public Service Commission of the State of West Virginia.

No. 1105.

In re Application of PITTSBURGH AND WEST VIRGINIA GAS COMPANY for Authority to Change Rates and Charges for Gas Service in the Counties of Harrison, Doddridge, Lewis, Marion, Monongalia, Taylor, Tyler, Gilmer, and Wetzel, West Va.

Comes now the above named Pittsburgh and West Virginia Gas Company, the petitioner herein and respectfully shows to the Commission as follows:

(1) That it is a public service utility, doing business under the laws of the State of West Virginia.

(2) That its principal place of business is in the City of Pittsburgh, Pennsylvania, and that it is a public service corporation engaged in the production, transportation and sale of gas in the Counties of Harrison, Doddridge, Lewis, Marion, Monongalia, Taylor, Tyler, Gilmer, and Wetzel, West Virginia, and furnished gas in the following Cities and Towns in the said Counties: Grafton, Shinnston, Blueville, Boothville, Burton, Colfax, Daybrook, Enterprise, Fetterman, Fleming, Gypsy, Haywood, Hutchinson, Lumberport, Pruntytown, Rosebud, Rosemont, Thornton, Worthington, Industrial, Weston and Mannington, and other towns, and to many consumers in towns and villages along its lines in the Counties aforesaid, and as such public service corporation it is subject to the provisions of Chapter 15-0 of the Code of West Virginia, 1916, applicable to this class of public service utilities.

(3) That at this time it has in effect the following schedule of tes for gas:

ıte for Gas Supplied for Domestic Service, Use in Public Buildings, Industrial Purposes, Drilling Wells, and All Other Purposes.

The rate for natural gas sold for domestic service, for use in pub- buildings, for industrial purposes, for the drilling of wells, and r all other purposes, is thirty-two cents per thousand cubic feet, ss a discount of two cents per thousand cubic feet for prompt pay- ent of monthly bills.

These rates are effective in all localities served by the said Pitts- ırgh and West Virginia Gas Company, with the exception of the wn of Industrial, in Harrison County, West Virginia and also with the exception of Taylor County, West Virginia.

55 In Taylor County, West Virginia, the following rates are in force:

Class 1. Domestic.—The rate for natural gas for domestic con- ımption is thirty cents per thousand cubic feet, less a discount of wo cents per thousand cubic feet for prompt payment of monthly ills.

Class 2. Public Schools, Public Buildings (National, State, County, nd City), Public Hospitals and Churches.—The rate for natural gas twenty eight cents per thousand cubic feet, less a discount of two ents per thousand cubic feet for prompt payment of monthly bills.

Class 3. Industrial and Drilling Service.—The rate for natural gas ıpplied during each calendar month is twenty-five cents per thou- and cubic feet, less a discount of two cents per thousand cubic feet or prompt payment of monthly bills.

(4) That it applies to the Public Service Commission for authority o change its rates for the reason that said rates are inadequate and in- ufficient to meet the increase in the cost of production of its product, nd the sale of its product to the consumers, and to provide a fair re- ırn to applicant for its services. The rapid increase in the cost of naterials, the rise in the rate of wages which must be paid all labor, he increased cost of drilling wells and the decreased production of vells are some of the factors which make necessary the increase to onsumers in the rates here applied for. The Company must also ıow pay a higher price for gas purchased in the field which is a large tem of its costs.

(5) That application is hereby made for authority to change the ates of said applicant in the Counties of Harrison, Doddridge, Lewis, Marion, Monongalia, Taylor, Tyler, Gilmer and Wetzel, in the State of West Virginia and to put into effect the following schedules:

Domestic service:

The rates for gas sold for domestic service, and for use in Public Buildings, Hospitals, Schools and Churches and for all use except Industrial and Drilling service is as follows:

1. A readiness-to-serve charge to each consumer of fifty cents per meter per month, on which there is no discount for prompt payment. This charge is is addition to the charge for gas consumed.

2. A Quantity Charge for gas consumed each month as follows:

For the first 10,000 cubic feet in each month, forty two cents per thousand cubic feet.

For the next 10,000 cubic feet in each month, forty seven cents per thousand cubic feet.

786 For the next 5,000 cubic feet in each month, fifty two cents per thousand cubic feet.

For all over 25,000 cubic feet in each month, fifty seven cents per thousand cubic feet.

The Quantity Rate is subject to a discount of Two Cents per thousand cubic feet for payment of monthly bills within the discount period provided in the Rules and Regulations.

Industrial and drilling service:

The Rate for gas sold for Industrial Service and for Drilling of Wells, is forty-two cents per thousand cubic feet less a discount of two cents per thousand cubic feet for payment of monthly bills within the discount period provided in the contract or the Rules and Regulations. The Company reserves the right to curtail or discontinue the supply of gas to industrial and drilling consumers whenever it shall be necessary to do so in order to supply gas to its domestic consumers.

Flat rate for incandescent street lamps:

Where gas is used for lighting street lights the rate is twelve ($12.00) dollars per year for single mantle lamps, and for each additional single mantle burner on the same lamp the rate is six ($6.00) dollars per year. The Company reserves the right to discontinue service to lamps persistantly left burning during the daytime. This rate is for street lights where it is not practicable to measure the gas by meter.

The rates are effective in all localities served by the Pittsburgh and West Virginia Gas Company, in the State of West Virginia.

(6) Applicant believes that no other public service utility is interested in this proposed change of rates except the Monongahela Valley Traction Company at Fairmont, West Virginia.

Wherefore the said applicant prays that after due hearing and investigation the Public Service Commission may make an order granting the application herein and establishing the proposed rates

and charges or such rates and charges as it may find to be equitable in the premises.

Dated at Pittsburgh, Pennsylvania, this — day of August, A. D. 1920.

PITTSBURGH AND WEST VIRGINIA GAS COMPANY,
By A. HURLBURT,
General Manager.

A. W. ROBERTSON,
B. V. McCLENTIC,
J. H. GAINES,
Attorneys.

STATE OF WEST VIRGINIA,
County of Kanawha, ss:

A. Hurlburt, General Manager of the Pittsburgh and West Virginia Gas Company, named in the foregoing application, being duly sworn, says that the facts and allegations therein contained are true, except so far as they are therein stated to be on information,
787 and that so far as they are therein stated to be upon information, he believes them to be true.

A. HURLBURT.

Taken, sworn to and subscribed before me this 14th day of August, A. D. 1920.

L. E. McWHORTER,
Notary Public.

My Commission expires on the 26th day of Jany., 1927.

788 STATE OF WEST VIRGINIA, *To wit:*

The Public Service Commission.

I, R. B. Bernheim, Secretary of The Public Service Commission of West Virginia, do hereby certify that the foregoing is a true and correct copy of the application filed by the Pittsburgh & West Virginia Gas Company in: Case No. 1105, Pittsburgh & West Virginia Gas Company, application for authority to increase rates, now pending before said Commission.

I do hereby certify that the seal of The Public Service Commission of West Virginia was lost in the fire which destroyed the State House on January 3, 1921.

Given under my hand at the offices of the Commission in the City of Charleston, this 7th day of February, 1921.

[SEAL.] R. B. BERNHEIM,
Secretary.

EX. W. VA. No. 56. O. L. H.

The Public Service Commission of West Virginia,

Capitol Building,

Charleston.

A meeting of the Public Service Commission of West Virginia, held on the 25th day of November, 1918.

* * * * * * *

Case No. 828.

RESERVE GAS COMPANY.

Application to Change Rates on Natural Gas.

Whereas, application has this day been filed by the Reserve Gas Company for authority to change its gas rates, it is ordered that leave be granted to any one interested to file objection thereto before the Commission at any time on or before the 14th day of January, 1919, and this matter be set down for hearing at a meeting of the Commission to be held at its offices in the Capitol Building in the City of Charleston on the said 14th day of January, 1919, at two o'clock p. m., at which time any one may appear and make such objection thereto as may be deemed proper.

It is further ordered that the applicant publish a copy of this order once each week for four successive weeks in two newspapers of opposite politics, if such there be, and of general circulation in the county or counties affected by the proposed change in rates; and said applicant shall also mail to or serve on each of its consumers affected by the proposed change in rates at least fifteen days prior to the said 14th day of January, 1919, a written notice in the form prescribed by the Commission, showing that it has applied to The Public Service Commission for authority to change its rates, the time and place of such hearing, and the rates proposed to be charged by it; making due return thereof to this Commission on or before the day of hearing.

A copy.

Teste:

R. B. BERNHEIM,
Secretary.

STATE OF WEST VIRGINIA, *To wit:*

The Public Service Commission.

, R. B. Bernheim, Secretary of The Public Service Commission
Vest Virginia, do hereby certify that the foregoing is a true and
ect copy of an order entered by The Public Service Commission
November 25, 1918, filing and setting down for hearing the
lication of the Reserve Gas Company in: Case No. 828, Reserve
Company, application for authority to change rates.
do hereby certify that the seal of The Public Service Commission
Vest Virginia was lost in the fire which destroyed the State House
January 3, 1921.
iven under my hand at the offices of the Commission in the City
harleston, this 7th day of February, 1921.
[SEAL.] R. B. BERNHEIM,
Secretary.

RESERVE CO. RATE ORDER, W. VA. EX. 57.

EX. W. VA. NO. 57. O. L. H.

The Public Service Commission of West Virginia,

Capitol Building,

Charleston.

egular session of the Public Service Commission of West Vir-
a, for the month of March, held on Tuesday, the 11th day of
ch, A. D., 1919.

* * * * * * *

Case No. 828.

RESERVE GAS COMPANY.

Application to Change Rates.

his day this cause came on again to be heard upon the papers
tofore filed herein, upon the evidence heretofore taken herein,
the present record thereof and upon the argument of counsel.
pon consideration whereof, the Commission is of opinion that
rates, asked to be put into effect by said applicant as to the
ges of Oxford and Camden, are just and reasonable.
is, therefore, ordered that said application, in so far as the same
excepted and left open for further consideration, by the order
red herein on January 16, 1919, be, and the same is hereby
ted, to include the villages of Oxford and Camden, to take effect
nd after the meter readings for the month of March, 1919,

following this day, and as to flat rate service for street lighting service, on March 20, 1919.

The rates and charges herein allowed and granted as to the said villages of Oxford and Camden are the same rates and charges as particularly set forth in said order of January 16, 1919, as to all other territory of the Reserve Gas Company in said order specified, being particularly described and set forth in "Natural Gas Rate Schedule No. 5," part of applicant's petition herein.

A copy.

Teste,

R. B. BERNHEIM,
Secretary.

792 STATE OF WEST VIRGINIA, *To wit*

The Public Service Commission

I, R. B. Bernheim, Secretary of The Public Service Commission of West Virginia, do hereby certify that the foregoing is a true and correct copy of an order entered by The Public Service Commission on March 11, 1919, in Case No. 828, Reserve Gas Company, application to change rates.

I do hereby certify that the seal of The Public Service Commission of West Virginia was lost in the fire which destroyed the State House on January 3, 1921.

Given under my hand at the offices of the Commission in the City of Charleston, this 7th day of February, 1921.

[SEAL.] R. B. BERNHEIM,
Secretary.

793 MFG. CO. RATE APPLICATION, W. VA. EX. 58

EX. W. VA. NO. 58. O. I. H

The Public Service Commission of West Virginia, Capitol Building, Charleston.

A meeting of the Public Service Commission of West Virginia, held on the 24th day of June, A. D., 1920.

* * * * * * *

Case No. 1071.

MANUFACTURERS LIGHT & HEAT COMPANY.

Application for Authority to Change Rates.

Whereas, application has this day been filed by the Manufacturers Light & Heat Company for authority to change its rates, it is ordered that leave be granted to any one interested to file objection

thereto before the Commission at any time on or before the 26th day of July, 1920, and this matter be set down for hearing at a meeting of the Commission to be held at its offices in the Capitol Building in the City of Charleston on said 26th day of July, 1920, at ten o'clock a. m., at which time any one may appear and make such objection thereto as may be deemed proper.

It is further ordered that the applicant publish a copy of this order once each week for four successive weeks in two newspapers of opposite politics, if such there be, and of general circulation in the county or counties affected by the proposed change in rates; and said applicant shall also mail to or serve on each of its consumers affected thereby at least twenty days prior to said 26th day of July, 1920, written notice in the form prescribed by the Commission, showing that it has applied to The Public Service Commission for authority to change its rates, the rates proposed to be charged, and the time and place of such hearing; making due return of all thereof on or before the day of hearing.

A copy.

Teste:

R. B. BERNHEIM,
Secretary.

794 STATE OF WEST VIRGINIA, *To wit:*

The Public Service Commission.

I, R. B. Bernheim, Secretary of The Public Service Commission of West Virginia, do hereby certify that the foregoing is a true and correct copy of an order entered by The Public Service Commission on June 24, 1920, filing and setting down for hearing the application of the Manufacturers Light & Heat Company in: Case No. 1071, Manufacturers Light & Heat Company, Application for authority to change rates.

I do hereby certify that the seal of The Public Service Commission of West Virginia was lost in the fire which destroyed the State House on January 3, 1921.

Given under my hand at the offices of the Commission in the City of Charleston, this 7th day of February, 1921.

[SEAL.]

R. B. BERNHEIM,
Secretary.

EX. W. VA. NO. 59. O. L. H.

The Public Service Commission of West Virginia.

Capitol Building,

Charleston.

A meeting of the Public Service Commission of West Virginia held on the 18th day of August, A. D., 1920.

* * * * * * *

Case No. 1071.

MANUFACTURERS LIGHT & HEAT COMPANY.

Application for Authority to Change Its Rates, Tolls and Charges

This cause came on this day to be finally heard upon the application of the Manufacturers Light & Heat Company for authority to change its rates, tolls and charges for natural gas served by it to various communities in said application set out; upon the order of the Public Service Commission on said application entered on the 24th day of June, 1920; upon notices published and served as required by said order; upon the appearances by the City of McMechen, in Marshall county, and the Town of Middlebourne, in Tyler County, protesting against the increases applied for; upon evidence of witnesses for applicant company, together with numerous exhibits filed therewith, and upon the withdrawal of all objections by counsel for said protestants, and was argued by counsel;

Upon consideration of all of which it is ordered that the applicant, Manufacturers Light & Heat Company, be, and it is hereby, authorized to publish and put into effect the following schedule of rates, to wit:

Schedule of Rates for Domestic Service.

For all gas furnished and delivered in any one month to domestic consumers in Chester, Congo, Fairview, Follansbee, Hollidays Cove, Newell, New Cumberland, Weirton, Wellsburg, Brooke county and Hancock county:

Forty-seven (47¢) cents per thousand cubic feet, subject to a discount of two (2¢) cents per thousand cubic feet for payment of bill on or before the 10th day of the month following that in which such gas in furnished.

For all gas furnished and delivered in any one month to domestic consumers in Benwood, Glendale, Glenova, McMechen, Moundsville,

Warwood, West Liberty, Marshall county (Clay, Union, Washington, Sand Hill and Webster Districts) and Ohio county:

Forty-five (45¢) cents per thousand cubic feet, subject to a discount of three (3¢) cents per thousand cubic feet for payment of bill on or before the 10th day of the month following that in which such gas in furnished.

796 For all gas furnished and delivered in any one month to domestic consumers in Blacksville, Brooklyn, Cameron, Glen Easton, Hundred, New Martinsville, Sedalia, Doddridge county, Harrison county, Marion county, Marshall county, (Cameron, Franklin, Liberty and Meade districts), Monongalia county, Tyler county and Wetzel county:

Thirty-seven (37¢) cents per thousand cubic feet, subject to a discount of three (3¢) cents per thousand cubic feet for payment of bill on or before the 10th day of the month following that in which such gas is furnished.

Minimum monthly charge to all domestic consumers, 80¢.

The foregoing rates are based upon meter pressure not exceeding eight ounces.

The foregoing rates shall become effective as of August 1, 1920, and shall include all gas consumed after the meter readings of July, provided said meter readings shall not antedate the 25th day of July, 1920.

It is further ordered that in so far as said applicant company seeks, by its application, to have applied rates known as the "sliding scale upward," by which it would be authorized and permitted to charge all consumers to whom it delivers more than 40,000 cubic feet of gas per month a higher rate for such excess, be denied, but the determination of the matters arising thereon is reserved by the Commission for its future decision and order, with leave to the applicant to offer testimony in support of said proposed rates, and for this purpose only this cause is retained on the docket.

It is further ordered that said applicant company shall forthwith file with the Secretary of this Commission its schedule of rates in accordance with the foregoing order, as required by law.

A copy.

Teste:

R. B. BERNHEIM,
Secretary.

797 STATE OF WEST VIRGINIA, *To wit:*

The Public Service Commission.

I, R. B. Bernheim, Secretary of The Public Service Commission of West Virginia, do hereby certify that the foregoing is a true and correct copy of a final order entered by the Commission on August 18, 1920, in: Case No. 1071, Manufacturers Light & Heat Company, application for authority to change rates.

I do hereby certify that the seal of The Public Service Commi
sion of West Virginia was lost in the fire which destroyed the Sta
House on January 3, 1921.

Given under my hand at the offices of the Commission in the Ci
of Charleston, this 7th day of February, 1921.

[SEAL.] R. B. BERNHEIM,
Secretary.

EX. W. VA. NO. 60. O. L. H.

The Public Service Commission of the Commonwealth of Pennsylvania.

COMMONWEALTH OF PENNSYLVANIA, *ss:*

I, John G. Hopwood, Secretary of The Public Service Commissio
of the Commonwealth of Pennsylvania, do hereby certify, That th
attached are full, true and correct copies of the reports and orde
of the said Commission and of the decisions of the Superior Cou
of Pennsylvania, entered under the dates mentioned, as the sam
remain of record and on file to the respective numbers, in th
office: Louis Franke vs. Johnstown Fuel Supply Company and Pe
ples Natural Gas Company (C. 1098), December 4, 1917; Peopl
Natural Gas Company, Appellant, vs. The Public Service Commi
sion of the Commonwealth of Pennsylvania, Appellee, et al. (N
111 April Term, 1918, Superior Court of Pennsylvania), Octobe
31, 1918; Trades and Labor Council of Uniontown, et al. (C. 1415
and John Duggan, et al. (C. 1433) vs. Fayette County Gas Com
pany, October 29, 1917; Fayette County Gas Company, Appellan
vs. The Public Service Commission of the Commonwealth of Penn
sylvania, Appellee, (No. 107 April Term, 1918, Superior Court o
Pennsylvania) October 31, 1918; John O. Ulrich vs. Eastern Penn
sylvania Light, Heat and Power Company (C. 431) November 23
1915; John O. Ulrich vs. Eastern Pennsylvania Light, Heat and
Power Company (C. 1073), April 3, 1917; Fred Palmer-Porone
vs. The Consumers' Gas Company of Reading (C. 1657) Octobe
29, 1917; T. D. Washburn, et al. vs. McKean Natural Gas Com
pany (C. 1644) January 14, 1918; William B. Horton vs
799 Shenango Valley Electric Light Company (C. 2377) De
cember 10, 1918; City of New Castle, et al. vs. City of New
Castle Water Company (C. 2450), March 31, 1919; H. C. Gibson
et al. vs. Union Heat and Light Company (C. 2084), April 15
1919; C. W. Dean vs. Abington Electric Company (C. 2576), May
13, 1919; R. W. Peters, et al. vs. Pennsylvania Gas Company (C
2914), August 26, 1919; H. N. Fleming vs. Home Heating Com
pany (C. 2965) October 28, 1919; W. Percival Johnson, et al. vs
Philadelphia Suburban Gas and Electric Company (C. 2976) Oc
tober 28, 1919; H. N. Smith, et al. vs. Home Electric Light and

Steam Heating Company (C. 2974) November 6, 1919; I. N. Hickman, et al. vs. Randall Gas Company (C. 2956) November 11, 1919; F. L. Williams, et al. vs. Union Heat and Light Company (C. 2985-2987) November 25, 1919; Application Glen Mills Electric Company (A. 2785-1919) February 3, 1920; Austin Borough Council vs. Potter Gas Company (C. 3147) April 20, 1920.

In testimony whereof, I have hereunto set my hand and caused the seal of The Public Service Commission of the Commonwealth of Pennsylvania to be affixed, this tenth day of December, 1920.

[Seal The Public Service Commission, Commonwealth of Pennsylvania.]

JNO. G. HOPWOOD,
Secretary,
The Public Service Commission of the Commonwealth of Pennsylvania.

800 The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, 1098.

LOUIS FRANKE

vs.

JOHNSTOWN FUEL SUPPLY COMPANY, PEOPLES NATURAL GAS COMPANY.

Order of the Commission.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint and demurrer on file, and having been duly heard and submitted by the parties and full investigation of the matters and things having been had, and the Commission having found that the service which the Peoples Natural Gas Company is engaged in is a public service, and that the Peoples Natural Gas Company is a public service company within the meaning of The Public Service Company Law.

Now, to-wit, December 4th, 1917, it is ordered: That the demurrer of the Peoples Natural Gas Company, be and the same hereby is overruled.

It is further ordered: That the Peoples Natural Gas Company file, post and publish according to law, its tariff and schedule of rates covering the service complained of in this complaint within fifteen days after the service of this order.

And it is further ordered: That the application of the Johnstown Fuel Supply Company requesting permission to put into effect its schedule of increased rates in advance of the final finding and de-

termination of the Commission, be and the same hereby is denie
By the Commission:
(Signed) WM. D. B. AINEY,
Chairman.

Attest:
(Signed) A. B. MILLAR,
[SEAL.] *Secretary.*

801

No. 341.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 1415.

TRADES AND LABOR COUNCIL OF UNIONTOWN et al.

vs.

FAYETTE COUNTY GAS COMPANY.

Complaint Docket, No. 1433.

JOHN DUGGAN et al.

vs.

FAYETTE COUNTY GAS COMPANY.

A foreign corporation cannot carry on business in Pennsylvani without complying with the laws of this State which practi cally places it in the category of a domestic corporation. It foreign character does not put it beyond the control of th Public Service Commission. Without the approval of th Commission it cannot exercise its powers and franchise within the State. The Public Service Company Law specifi cally places foreign corporations under the control of the Pub lic Service Commission in the same manner as domestic cor porations.

Natural gas is an article of commerce and it may be transported, and when so transported from one State to another or between States, is a subject of interstate commerce. It is, however, ex cepted from the provisions of the Interstate Commerce Act by Act of Congress of June 26, 1906.

A foreign corporation lawfully engaged in furnishing natural gas produced outside of the State of Pennsylvania to consumers within the State of Pennsylvania, is subject to the control of the Pennsylvania Public Service Commission, and the said Commission has jurisdiction in the matter of a complaint al leging that the rates charged by said corporation are excessive, unreasonable and unjust.

Appearances:

E. C. Higby,
Harry W. Byrne,
Representing the Complainants.

L. B. Denning,
George J. Wolf,
H. S. Dumbauld,
Representing the Respondents.

Report of the Commission.

ALCORN, *Commissioner:*

These cases are before us on demurrers to complaints against an increase in the price of natural gas from 30 cents to 35 cents per thousand cubic feet. The respondent filed a new tariff effective the 26th day of April, 1917. The complaints were filed April 21st, 1917, and April 25th, 1917, respectively.

The parties filed a stipulation wherein it is agreed as follows: The respondent is a corporation created by letters patent of the State of West Virginia, dated October 18, 1900; that it has been duly authorized to do business in the Commonwealth of Pennsylvania; that it obtains a supply of natural gas distributed to consumers in the State of Pennsylvania from wells in the State of Pennsylvania owned by it, and from wells in the state of West Virginia under contract with the Hope Natural Gas Company; that the gas from West Virginia commingles with that from the wells in Pennsylvania in respondent's pipe lines within the latter state; that of the gas purchased by the respondent 83.12 per cent is from wells in West Virginia and 16.88 per cent from wells in Pennsylvania. The main leading from the wells in West Virginia to the station on the boundary line between West Virginia and Pennsylvania, called Core Station, belongs to the Hope Natural Gas Company, and the main from that station to the consumers in Pennsylvania belongs to the respondent. That respondent is a purchaser of natural gas from the Hope Natural Gas Company and pays therefore 50 per cent of the
802 average price charged to domestic consumers from May 1, 1910, to the 30th day of April, 1920, and the respondent agrees that from 1910 to 1915 the price which the Hope Natural Gas Company shall receive shall be not less than 12½ cents per thousand cubic feet, and from 1915 to 1920 not less than 14 cents per thousand cubic feet.

The respondent in its demurrer denies the jurisdiction of the Commission for the following reasons, to wit:

1. The respondent is a non-resident corporation created and organized under and according to the laws of the State of West Virginia.

2. The business in which the respondent is engaged, being that transporting and furnishing natural gas produced outside of t State of Pennsylvania to consumers within the State of Pennsylvani constitutes interstate commerce and the fixing of rates for the sa commodity does not come within the jurisdiction of the State Co mission.

Prior to filing the demurrer the respondent has filed an answ denying that the proposed increase of rates was unfair and unre sonable and thus submitting itself to our jurisdiction. It subs quently made a motion to be permitted to withdraw the answer an file a notice in the nature of a demurrer.

As the jurisdiction of the Commission is questioned we deem advisable to have that disposed of before proceeding with a hearin on the merits.

The respondent is a foreign corporation. It is carrying on busine in the State of Pennsylvania, furnishing natural gas for light, hea and power to customers in Pennsylvania. It could not do this wit out complying with the laws which practically place it in the cat gory of a domestic corporation. Its foreign character does not put beyond the control of the Public Service Commission. The Publi Service Company Law, Act of July 26, 1913, includes foreign corp rations under the term "corporation" as used in that Act. Withou the approval of the Commission it cannot exercise its powers an franchises within the State. The Act specifically places foreign co porations under the control of the Public Service Commission in th same manner as domestic corporations. We are of opinion tha though the respondent is a foreign corporation it is still subject t our control.

If the respondent as it alleges, is engaged in interstate busines then we would be without jurisdiction unless the business is of such a purely local nature that it still remains within the control of th State in the absence of any legislation on the part of Congress.

The business of the respondent is the furnishing of natural gas t customers for light, heat and power. It is not a transportation company. The gas is transported in pipes from its own wells i Pennsylvania and from the central station where it receives gas from the State of West Virginia. The Hope Natural Gas Company, the producer of gas in West Virginia, transports this natural gas to the respondent and delivers it at the boundary line between the two states. The rate which the respondent proposes to increase and against which increase the complaints are filed, are for the gas which is used by the consumers. The gas is delivered by the respondent into the dwellings or places of business of the consumers through pipes owned by the consumer and is measured near the place of consumption. Natural gas is an article of commerce and it may be transported and when so transported from one state to another or between states is a subject of interstate commerce. It is however excepted from the provisions of the Interstate Commerce Act by Act of Congress of June 26, 1906. Section 1 of that Act provides:

"That the provisions of this act shall apply to any corporation or person or persons engaged in the transportation of oil or other commodity, except water and except natural or artificial gas, by means of pipe lines, or partly by pipe lines and partly by railroad, or partly by pipe lines and partly by water, within the meaning and purpose of this act, and to any common carrier or carriers engaged in the transportation of passengers or property * * *

So far as natural gas is concerned it is not a question of Congress having failed to legislate, but Congress has legislated and has excepted natural gas from the provisions of the Interstate Commerce Law. Were it a question of transportation which we had before us we would be obliged to hold that it was beyond the control of the State, even though no regulation has been provided by Congress. The business of this respondent company so far as it is affected by the rates in question does not partake of the nature of interstate commerce. It is purely a local matter. The respondent carries on this business by permission of the State and its present operations are restricted to consumers within the State. The gas in its wells in Pennsylvania flows through the same pipes as the gas from West Virginia. It is delivered to the customer where the connection is made at the main. The fixing of the price which the customer must pay does not in any manner affect transportation of the gas from West Virginia to Pennsylvania. It places no burden whatever upon interstate commerce. Were the furnishing of gas to local consumers a matter subject to the control of Congress, it is of such a local character that under all the authorities, in the absence of congressional action, the State would have the right to regulate it. The business of natural gas companies is not the same in all localities. It could not be the subject of uniform regulation. It is purely a local matter and comes more properly within control of the State or local governments.

803 In the Minnesota Rate Case, 230 U. S., 352, Mr. Justice Hughes said:

"But within these limitations there necessarily remains to the states until Congress acts a wide range for the permissible exercise of power appropriate to their territorial jurisdiction although interstate commerce may be affected. It extends to those matters of a local nature as to which it is impossible to derive from the constitutional grant an intention that they should go uncontrolled pending Federal intervention."

In Jamieson vs. Indiana Natural Gas Co., 128 Ind., 555, 28 N. E., 76, the Supreme Court of Indiana said:

"We affirm that natural gas is characteristically and peculiarly a local product; that its production is confined to a limited territory; that because of its local characteristics and peculiarities it is a proper subject for state regulation, and cannot, so far as regards local production, be made the subject of general legislation by Congress or,

at all events, that it does not require a uniform system as between the states for its regulation."

In State vs. Flannely, 152 Pac., 22 (Pur. 1916 C 810), the Supreme Court of Kansas stated the principle in the following language:

"Assuming that the sale of natural gas produced in Oklahoma, from there imported into this state through pipe lines and here sold to consumers throughout the state is interstate commerce; it is not national in its nature; it does not admit of one uniform system of regulation; it is not the kind of interstate commerce which requires exclusive legislation by Congress, and until Congress acts it is under the control of this state."

While the precise question before us has not been decided by the United States Supreme Court, it has been determined in two cases, one in the United States District Court of the Northern District of West Virginia and the other in the Supreme Court of the State of Kansas. In these, the jurisdiction of the Utilities Commission to regulate the rates charged by a natural gas company was sustained. Manufacturers Heat and Light Co., vs. Ott, and the P. S. C. of West Virginia, 215 Fed., 940 State, ex rel. vs. Flannely et al., supra.

In Washington Water Power Co. vs. Montana Power Co., Pur. 1916, E. 144, the Idaho Public Utilities Commission made a very clear distinction between the transportation of electricity and its distribution for retail within a state after having been transmitted from another state, and held that such distribution was not interstate commerce and that state regulation thereof was valid.

An opposite view has been taken by the United States District Court of Kansas in Langdon vs. Public Utilities Commission et al. This case has only been decided recently and has not yet been reported, but a copy of the opinion of Judge Booth is on file with the papers. The facts in that case are to some extent similar to the case before us and also to the case in West Virginia hereinbefore cited. It is the same case in which the Supreme Court of Kansas in State vs. Flannely, supra, decided the question in a different way. Kansas Natural Gas Company had wells in the State of Kansas and also in Oklahoma. It distributed the natural gas through distributing agents in various cities of Kansas and Missouri. About 85 per cent of the gas sold was produced in Oklahoma and 15 per cent in Kansas. The proportions are about the same as in the present case. The United States District Court held that the distribution of the gas to the consumers in Kansas was interstate commerce and enjoined the Public Utilities Commission of the State of Kansas from enforcing the rates which it had ordered the Kansas Natural Gas Company to put into effect. An attempt was made to distinguish this case from the decision in West Virginia because there a very small proportion of the gas sold came from the State of Ohio and in the Kansas case the larger part of the gas came from the State of Oklahoma. It does not appear logical or sound to determine the question on the propor-

tion of the gas that may be produced in a foreign state. To do so would not be deciding any principle and would make its application depend upon the facts of each case. There would be no certain rule to guide as it would depend upon the opinion of the trial judge as to what proportion of the gas sold produced in a foreign state would determine whether the transaction was interstate or intrastate.

In supporting his opinion in the Kansas case, Judge Booth says:

"It appears from the evidence in the case that gas transported by the receiver from Oklahoma costs at the initial point 5 to 7 cents per 1,000 cubic feet. The difference between this cost price and the selling price to the consumer is largely, if not wholly, made up of the cost of transportation. It would seem to require no argument to establish that in any status or order fixing the price at which gas may be sold to the ultimate consumer is, under the circumstances, disclosed by the present record, in fact a fixing of rates for the transportation of the gas."

The reverse of this would serve to be the case; that is, that the cost of transportation would be an element in determining the price to be paid by the consumer and not that the price charged the consumer would fix the cost of transportation. He considers the distribution of natural gas as interstate in this case on the ground that the distributing parties were not purchasers of the gas from the Kansas Natural Gas Company, the producer, but were merely agents. If there be any force in that view then we can very readily distinguish the present case from that as the respondent here is the
804 purchaser of the natural gas from the Hope Natural Gas Company, and in the contract made a part of the stipulation filed by the parties it is particularly designated as the buyer and the Hope Company as the seller.

If the doctrine of original package has any application it would be in favor of our right to regulate the rates which the respondent charges. It purchases natural gas from the Hope Natural Gas Company of West Virginia. The gas is transported by the Hope Company in its own pipes to Core Station on the boundary between the two states; is there delivered to the respondent and commingled with the natural gas from wells in Fayette county and through pipes of the respondent in transported to the consumers in Fayette, Westmoreland and Greene counties in the State of Pennsylvania, being delivered to them either at their houses or at the burners. The consumer in such a case is very much like the customer of the merchant to whom goods have been shipped from a foreign state and are at the time on his counter or shelves ready for sale.

If the contention of the respondent be sustained, then a natural gas company distributing gas to consumers in the State of Pennsylvania would be free from any control if any of the gas came from a foreign state. This would be contrary to sound public policy.

We are of opinion that the respondent company is subject to our jurisdiction and we have the right to regulate the rates which it charges the consumers in the State of Pennsylvania. The demurrers

in both cases are therefore overruled, and we order the proceeding to a hearing upon the complaint and answers filed.

Order.

These matters being before the Public Service Commission of the Commonwealth of Pennsylvania upon complaints and demurrers on file, and having been duly heard and submitted to the parties, and full investigation of the matters and things involved having been had, and the Commission having on the date hereof filed of record its report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof:

Now, to wit: October 29, 1917, it is ordered: That the demurrers in these cases be, and the same hereby are overruled.

And it is further ordered: That the parties complainants and respondents proceed to a hearing upon the complaints and answers filed.

By the Commission:

WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

805

No. 134.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 431, 1915.

JOHN O. ULRICH

vs.

EASTERN PENNSYLVANIA LIGHT, HEAT & POWER CO.

The Complainant owns and operates a printing establishment on Lafayette Street, in the Borough of Tamaqua, a distance of about 350 feet from the terminus of the gas main of the Eastern Pennsylvania Light, Heat and Power Company, located on said street. The complaint alleges that the Respondent company refuses to extend its gas main and furnish him service. The Company claims that the laying of the additional main would not be compensatory. Held: That the rights, powers and privileges which are conferred upon public service companies are likewise accompanied with duties and obligations. It is a part of the contract with the Commonwealth that they should perform the service undertaken as a whole.

public service company cannot be permitted, holding a monopoly as it does, to select the most profitable parts of the service and, supplying them, treat such performance as a compliance with its duty.

ile that which is unreasonable will not be required, it may be stated as a general proposition that a corporation which undertakes to light a Borough must be ready to furnish reasonable lighting to all parts of the Borough.

Report of the Commission.

Appearances:

O. Ulrich, Representing the Complainant.
tto E. Farquhar, Representing the Respondent.

NYPACKER, *Commissioner:*

he Borough of Tamaqua has a population of about twelve thou- persons. In it Lafayette Street runs east and west, and Pitts et, north and south. Along the south side of Lafayette Street he tracks of the Philadelphia and Reading Railway Company. he north side of Lafayette Street, three hundred and fifty feet Pitts Street, the Complainant has a printing establishment in h job printing is done and a weekly newspaper is published. It been in existence for about six years, and it employs six men. een it and Pitts Street there are on the north side thirteen es, and on the south side there is also one house. The printing t is two blocks from the main street of the town. Lafayette et is an unpaved dirt street.

he Respondent is a Light, Heat and Power Company supplying a tory which includes the whole of Schuylkill and a part of Northerland County. By merger it absorbed a gas company which monopoly of supplying light in the Borough of Tamaqua. It main on Pitts Street. It has another on Clay Street, parallel Lafayette Street, two blocks away. It has another on Lafayette et which approaches from the west to within four hundred and ty-five feet of the plant of the Complainant, but between this and Pitts Street no pipes are laid.

he Complainant in his petition asks that the Respondent may be ted "to furnish and maintain such service as may be sufficient pply gas for the accommodation of his printing establishment." he Respondent objects to being required to lay this additional on the ground that it would not be compensatory. It is estid that the cost including a sum required to be paid to the Bor- upon opening the street, would be from $500.00 to $575.00. Respondent has indicated a willingness to lay the main if people deposits of cash with it sufficient to guarantee the outlay, and ought to ascertain how many were willing without much success. he 21st of July, 1915, it made a proposition to the Complainant fect that he pay the expense of getting a permit from the Bor-

ough (about $195.00); that he pay the cost of the extension
806 of the gas main which it should lay to be treated as a payment for the gas he should consume in eighteen months; that if the gas so consumed should not equal the amount of the deposit, the difference to be forfeited to it, and that if the amount consumed should exceed the deposit, he to pay the excess. This manifestly one-sided and unfair proposition was rejected, and the matter after repeated attempts at an amicable settlement, is now before the Commission for its determination.

The rights, powers and privileges which are conferred upon public service companies are likewise accompanied with duties and obligations. It is a part of the contract with the Commonwealth that they should perform the service undertaken. That service must be regarded with some breadth of view. The undertaking is to perform the service as a whole. The public service company cannot be permitted, holding a monopoly as it often does, to select the most profitable parts of the service, and supplying them, treat such performance as a compliance with its duty. While that which is unreasonable will not be required of it, and care will always be taken to see that unnecessary imposition upon it are not permitted, it may be stated as a general proposition, that a corporation which undertakes to light a Borough must be ready to furnish reasonable lighting to all parts of the Borough.

In the present case the Respondent has a monopoly for lighting the Borough of Tamaqua, and its citizens are prevented from securing their light in any other way. Within a distance of three hundred and fifty feet there are a printing house and fourteen dwellings which may be in need of light. In the future there will doubtless be more. The Complainant describes his business as profitable, and it has existed for six years. He estimates that he will use ten dollars' worth of gas each month, and this estimate is based on the amount of gasoline now consumed. The extension of the main will be in the direction of the Respondent's main already laid on Lafayette Street, at the other end of the block, with which it may be presently connected.

It is the opinion of the Commission that the prayer of the Complainant's petition ought to be granted, and an Order in accordance therewith be issued.

Order.

This case being at issue upon complaint and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having, on the date hereof, made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby referred to and made a part hereof.

Now, to wit, November 23, 1915, it is ordered: That the Eastern Pennsylvania Light, Heat and Power Company shall, on or before January 24, 1916, lay and maintain its gas main and other facilities on Lafayette Street, in the Borough of Tamaqua, to the plant of

John O. Ulrich, the Complainant, and furnish and maintain such service as will be sufficient to supply gas for the accommodation of his printing establishment.

By the Commission:

(Signed) WM. D. B. AINEY,
Chairman.

Attest:

[SEAL.] A. B. MILLAR,
Secretary.

807 No. 273.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 1073.

JOHN O. ULRICH

vs.

EASTERN PENNSYLVANIA LIGHT, HEAT & POWER COMPANY.

The mere fact of having corporate rights and authority to exercise the same within a borough is not in and of itself a sufficient and compelling reason, under all circumstances and conditions, why a public service company should be required to extend its service to any portion of the town on the application of a prospective consumer within the borders of the municipality. There should appear in the petition for the proposed extension of facilities some evidence that the service desired contains some elements of remuneration within a reasonable period of time, and that if granted, it would not prove chiefly or wholly an economic waste.

Appearances:

Otto E. Farquhar, Representing the Respondent.

Report of the Commission.

BRECHT, *Commissioner:*

The complainant is the owner of premises consisting of five dwellings on the south side of Van Gelder street, between Green and Nesquopec streets, in the borough of Tamaqua, Schuylkill county. The said Van Gelder street in that vicinity is not supplied with a gas main, and it appears the complainant has not been able to obtain service from respondent at the rates usually charged other citizens of the said borough for the use of gas.

In the complaint filed it is alleged that respondent offered to supply gas on the aforesaid premises of complainant if he would "guar-

antee one hundred dollars per year, in equal monthly installment for a period of ten years," which offer was refused. It is furth alleged that the Eastern Pennsylvania Light, Heat and Power Co pany, respondent, is the only company which furnishes gas in t borough of Tamaqua, and that by the refusal of said company furnish gas as requested, the complainant suffers great "inconve ience, damage and injury."

The respondent in its answers avers that it is "ready and willing to furnish gas to complainant's premises on Van Gelder street upo "reasonable terms and conditions;" and that the petition of the co plainant does not set forth all the material parts of respondent offer, in that the said one hundred dollars would be reduced by t amount received from other consumers who took service along t proposed extension.

When the hearing was held the complainant failed to appear be represented. Subsequently another opportunity was given him present testimony in the case if he so desired. In reply complainan stated that he did not appear at the hearing because he believed a the material matter involved was found in the record, and that h would have no brief to file. Later he filed a statement of facts whic he intended to prove at a hearing and stated that trouble and ex penses would be saved if respondent would agree that such facts a therein contained could be proved.

Subsequently the aforesaid statement of facts submitted by com plainant was signed by both parties in interest and filed with th record in this case. The material facts set forth in the stipulatio are substantially the same as were recited by complainant in hi petition. In addition thereto it was agreed that complainant wa willing to pay the usual rates of respondent for all gas consumed b him, and that he declined to pay the sum of $100.00 for the propose service; that there are thirteen dwellings in Van Gelder street be tween Green and Nescopec streets; that Van Gelder street is an un opened street except between said Green and Nescopec streets; and that there are now six persons residing on Van Gelder street wh expressed a desire to use gas and have the same installed.

The evidence submitted by respondent is substantially as follows: The section of Tamaqua lying in the vicinity of complainant's prem ises is situated on the slope of a hill and is built up sparsely. N gas mains have been installed within a radius of practically one thousand feet from the dwellings of complainant. To furnish him with service, connection with respondent's gas main must be
808 made at one of three points. The shortest and cheapest construction is to connect with the supply main at Hunter and Spruce streets and run the extension west 410 feet on Spruce street to Nescopec street, north 200 feet on Nescopec street to Van Gelder street, and then west 384 feet on Van Gelder street to the dwelling houses of complainant, a total distance of 994 feet. The next best route is to connect with the company's main at Green and Penn streets and run the extension north on Green street, and then east on Spruce street, then north on Nescopec and west on Van Gelder street to the place of service, a total distance of 1,318 feet. Another

way in which it might be done is to connect with the gas main on the north at Broad and Nescopec streets and install an extension south on Nescopec to Van Gelder street and then west on Van Gelder street to the premises in question, a distance of 1,145 feet. Along this route there are no houses between Broad street and Van Gelder street. Over all the foregoing routes the work of laying a pipe would be expensive since the ground is largely composed of shale rock and at some points of hard rock which would make blasting frequently necessary to get a proper depth of trench.

Items of expense covering the probable cost of pipe, labor and excavating, tools used, drayage and freight paid, were submitted by respondent. These figures show that it would cost $932.73 to make the pipe extension of 994 feet from Hunter and Spruce streets to the premises of complainant on Van Gelder street. It was held that this was the cheapest route over which the extension could be made. The contract agent of respondent testified that along this route there are 37 residences, 28 occupied by tenants, 5 by the owners and 4 of them unoccupied. Of the 33 occupants of the aforesaid premises respondent after a careful canvas made for the purpose of securing customers had succeeded in getting only seven (since then increased to eight) prospective consumers of gas if the proposed pipe line should be laid. But according to the testimony offered neither the complainant nor any of the others would give any assurance as to the probable amount of gas they would use in a year nor as to the length of time they would desire service, and consequently respondent was left without any definite means of knowing or ascertaining what probable amount of revenue it would receive if the proposed improvement were made.

The testimony offered also attempted to show that because of the comparatively cheap price of coal at Tamaqua, the consumers along the route proposed would use gas chiefly for cooking and other domestic purposes during three or four months in summer, and very little if any during the balance of the year. From an estimate submitted by one of the witnesses based upon the records of the company showing the actual gas consumed by that class of consumers it appears that 31 cents would be about the average monthly income received from each consumer in this instance. The total revenue upon that basis of which the respondent has some assurance would therefore amount in this case to approximately $30 per annum. Against this amount of gross income respondent claims that a conservative estimate of the cost of installing the improvement, places the amount in round numbers at about $925.00, making the annual expense not including cost of operation at least $150.00.

The data presented in this case giving the length of extension required, the cost of laying the pipe, the probable annual revenue and expense to be attributed to the new installation of service are wholly ex parte having been prepared by one party in interest without any attempt by the other side to check or disprove their accuracy. The only matter which the complainant brought to the attention of the Commission is in effect that he desired respondent to install a supply pipe and furnish service on his premises at the usual rates charged other consumers, and further that he refused to pay and

would not consider any proposition to pay any additional compensation for the installation of said service.

Apparently the complainant concluded to rest his case on the assumption that inasmuch as respondent is a public service corporation engaged in the business of manufacturing and selling artificial gas in the borough of Tamaqua, it is bound under its charter and franchise rights to extend its pipes and furnish service within the bounds of the borough when requested so to do by any citizen of the municipality who may desire to use gas, regardless of the revenue that may be derived from such extension of its facilities. The sole question therefore for the Commission to determine in this proceeding is whether a gas company under its corporate rights and obligations is required to extend its service whenever the same is so desired by a prospective consumer residing in the municipality within which the said corporation is doing business.

In Ulrich vs. Eastern Pennsylvania Light, Heat and Power Company, C. D. 431, 1915, the Commission in requiring respondent to build an extension pipe to supply service to complainant held that:

"The rights, powers and privileges which are conferred upon public service companies are likewise accompanied with duties and obligations. It is a part of the contract with the Commonwealth that they should perform the service undertaken. That service must be regarded with some breadth of view. The undertaking is to perform the service as a whole. The public service company cannot be permitted, holding a monopoly as it often does, to select the most profitable parts of the service and supplying them, treat such performance as a compliance with its duty. While that
809 which is unreasonable will not be required of it, and care will always be taken to see that unnecessary impositions upon it are not permitted, it may be stated as a general proposition, that a corporation which undertakes to light a borough must be ready to furnish reasonable lighting to all parts of the borough."

In the foregoing proceeding the conditions and circumstances were substantially different from those present in the case here pending. In the report of that case it appears that the extension asked for was in the direction of respondent's main at the other end of the block on the same street, that the length of the extension was only three hundred and fifty feet, that along the proposed extension there were complainant's printing house and fourteen dwellings which could use service, that in the near future there would doubtless be more users, that the printing plant in question is two blocks from the main street of the town, and that complainant estimated that he would use ten dollars' worth of gas each month.

The record in the present case shows that the block in Van Gelder street where the service is desired is some distance from the main portion of the town, that the line necessary to reach complainant would be the nearest route measure 994 feet, that by reason of the rocky character of the ground the cost of installing a pipe would be comparatively expensive, that the pipe laid would terminate in a

block beyond which on the north, west and south sides there are no homes or other buildings, and no prospect looking toward the erection of dwellings in that vicinity in the near future. It also appears that there is no business place located along the route of the proposed extension, that while there are some thirty dwellings along the line the occupants with perhaps a few exceptions would not consume gas to any appreciable extent owing to local conditions, that respondent after a diligent canvass succeeded in getting only eight parties who indicated that they were willing to use gas if the supply pipe is installed, and that neither the complainant nor any of the others would give respondent any estimate or idea of the probable amount of gas they would purchase during a year.

These differences in the conditions and circumstances underlying the two cases are sufficient to explain what the Commission had in mind when it said in the case cited above "That a corporation which undertakes to light a borough must be ready to furnish reasonable lighting to all parts of the borough." It is clearly an attempt by the Commission to indicate that conditions might prevail under which the service furnished if required could not be defined or described as "reasonable lighting" to all parts of the borough. This principle was recognized and set forth more at length and in more explicit language by the Commission in Fisk vs. Abington Electric Company, C. D. 358, 1915, where this phraseology is used:

"That a public service company should have the right to pick out the profitable customers and leave all others without service, would not, in our opinion, be rendering such public service as the law contemplates. Of course, just now far a public service company should be required to go in making extensions to serve its patrons is often a difficult matter to determine and each extension must be determined from the facts surrounding the same. Any unreasonable extension should not be required; on the other hand, when a public service company enters upon its duties to render a public service in a community it should be compelled to render such a general service as the reasonable demands of the community *as* such time and in the near future may require, and proper provision should be made therefor, even to the extent of making extensions that will meet reasonable demands that will be made of it in the future."

Substantially the same question was passed upon by the Commission in Bixler, et al., vs. United Electric Company of Lemoyne, C. D. 331, 1915, where it took occasion to say:

"Under conditions so uncertain and precarious, the Commission would not feel warranted in requiring the respondent to install the service requested by complainants, unless it were to append to the order some guaranty or element of protection somewhat similar to the one contained in the offer submitted by respondent. The proposition suggested by the company can not be considered extravagant under existing circumstances, and seems to be about the only feasible method respondent could take to protect itself against furnishing a

service that might, in spite of intentions and assurances to the contrary, prove to be comparatively transient."

The position taken in the above cited cases is an attempt to give all parties in interest a just and equitable deal in the matter. It is holding in effect that the desired facilities should be installed whenever it is found practicable to do so without destroying property values or impairing the efficiency of the general service; but it is also recognizing the fact that certain local conditions may exist that would make it unduly burdensome upon the operating company to make extensions to its plant equipment without some estimate or assurance of the probable consumption from the consumer for a comparatively limited period, that might be taken as an index of the prospective earnings from such extension.

The mere fact, therefore, of having corporate rights and authority to exercise the same within a borough is not in and of itself a sufficient and compelling reason under all circumstances and conditions why a public service company should be required to extend
810 its service to any portion of the town on the application of a prospective consumer residing within the borders of the municipality. There should appear in the petition for the proposed extension of facilities some evidence that the service desired contains some elements of renumeration within a reasonable period of time, and that if granted it would not prove chiefly or wholly an economic waste.

From the record and testimony appearing in this case the Commission is not persuaded that it is warranted under the facts submitted to require the respondent to install the supply pipe prayed for by the complainant, and an order will accordingly be made dismissing the complaint.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint and answer on file, and having been duly heard and submitted by the parties and full investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed of record a report containing its findings of fact and conclusions thereon, which said report *it* hereby approved and made a part hereof:

Now, to wit, April 3rd, 1917, it is ordered, that the complaint in this case be, and the same is hereby, dismissed.

By the Commission:

WM. D. B. AINEY,
Chairman.

Attest:

[SEAL.] A. B. MILLAR,
Secretary.

No. 340.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 1657.

FRED PALMER-PORONER

vs.

THE CONSUMERS' GAS COMPANY OF READING.

tility cannot under all circumstances refuse to make an extension of its service until the same becomes compensatory. A public utility engaged in the business of the respondent is required to furnish service in all parts of the municipality in which it is operating whenever a reasonable demand or prospect for such service is shown to exist. The service cannot be restricted to sections or neighborhoods from which the larger returns will flow, but must also be extended to localities where the business will not be immediately profitable or perhaps even self-sustaining until a later period in the growth and development of the community. Where circumstances so shaped the development of the utility's business that small central blocks or areas containing desirable homes and sites, particularly in a large city, have not been supplied with service, it is only a matter of simple justice that the residents on any such block, if they so desire, should be accorded the same privileges and conveniences that their neighbors in adjacent streets are permitted to enjoy. But where there is no demand for service from the residents themselves, and there is no prospect of securing at present more than six small consumers who will use gas for fuel during the summer only, the Commission will not compel the gas company to install a new gas main 580 feet in length at a cost of approximately $800 until it can be shown by evidence that the persons directly affected desire the service.

Appearances:

Palmer-Poroner,
Representing the Complainant.

hn H. Keppelman,
Calhoun Smith,
illiam Naile,
Representing the Respondent.

Report of the Commission.

BRECHT, *Commissioner:*

Complainant is the owner of a property on Walnut Street between Eleventh and Twelfth Streets in the City of Reading. No gas main has been laid in this particular block on Walnut Street although on streets lying immediately adjacent pipes have been installed and service is furnished. It is alleged by complainant that he made application to The Consumers Gas Company, respondent, for the installat-on of a gas main in front of his premises and was refused the service he desired.

The testimony offered in the case is very meagre. It appears from the facts submitted that the block on Walnut Street in question is located in the central part of the city; that it has sixteen houses used as dwellings on the North side and none on the South side, being bounded on that side by the city park; that seven of the houses are occupied by the owners and nine by tenants, and that there are gas mains in place on Eleventh and Twelfth Street- which are about 580 feet apart at that point.

On behalf of the respondent it was testified that it would cost approximately $800.00 under present conditions to install a 4-inch main to supply the premises on this block, although two years ago it could have been done for about $400.00. No data were submitted giving items of labor and material and unit prices to show how this estimate was obtained. Complainant offered no evidence upon the cost of installation nor attempted to show that the cost figures given were too high or in error.

It appears that the property of complainant is occupied by a tenant who has not made any request for service. There is nothing in the record or testimony to show that any one outside of the complainant was making any demand for gas, or appeared at the hearing. However, it was shown from a careful canvass made for the respondent of the people residing in this block that six of the occupants would take gas for fuel purposes in the spring or summer of 1918, and the remaining nine thought they would not take it at all. It was alleged that the tenant of complainant stated during this canvass that he might use gas for illumination on the second floor of his home whenever service could be furnished. In six of the houses electricity is used.

812 It was further shown on behalf of the respondent that the gas company has been reasonably diligent to extend its service into sections and neighborhoods of the city not now furnished with gas. Apparently the various sections of the municipality not piped or furnished with facilities to supply gas have been canvassed every summer for the past five or six years to secure consumers, and thus far the respondent has been unable to get a sufficient number of patrons to warrant it in putting in a gas main on this section of Walnut Street.

Respondent's engineer estimated that it would require approximately fifteen consumers using an average consumption of about

20,000 cubic feet of gas per year to pay the company to make the proposed extension. There were no figures of plant investment or valuation of property submitted, nor any offer made to show annual receipts and operating expenses, or net earnings and dividends of the company. Consequently no data are available by which the figures of the engineer may be tested and their accuracy in some measure determined. It is quite evident that six or seven consumers using gas only for cooking during the summer months would provide only a fractional part of the revenue which is claimed to be necessary in order to make the proposed extension self-sustaining.

The respondent, however, cannot under all circumstances refuse to make an extension of its service until the same becomes compensatory. A public utility engaged in the business of the respondent is required to furnish service in all parts of the municipality in which it is operating whenever a reasonable demand or prospect for such service is shown to exist. The service cannot be restricted to sections or neighborhoods from which the larger returns will flow, but must also be extended to localities where the business will not be immediately profitable or perhaps even self-sustaining until a later period in the growth and development of the community. Where circumstances so shaped the development of the utility's business that small central blocks or areas containing desirable homes and sites, particularly in a large city, have not been supplied with service it is only a matter of simple justice that the residents on any such block, if they so desire, should be accorded the same privileges and conveniences which their neighbors on adjacent streets are permitted to enjoy.

But in the present case there is no demand for service from the residents themselves, nor does it appear that there is any prospect of securing at present more than six small consumers if the proposed extension is made, and they would use gas only for fuel during the summer. Under these circumstances the complaint should be dismissed. It would be unjust to the respondent to impose upon it the burden of installing a new gas main 580 feet in length at a cost of approximately $800.00 until it can be shown by evidence that the persons directly affected desire the service.

Order.

This matter being before the Public Service Commission of the Commonwealth of Pennsylvania upon complaint and answer on file, and having been duly heard and submitted by the parties and full investigation of the matters and things involved having been had, and the Commission having on the date hereof filed of record its report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof.

Now, to-wit, October 29th, 1917, it is ordered: That the complaint in this case be, and the same hereby is dismissed.

By the Commission.

WM. D. B. AINEY,

Attest:

[SEAL.] A. B. MILLAR, *Secretary.*

No. 367.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 1644.

T. D. WASHBURN et al.

vs.

MCKEAN NATURAL GAS COMPANY.

Complaint was made that the respondent natural gas company intended to discontinue its service to the ten complainants, and from the testimony it appeared that the proposed discontinuance was due to the desire of the company to remove the pipe lines serving the complainants and re-located for the purpose of reaching new gas wells.

The Commission found that the continuance of service to the complainants was a reasonable requirement, and directed the company to cease and desist from making the changes proposed.

Appearances:

R. R. Lewis,
A. F. Jones,
Representing the Respondent.

Report of the Commission.

RILLING, *Commissioner:*

On August 17th, 1917, ten residents of Ceres township, McKean County, filed a complaint alleging that the respondent, the McKean Natural Gas Company had served a notice upon them, threatening to discontinue their service, and asked the Commission to issue an order compelling respondents to continue to serve them. By the answer filed by the respondent, it was admitted that such a notice was given, and it is alleged therein that the respondent was about to drill additional gas wells to maintain its supply: that the location of these new wells is such that by relocating some of the lines of the respondent, a saving of about one thousand dollars might be effected. No itemized statement was furnished the Commission, showing how that amount was determined. The line which the respondent proposes to relocate and thereby discontinue its service to complainants extends through private property for about seventeen hundred feet and along a State highway in Ceres township for about twenty-six hundred feet, passing the residence of six of the complainants, the rest of the complainants being reached by a private line connecting with said line of respondent on said highway. Three of the complainants are receiving free gas from the respondent under agree-

ment or lease. The income of respondent from other complainants served by meter, amounts to about one hundred dollars annually. The complainants alleged that the line along said State highway was originally laid as a supply line to serve them. It appears, however, that at the present time it is also used as a suction line to transport the gas from the well or wells to respondent's compressor station; that the pressure therein varies from five to twenty-eight pounds per square inch, depending upon whether or not the compressor pumps are in operation. The complainants do not object to the variation in pressure, nor does it appear that the service to complainant interferes with the distribution of gas from the wells to the compressor station. The main reason given for discontinuing the service is the saving that might be effected by relocating said line.

The respondent is a corporation organized September 27th, 1906, under the provisions of the so called Natural Gas Act of May 29th, 1885, P. L. 29, and the supplement thereto of May 11th, 1897, P. L. 52. It is engaged in producing and selling natural gas in McKean and Potter Counties, and is now selling over ninety per cent of its production to a New York Gas Company for consumption in New York State. Its gross receipts for gas sold for consumption in New York State for the year 1916 were $58,603.69. The respondent has no indebtedness and is in a prosperous condition. At the present time it is serving only forty patrons in Pennsylvania, two of whom are industrial and thirty-eight domestic consumers.

The respondent being a public service company, is required to render service to all persons who desire it in the territory from which it is chartered that by a reasonable outlay can be reached.

Under all the evidence the Commission is of opinion that the service to complainants should be continued, and an order to that effect will be issued.

814 *Order.*

This matter being before the Public Service Commission of the Commonwealth of Pennsylvania on complaint and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having, on the date hereof, made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof:

Now, to-wit, January 14th, 1918, the McKean Natural Gas Company is ordered and directed to continue its service to the complainants in accordance with the findings contained in said report.

By the Commission:

WM. D. B. AINEY,
Chairman.

Attest:

[SEAL.] A. B. MILLAR,
Secretary.

815

No. 493.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2377.

WILLIAM B. HORTON

vs.

SHENANGO VALLEY ELECTRIC LIGHT COMPANY.

Filed September 21, 1918. Alleging Refusal to Extend Service to Residence of Complainant in Farrell, Mercer County.

A utility company enjoying an exclusive franchise, may not choose and serve only sections of their territory immediately remunerative. Reasonable extensions, determined from the facts in each case, may be ordered.

A company will not be permitted to impose a condition requiring patrons to furnish capital necessary for reasonable additions and extensions, such as it has tried to do in this case.

Service ordered at cost of respondent company.

Appearances:

B. J. Jarrett,
Representing the Complainant.

Ralph J. Baker,
Representing the Respondent.

Report of the Commission.

RILLING, *Commissioner:*

The complainant, William B. Horton, is owner of premises and resides at No. 1208 Washington Street, in the borough of Farrell, Mercer county, Pennsylvania. The respondent, the Shenango Valley Electric Light Company, exclusively serves said borough. Respondent solicited the service of complainant who signed an application therefor. It was, however, not furnished.

Complainant has a new frame dwelling house of five rooms and bath, which he first occupied November 20, 1917. It is situate in one of the new and growing sections of Farrell which, on account of the great mills operated there, is rapidly increasing in population. The American Sheet and Tin Plate Company is now constructing one hundred new houses a short distance beyond the residence of complainant, which is the third house and 110 feet from Stambaugh Avenue, upon which street respondent has a line and is rendering service. There are at least nine new houses in the immediate

ty of complainant's residence, and three more being con-ed. Others will soon be located there, all of which will require e of respondent.

pondent contends that its line on Stambaugh Avenue, 110 feet complainant's residence, is not of such character that it can y complainant therefrom. In order to render proper service n and others in the vicinity it made a proposition, whereby it sed to make the necessary extension, the total cost of which, at t high prices, would be $417. This sum complainant and others in his immediate neighborhood would be required to pay respondent. Of this amount $253.00 would be returned to who advanced the same by refunding to them twenty per cent amount of the bills paid by them; the difference between $417 nd $253 refunded to be retained by respondents. New patrons s locality requiring service from such extension could be sup- without any contribution toward the cost of such extension; atement being made by respondent's representative that the s paying the difference between $417 and $253 might collect portion thereof as they saw fit from any new patrons of re-ent.

e position of respondent cannot be better stated than by quoting stimony of its Superintendent, Mr. Kemmery:

ge 17:)

. Your proposition to Mr. Freeble was in accordance with the al practice of the Company as well as its allied concerns, and hat you would (render) the service provided the people to re- the service as a group would pay the company $417, the then ated cost of the extension line without the meters?

. Correct.

. And you furthermore agreed if that were done you would re- to this group $253 out of the $417 by allowing them 20 per f their bills for service?

"A. Correct.

"Q. And that the balance of the $417 represented the ex-ess cost of this installation based on the difference between of July, 1914, and prices of the date of the estimate?

. Correct.

. That was your agreement or tender of agreement, as the terms tting the installation?

. Yes, sir.

. Mr. Horton wasn't actually asked to pay $417? That was rice to the whole group?

. Yes, sir.

. And they were to get back $253?

. Yes, sir; that is correct.

. State whether or not that proposition in its essentials is the ard practice of this Company?

. Absolutely.

* * * * * * *

(Page 27:)

"Q. Suppose this proposal of the Company were accepted and you furnished the light, and the next week somebody else would want light, under what conditions would you serve them?

"A. Serve them from the line without any expense to them provided we were not required to increase our facilities to serve them."

The respondent has the sole right to serve Farrell borough. In the construction and operation of its plant it is required to provide for all of the service reasonably demanded of it in the district for which it is chartered. It cannot choose and serve only the sections immediately remunerative. Whenever required so to do, it should, at its own cost and expense, make all reasonable needed extensions. The law does not contemplate that the patron provide the capital to make reasonable additions or extensions. What is or is not a reasonable extension can only be determined from the facts in each particular case. On account of existing conditions an unprofitable extension may, in some instances, be required. The location, future prospects and all other conditions must be considered. There is, however, no contention in the case that the extension asked will be unprofitable. The necessity therefor is admitted.

The high prices prevailing, as well as the scarcity of labor and the difficulty in securing capital, do not alone constitute a sufficient ground to determine a proposed extension to be unreasonable. The abnormal conditions now existing should be given due considerations in compelling any particular extensions to be made at this time, but under no circumstances do we think that the burdens thereby imposed should all be passed over and placed upon the shoulders of the patrons, as respondent seeks to do in this case. Under the undisputed evidence, the conclusion of the Commission is that the extension needed to serve the complainant is a reasonable one and should be promptly made by respondent at its own cost. The amount of capital required is not large. An order requiring the extension be made will be issued accordingly.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint and answer on file, and having been duly heard and submitted by the parties, and due investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made part hereof:

Now, to wit, December 10th, 1918, it is ordered: That the respondent, the Shenango Valley Electric Light Company, at its own cost, make the extension to its line and facilities necessary to provide the service applied for, within thirty days from the date of service of this order.

THE PUBLIC SERVICE COMMISSION
OF THE COMMONWEALTH OF
PENNSYLVANIA.
WM. D. B. AINEY, *Chairman.*

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

17 No. 549.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2450.

CITY OF NEW CASTLE et al.

vs.

CITY OF NEW CASTLE WATER COMPANY.

Where a public utility serves a community there is imposed upon it the legal duty to make at its own cost all reasonable extensions. What is or is not a reasonable extension can only be determined from the facts in each case.

Where a utility assumes to serve a community it should consider its obligation to serve the entire district described in its charter and should so plan its affairs that it will be able so to do, within reasonable grounds. It cannot select and serve only the profitable patrons.

Appearances:

James A. Gardner, City Solicitor,
Representing the Complainants.

Warren R. Voorhis,
H. K. Gregory,
Representing the Respondents.

Report of the Commission.

ILLING, *Commissioner:*

J. F. Baxter and B. W. Thompson, complainants, allege that the espondent, the City of New Castle Water Company, refuses to exend its mains in order that they may obtain its service.

Clayton Street in New Castle extends eastwardly and westwardly, s paved, and respondent has a six-inch main therein. Fifth Street, ommencing at Clayton Street, extends northwardly at right angles herefrom. It is not paved, has a sewer laid therein connecting ith the sewer in Clayton Street. Complainants own two new ouses on the west side of Fifth Street. The South line of the Baxter lot is 136 feet, and the south line of the Thompson lot 222 eet from the north line of Clayton Street, there being one vacant lot etween complainants. J. F. Baxter occupies his new house without

any water service. The house of B. W. Thompson is vacant by reason of there being no water service therein. Both houses have bath rooms and street sprinklers, besides the other ordinary service connection. Both complainants made application to respondent for its service. Mr. Baxter paying $20.00 and Mr. Thompson $25.00 at the time of making the application. It appears this was paid to cover the cost of laying one-half inch service pipe from the street to the curb-line, and is to be returned to complainants by allowing a discount on their future water rates. To serve both complainants would require the extension of respondent's main 268 feet.

By a contract made by respondent with the City of New Castle, it is agreed, inter alia, that respondent shall extend its main at the request of private consumers when the consumption from the extended main, during the first year after any such extension is made, shall pay at the rate of ten cents for each lineal foot of such extension, and a guarantee of such amount per foot from the city or other private consumers shall require respondent to make such extension. It is also agreed that extensions for fire service shall be laid in like manner. Said contract expires January 1st, 1922, and specifies both the flat and meter rates to be charged by respondent.

Complainants are not parties to this contract, and the city and respondent are not in accord as to the legal effect of its terms. We are of opinion that the reasonableness of the extension to be made by the respondent, under its charter duties as a public utility, like the reasonableness of rates cannot be made the basis of contractual relations, but must be determined from the necessity therefor under all the facts in connection therewith.

Respondent filed a new schedule of rates, effective March 1st, 1918, increasing the rates specified in the contract about twenty-five per cent. A complaint has been filed by the city, alleging these increased rates to be excessive and unreasonable, which complaint is now pending.

By an agreement made between the parties, respondent agreed to extend its main 50 feet from its Clayton Street main. The remaining part of the main required to serve complainants was to be laid by and at their expense. This they were prepared to do at the time the sewer was laid in Fifth Street, intending to lay the same on a shoulder in the sewer trench. Respondent would not consent to the laying of the main in the sewer trench, alleging that it was not proper practice for the reason that if a break should occur the water instead of coming to the surface, and thereby giving notice of the break, would sink to the sewer and follow the same and might only be discovered after a long period. Respondent has a
818 rule to lay its main in the street eighteen feet distant from the curb line. This would not correspond with the location of the sewer in Fifth Street. Respondent offered to lay fifty feet of its main from Clayton Street, and then with the money paid by applicants, lay a service from the end of said fifty foot main to the curb line where it would place the meter to be furnished by complainants. From that point the complainants might carry the water

to their dwellings in such manner as they determined. This is not satisfactory to complainants.

It appears from the evidence that the laying of the two-inch main from Clayton Street will meet the needs of complainants as well as of other takers of water in said square. At the present time they are the only persons having dwellings fronting on Fifth Street. The cost of laying a two-inch main 268 feet in length at present high prices, according to an estimate made by respondent, would be $254.40. Respondent contends, however, that said extension should be a six-inch main for the reason that when said street is improved and built upon, the city would require a fire hydrant placed thereon, somewhere on Fifth Street, and that a six-inch main would then be needed, and it would, therefore, be necessary to duplicate a two-inch main if laid. The cost of the 268 feet of six-inch main at present high prices as estimated by respondent would be $669.33. The expenditure of this amount respondent claimed would be an unwarranted and unreasonable expenditure for it to make.

The annual amount which each of complainants would pay for water at their new residence, according to the former flat rate service, would be $18.00, and according to the new schedule $22.50. Should they desire to take service from respondent by meter, they would be required to furnish the meter at their own cost.

The only definite proposition that respondent has made is to lay, at its own cost, fifty feet of the needed 268 feet extension. It was not definitely shown whether this was to be a two or six-inch main. The locality in which complainants' two houses are erected is improving and in the near future there will be other buildings erected along Fifth Street requiring service from respondent. Under this state of facts is the extension asked for by complainants a reasonable one to be made by respondent?

The rule controlling, as this Commission has repeatedly held, is that where a public utility serves a community, there is imposed upon it the legal duty to make at its own cost all reasonable extensions. What is or is not a reasonable extension can only be determined from the facts in each case. Where a utility assumes to serve a community it should consider its obligation to serve the entire district described in its charter, and should so plan its affairs that it will be able so to do, within reasonable grounds. It cannot select and serve only the profitable patrons. Respondent has the right to collect a revenue sufficient to pay for operation, depreciation and a fair return upon its fair value. This protection and return enables it to maintain its credit and thereby secure additional capital to make reasonable extensions and additions when and as needed.

We have no hesitancy in reaching the conclusion that under all the evidence in this case the extension asked for by complainants is a reasonable one, and should be made by the respondent at its own expense. It should lay either a two-inch or six-inch main as it may itself determine. An order will issue requiring the laying of said main within sixty days from the date thereof.

Order.

This matter being before The Public Service Commission of th Commonwealth of Pennsylvania upon complaint and answer on file and having been duly heard and submitted by the parties, and du investigation of the matters and things involved having been had and the Commission having on the date hereof made and filed o record a report containing its findings of fact and conclusion thereon, which said report is hereby approved and made a par thereof;

Now, to wit, March 31, 1919, the City of New Castle Water Com pany is ordered and directed to serve the complainants with wate by laying from Clayton Street, northward on Fifth Street in th City of New Castle, for a distance of two hundred and sixty-eigh (268) feet, either a two-inch or six-inch main as it may itself de termine.

And it is further ordered: That said main shall be laid withi sixty days from the date of this order.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

819 No. 562.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2084.

H. C. GIBSON et al.

vs.

THE UNION HEAT AND LIGHT COMPANY.

Where the gas supply of a section or locality is rapidly diminishing, it is not discriminatory on the part of a gas company to restrict its supply to one locality.

Appearances:

James M. Galbreath,
Representing the Complainants.

Trax & Parker,
Representing the Respondents.

Report of the Commission.

RILLING, *Commissioner:*

The respondent, the Union Heat and Light Company, was organized umder the Natural Gas Act of 1885 on November 4th, 1888, for the purpose of serving Harrisville borough and other communities in Butler and Mercer counties. Its supply was originally secured from the Keister field, so-called, near Harrisville. Later its charter was amended to permit it to supply other towns in Venango county, and it also made a contract with the United Natural Gas Company for an additional supply of gas, which, by the terms thereof, is to be distributed only to towns therein specified. Harrisville is not included. The contract further provides that the United Natural Gas Company may at any time terminate the same.

The supply of respondent at the Keister field has practically failed, and as a result respondent's patrons, at Harrisville and other places served from said source, have little or no gas. This was especially true during the severe winter of 1917-1918, and is likely again to occur. Many of the houses in Harrisville and other points served by respondent have no other means of heating, lighting or cooking, except by natural gas. To use any other fuel would involve much expense in refitting their premises.

The complaint filed alleges that the service of respondent is inadequate, that it discriminates against the residents of Harrisville, by not supplying them with the gas obtained from the United Natural Gas Company.

The complainants in this case are confronted with a condition that will, to a greater or less extent, present itself to other communities in western Pennsylvania enjoying natural gas service. Natural gas is one of Pennsylvania's greatest assets. For many years it has been supplied over an extended area for both domestic and industrial purposes. Its real value at first was little appreciated and it was wasted in a most profligate manner. All indications point to a fast decreasing supply thereof. It is apparent that it will be only by concerted effort, on the part of all who use natural gas, to curtail its consumption, that its continued supply may be extended. It is obtained by drilling wells of various depths, which can only be done, particularly at the present prevailing high prices, at considerable expense, and wells that are found to produce are generally limited in their supply both in amount and time.

The testimony adduced shows that not only the respondent but others have caused additional gas wells to be drilled in the territory within a reasonable distance of Harrisville, but without securing any supply. It is evident that the supply of natural gas in that territory is being rapidly exhausted. Respondent endeavored to secure a supply of gas for complainants by contracting for same from other gas companies, but was unable so to do.

The efforts respondent has made to secure gas in the vicinity of Harrisville, as shown by the evidence, convince us that respondent

has complied with its charter duty to secure a further supply of nat
ural gas for its patrons at Harrisville and adjacent territory and i
has been unable to do so by reason of the failure of natural gas in tha
locality. To compel it to make a more extended attempt to secur
such supply would impose upon it a greater expense than it shoul
be called upon to make.

820 The gas supplied by the United Natural Gas Company t
respondent for its patrons at Grove City and other communi
ties, is found some distance northward of Grove City. The amoun
of gas received by respondent is insufficient to serve all of its patron
at Grove City, Harrisville and other points, and is also decreasing
On account of its extent we are of opinion that by restricting th
same to its Grove City patrons, respondent is not discriminatin
against complainants.

The complaint is therefore dismissed, and an order will accord
ingly issue.

Order.

This matter being before The Public Service Commission of th
Commonwealth of Pennsylvania upon complaint and answer on file
and having been duly heard and submitted by the parties, and ful
investigation of the matters and things involved having been had
and the Commission having on the date hereof made and filed o
record a report containing its findings of fact and conclusion
thereon, which said report is hereby approved and made a par
hereof:

Now, to wit, April 15th, 1919, it is ordered: That the complain
in this case be, and the same is hereby dismissed.

THE PUBLIC SERVICE COMMISSION
OF THE COMMONWEALTH OF
PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

821

No. 50.

The Public Service Commission of the Commonwealth Pennsylvania.

Complaint Docket, No. 2576.

C. W. DEAN

vs.

ABINGTON ELECTRIC COMPANY.

The Commission can make no order requiring an electric company to render service in a territory in which it has no charter right to engage in business.

Appearances:

George Morrow,
Representing the Complainant.

F. C. Hanyen,
Representing the Respondent.

Report of the Commission.

By the COMMISSION:

The complainant, C. W. Dean, resides in West Abington Township, Lackawanna County, where he owns two dwelling houses, a barn, a garage and a blacksmith shop which he has wired and equipped for electric lights and for other household conveniences. He has constructed a pole line about one and two-tenths miles in length to the service wires of respondent company and now complains that the respondent has refused to render him service over this line.

The respondent admits some of the allegations and denies others, and offers to render service but upon terms which the complainant says would be objectionable to him and therefore prohibitive. It appears from the evidence and from an inspection of the respondent's articles of incorporation that the latter is authorized to furnish electric service in South Abington Township (out of which the borough of Clark's Summit was erected), and in the boroughs of Dalton and Waverly, in Lackawanna County, and in the borough of Factoryville, in Wyoming County, but not in West Abington Township, where complainant resides.

It further appears that for a year and a half prior to the filing of this complaint, the complainant was negotiating with respondent for electric service under circumstances substantially as follows: The respondent manufactures no electricity, but procures the current which it distributes to its patrons from the Scranton and Bingham-

ton Railway Company. Near the borough of Factoryville, o
branch of the railway company's power line extends to that borou
and beyond, while the other branch passes through the complai
ant's farm and near the buildings for which service is desired, e
tending on to Lake Winola. On this latter line the railway compa
has not strung any service wires by which it could supply the r
spondent with current, and because of the high cost of materia
labor, etc., and later receivrship, it has declined and perhaps has be
unable to do so, although it entered into some kind of an agreeme
by which it was to supply respondent with current along this line.

When it became evident that this method of reaching complai
ant was not immediately feasible, complainant and respondent ca
ried on negotiations for some other means of providing servi
Finally the complainant undertook the construction at his own e
pense, which amounted to a little more than $800.00, of a pole li
properly insulated and wired to a point where the service wi
supplying respondent on the poles of the railway company could
conveniently reached. This construction was made under a priva
contract with the respondent's superintendent of construction; t
wires, pins, cross-arms and insulators were purchased by complai
ant of respondent under circumstances which justified the complai
ant in the conclusion that when his line was completed it would
satisfactory to respondent and enable him to receive the desired el
tric service. There was some conflict of testimony with respect to
contract or contracts which were prepared by an officer of the r
spondent company, one of which contracts was signed by bo
parties, but these do not appear to be very material to the issues i
volved, except as they disclose the respective attitudes of the parti
hereto. When the complainant's line was completed, the responde
refused to render service except by transforming the current fro
2,200 volts, as it is received from the railway company, to the r
quired voltage at the junction point with complainant's line a
there metering it, whereas the complainant demands that t
822 current be transformed and metered in proximity to h
buildings. The essential differences was shown to be that
transformed one and two-tenths miles away, the line loss at such
low voltage would be so considerable that the current delivered
complainant's buildings would be inadequate to his needs either wi
respect to light or small power, whereas the line loss on 2,200 vol
over the same wires, transformed near the complainant's building
would be so inconsiderable as not to be appreciable. The responde
objected to transforming or metering off its own lines because
claims that it might thereby be subject to damages sustained b
reason of faulty or badly maintained lines over which it had no co
trol, but this was answered in part by complainant's offer at the tim
of hearing:

"The complainant agrees to maintain this line and to pay all th
expenses of furnishing the current between the junction and M
Dean's house and to indemnify the company against any loss su
tained to persons or property caused by this line; and the complai

ant also agrees to allow the respondent to use this line for the purpose of furnishing other consumers along the line, or accessible thereto, without any other cost than to refund to him such an amount as the revenue warrants over and above what the company would be entitled to until such time as the line is paid for and made the property of the electric company."

Under all the circumstances in this case, the Commission would unhesitatingly make an order requiring respondent to render this service, transforming the current from 2,200 volts to the required voltage in the vicinity of complainant's buildings, were it not for the legal obstacles which stand in the way. The respondent has no charter obligation to render service in West Abington Township, and so far as the evidence discloses has never undertaken to exercise any rights to distribute electric current therein. There is, however, no legal obstacle except of its own making to its so doing.

The equities of the case, therefore, constrain the Commission to suggest for favorable consideration by respondent, that this service to complainant be undertaken with meter and transformer located on or near complainant's premises so that current at the required voltage may be delivered to his buildings. In the event of respondent's so doing, it should be indemnified against claims for damages. It is undisputed that the revenue assured to respondent from this service would be as much as it could exact from any patrons along its own service wires for similar demands.

The complaint, however, under the law controlling the case, must be dismissed. An order will be entered accordingly.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof;

Now, to wit, May 13, 1919, it is ordered: That the complaint in this case be, and the same is hereby dismissed.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:

[SEAL.] A. B. MILLAR,
Secretary.

823 No. 632.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2914.

R. W. PETERS and BESSIE W. PETERS

vs.

PENNSYLVANIA GAS COMPANY.

The respondent was ordered to extend its mains in order to afford the complainant with an adequate supply of natural gas. The Commission is not to be considered as committing itself to a policy of general extension. The necessity for extensions will be determined from the facts in each case.

Appearances:

William E. Hirt,
Representing the Complainant.

C. H. English,
Representing the Respondent.

Order.

This matter being before The Public Service Commissioner of the Commonwealth of Pennsylvania upon complaint alleging that the respondent, the Pennsylvania Gas Company, refused to extend its gas mains to properties of the complainants situate in the City of Erie, and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and it appearing to the Commission that the complainants had erected buildings after they had entered into an agreement with the Pennsylvania Gas Company to extend its mains so as to serve the properties of the complainants, and that said extension was delayed on account of war, wherefore the complaint in this case should be sustained on account of the unusual conditions presented, but in so doing the Commission is not to be considered as committing itself to a policy of general extension;

Now, to-wit, August 26, 1919, the respondent, the Pennsylvania Gas Company, is ordered to extend its main in Thirteenth Street, in the City of Erie, so as to furnish the complainant an adequate supply of natural gas.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

824 No. 6650.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2965.

H. N. FLEMING

vs.

HOME HEATING COMPANY.

The Commission ordered the Home Heating Company of Erie to extend its steam heating main so as to adequately supply the apartment house of the complainant situate at the corner of Eighth and Sassafras Streets in said city.

Appearances:

Charles P. Hewes,
Representing the Complainant.

Charles S. English,
Representing the Respondent.

Report of the Commission.

AINEY, *Chairman:*

The complainant, who is the owner of apartment buildings containing eighty-two rooms and twenty apartments, located at the corner of Eighth and Sassafras Street in the City of Erie, seeks to compel the Home Heating Company to extend its steam heating mains some 437 feet so as to serve his property.

The respondent company has mains on Sixth and Ninth Streets, parallel to Eighth; and on Peach Street, which is parallel to and one block removed (660 feet) from Sassafras Street. On Sassasfras Street, and connecting with its Sixth Street main, the company has laid a six inch pipe in the direction of complainant's property. The numbered streets are about 330 feet apart, and complainant can be served by a line on Sassafras Street connecting with the Ninth Street line, or by one on the same street running in the opposite direction, connnecting with the six inch main leading into Sixth Street.

Sassafras Street is closely built up, is in the central part of the city and in the heart of respondent's steam heating system. The complainant is within comparatively easy service access of existing mains from three different sides or points.

1919

Negotiations between the parties have been going on for some time, but without effective results, and hence the pending complaint was filed. The respondent offered testimony to show that the cost of laying the required main would be $4,900.00, and that the revenues from complainant's property would be about $1,200.00 per year, which would be supplemented by rates paid by other consumers along the proposed line. The complainant's estimate, based upon the rates imposed upon other and smaller apartments, was that his annual charge for heat consumed would be nearer $1,650.00 to which other consumer revenues would be added.

The company offered evidence to the effect that the taking on this additional service would overload its lines, and would require plant expenditures making up a total of $11,000.00, but this was disputed.

Under all the evidence in the case, we are of the opinion that respondent's obligation to render public service requires this extension to be made. It, of course, may do so by extending its mains from any convenient point if the service given is adequate. The laying of these mains should be accompanied by some assurance of continued patronage and consequent revenue, and the complainant should give, in writing to the respondent, a guaranty, or other appropriate undertaking, that the revenues from his own and other consumers, who may be attached to the proposed extension, will for a period of five years from the time service is installed be not less than $1,650.00 annually.

It appears that complainant made some offer to help the respondent finance this undertaking, and we are of the opinion that this too, should be carried out if respondent desires temporary assistance, upon the following terms: complainant to loan respondent $2,500.00 at six per cent interest, to be repaid by credit $500.00 per year in addition to annual interest, on complainant's bill.

825 An order to make the extension to the complainant's property, upon the acceptance by complainant of the conditions herein imposed, will be entered.

(Commissioner Rilling did not participate in the discussion or vote on this report.)

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof;

Now, to-wit, October 28, 1919, the respondent, the Home Heating Company, is ordered: To immediately extend its steam heating mains so as to furnish adequate service to the apartment house of the complainant, situate on the corner of Eighth and Sassafras Streets in the City of Erie, upon the acceptance by the complainant of the following conditions, to-wit:

(*a*) That the complainant give, in writing, to the respondent, a guaranty, or other appropriate undertaking, that the revenues from his own and other consumers, who may be attached to the proposed extension, will for a period of five years from the time service is installed be not less than $1,650.00 annually.

(*b*) That the complainant lend the respondent $2,500 at six per cent interest, to be repaid by crediting $500.00 per year, in addition to annual interest, on complainant's bill.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

826 No. 669.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2976.

W. PERCIVAL JOHNSON et al.

vs.

PHILADELPHIA SUBURBAN GAS & ELECTRIC COMPANY.

The Commission ordered respondent to extend its gas mains necessary to provide service to complainant.

Appearances:
E. Wallace Chadwick,
Representing the Complainants.

George S. Munson,
Representing the Respondents.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint of W. Percival Johnson and others, owners of properties fronting on Rolling Road in Springfield Township, Delaware County, requesting that the Commission order the respondent, the Philadelphia Suburban Gas & Electric Company to extend its gas main from its present existing main on Springfield Avenue in said township along and in the bed of Rolling Road, in a northerly direction for a distance of 2,189 feet, so as to furnish the complainants with an adequate supply of gas,

and answer on file, and having been duly heard and submitted by the parties and full investigation of the matters and things involved having been had;

Now, to-wit, October 28th, 1919, the respondent, the Philadelphia Suburban Gas & Electric Company, is ordered: To extend immediately its gas main from its present existing main on Springfield Avenue in Springfield Township, Delaware County, in a northerly direction along and in the bed of Rolling Road, said township, to a point in said road opposite lot No. 57 thereon, a distance of 2,189 feet, and to furnish the complainants, the owners of properties fronting on Rolling Road, an adequate supply of gas.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

827 No. 673.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2974.

H. N. SMITH et al.

vs.

HOME ELECTRIC LIGHT AND STEAM HEATING COMPANY.

The Commission ordered respondent at its own cost to extend its lines and facilities necessary to provide service to complainant.

Appearances:
H. N. Smith,
Representing the Complainant.

C. L. S. Tingley,
Representing the Respondent.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania, upon complaint alleging refusal on the part of respondent to extend electric service to complainants in Tyrone, Blair County, Pennsylvania, and answer on file, and having been duly heard and submitted by the parties and full investigation of the matters and things involved having been had;

Now, to-wit, November 6, 1919, it is ordered: That the respondent, the Home Electric Light and Steam Heating Company, at its own cost, make the extension to its line and facilities necessary to provide the service applied for, within thirty days from the date of service of this order.

THE PUBLIC SERVICE COMMISSION
OF THE COMMONWEALTH OF
PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

828 No. 679.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 2956.

I. N. HICKMAN et al.

vs.

RANDALL GAS COMPANY.

Upon complaint alleging proposed discontinuance of natural gas service, respondent was ordered to furnish such service at just and reasonable rates.

Appearances:

Challem W. Wayckoff,
Representing the Complainant.

Terrence D. Stewart,
Representing the Respondent.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaint alleging proposed discontinuance by respondent of natural gas service to the residents of Taylortown, Dunkard township, Greene county, Pennsylvania, and answer on file, and having been duly heard and submitted by the parties and full investigation of the matters and things involved having been had;

Now, to-wit, November 11, 1919, it is ordered: That the complaint in this case be, and the same is hereby sustained;

And it is further ordered: That respondent, the Randall Gas Company, furnish adequate natural gas service to complainants and

others in Taylortown, Dunkard township, Greene county, Pennsylvania, at just and reasonable rates.

THE PUBLIC SERVICE COMMISSION
OF THE COMMONWEALTH OF
PENNSYLVANIA.
WM. D. B. AINEY, *Chairman.*

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

829 No. 687.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, Nos. 2985 and 2987.

Application Docket, No. 2807-1919.

F. L. WILLIAMS et al.

vs.

UNION HEAT AND LIGHT COMPANY.

In re Application of UNION HEAT AND LIGHT COMPANY for Approval of Amendment to Charter (A. D. 2807-1919).

Complaints were made against the proposed discontinuance by respondent of natural gas service in certain districts covered by its charter, and, at the same time, application was made by the respondent to amend its charter so as to alter its territory of production and supply for consumption by abandoning all of its franchises and charter rights necessary for supplying said districts with natural gas.

The undisputed testimony showed that respondent company's gas supply was practically exhausted; that it had no available gas producing territory and was unable to produce by drilling its territory or by purchase from other companies, the gas necessary to adequately, efficiently and safely serve the territory proposed to be abandoned; and that the only reason for not surrendering all of its franchises and charter rights, by dissolution of the corporation, was because it had contracts with other gas companies.

Appearances:

Milford L. McBride,
J. H. Cochran,
Representing the Complainants.

J. D. Trax,
Representing the Respondents.

Report of the Commission and Orders.

REED, *Commissioner:*

The Union Heat and Light Company was incorporated in 1886, under the Natural Gas Act of May 29, 1885, P. L. 29, for the purpose of producing, dealing in, transporting, storing and supplying natural gas for heat and light; the gas to be mined for and produced in the township of Mercer, in the county of Butler and the vicinity thereof, and to be supplied to consumers in the towns of Grove City, in the county of Mercer, and Harrisville, in the county of Butler, and other boroughs, towns and places in the counties of Butler, Mercer and Venango.

In August 1919, the Company gave notice that it intended to discontinue service in certain districts which resulted in F. L. Williams, et al. filing complaints against such discontinuance; the company then gave notice to consumers that it intended to make application, pursuant to Section 5 of the Act under which it was incorporated, to alter its territory of production and supply for consumption by abandoning all of its franchises and charter rights except as to that part of the territory covered by its charter which included the boroughs of Grove City, Stoneboro and Sandy Lake, and it thereafter filed in the office of the Secretary of the Commonwealth a copy of the resolutions passed by its stockholders expressing its desire to make the proposed alteration, specifically designating the pipe lines and branches proposed to be abandoned, to become effective from and after September 25, 1919.

Included in this proposed abandoned territory are Harrisville, Butler County, Hallville, a suburb of Grove City, Mercer County, the village of Forrestville and a few consumers along its main supply line. The application for the alteration of territory was protested against by consumers in Harrisville and in Hallville. The complaints against the discontinuance of service, the application for the alteration of the territory of production and supply, and the protests against this application were heard together and will be severally considered and disposed of by this report and the order of the Commission.

The following facts are found from the undisputed testimony, viz: The Company has 35 wells tied to its gas line in the territory proposed to be abandoned; 27 of these wells, although drilled for gas are producing oil. A small quantity of gas is produced with the oil and this is turned into the gas line. The entire gas production in this territory is confined to what is referred to in the testimony as the "Keister Gas Field," where the company has 1.051 acres of land under lease. After extended drilling, explorations
890 and efforts to obtain additional gas to furnish an adequate and safe supply to the complainants and protestants, the company has been unable to amplify the supply beyond that obtained from the Keister Field. This entire production is supplied to the consumers within the territory which the company now asks leave to surrender and abandon, and it is wholly inadequate to meet the

needs of these consumers and is so far exhausted in quantity and pressure as to make its use unsafe and dangerous.

The company has two or three gas wells in the Stoneboro and Sandy Lake district, but the production is not sufficient to supply its consumers in these places, and the deficiency is made up by purchase from the Clarion Gas Company. There is no gas line connection between the Stoneboro and Sandy Lake district and what may be termed the "Keister District," which districts are separated by an intervening distance of about 12 miles. The company also has a contract with the United Natural Gas Company to sell it all the gas required to fully supply its consumers within the borough of Grove City. This contract, by its terms, expires in March 1924, and is subject to cancellation by the United Natural Gas Company whenever its supply of gas is required to meet the demands of its own customers. The gas supplied to consumers in Grove City is purchased from the United Natural Gas Company and the New Wilmington Gas Company. The latter company has a very limited supply of gas, and the quantity which the Union Heat and Light Company can obtain from it could not be advantageously used for any other purpose than that for which it is now used in supplementing the supply obtained from the United Natural Gas Company for consumption in Grove City. On application the United Natural Gas Company has refused to sell any additional gas to be used outside the limits of the borough of Grove City, and the evidence conclusively establishes that the Union Heat and Light Company is unable to obtain by drilling its chartered territory, or by purchase, the necessary gas to adequately and safely supply consumers within the territory proposed to be abandoned.

The present supply to these consumers is not only inadequate to meet the requirements, but has become so reduced in quantity and pressure as to make it unsafe for use for any purpose. The diminished flow and pressure will not admit of any regulation, and in order to furnish the gas to the consumers it is necessary to allow it to flow direct from the wells without any regulation whatsoever. Moreover, if there is any very general use made of the gas by consumers the quantity and pressure are so reduced that lights go out and no gas can be obtained for either heat or light. This creates an unsafe and dangerous condition, and is liable to result in asphyxiations or explosions causing loss of life and property, if some of the consumers on the line turn off the gas when their lights go out and others neglect to do so.

The only use that can be made of the present gas supply is for light and cooking, and the supply is not sufficient for these purposes. For cooking it has to be supplemented with some other combustible material. The cost to the company to furnish this insufficient and irregular supply of gas to these consumers greatly exceeds the revenue received from it. It is not the purpose of the company in surrendering its franchises and charter rights in this territory to make any other commercial use of the gas now produced therein, and the only reason for not surrendering all its franchises and charter rights, by a dissolution of the corporation, is because it has

contracts with other gas companies whereby it can continue for the present to supply its consumers in the boroughs of Grove City, Stoneboro and Sandy Lake with gas.

In view of the undisputed testimony that the company's gas supply is practically exhausted; that it has no available gas producing territory and is unable to produce by drilling its territory, or by purchase from other companies, the gas necessary to adequately, efficiently and safely serve the territory proposed to be abandoned, there appears to be no other alternative than to dismiss the complaints against the discontinuance of service and to grant approval of its application to alter its territory of production and supply as prayed for, and it will be accordingly so ordered.

Order.

These matters being before The Public Service Commission of the Commonwealth of Pennsylvania upon complaints and answers on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof;

831 Now, to-wit, November 25, 1919, it is ordered: That the complaints in these cases be, and the same are hereby dismissed.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] A. B. MILLAR,
Secretary.

832 Application Docket, No. 2807-1919.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon petition and protest on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof;

Now, to-wit, November 25, 1919, it is ordered: That a certificate of public convenience be issued evidencing the Commission's approval of the amendment to the charter of the Union Heat and

Light Company, as set forth in resolutions of the Directors and Officers of said corporation, adopted August 21, 1919, upon filing in the office of the Secretary of the Commonwealth of Pennsylvania proper certificate as provided by Section 5 of the Act of Assembly of this Commonwealth, approved May 29, 1885, P. L. 30, said certificate to have attached thereto duly executed copy of the certificate of public convenience hereby directed to issue.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
WM. D. B. AINEY, *Chairman.*

Attest:
[SEAL.] A. B. MILLAR, *Secretary.*

833 No. 724.

The Public Service Commission of the Commonwealth of Pennsylvania.

Application Docket, No. 2785-1919.

In re Application of GLEN MILLS ELECTRIC COMPANY for the Approval of the Incorporation of the said Company for the Purpose of Supplying Light, Heat, and Power by Means of Electricity to the Public in the Township of Thornbury, Delaware County, Pennsylvania.

The Commission refused to approve the incorporation of an electric company where such approval would result in competition.

Competition in public service with its attendant evil of duplication of plant investment, the burden of which ultimately falls upon the rate payers, is to be avoided.

Certificates of Public Convenience are not granted in order that legal rights may be acquired by corporate interests and then held for the purpose of exploitation or development at a later period. Certificates are granted only if and when public convenience or necessity is shown to demand their issuance. When issued, it follows, as a matter of good faith and legal obligations, that immediate efforts should be put forth for the public requirements.

Appearances:

Joseph B. Townsend, Jr.,
C. H. Scott, Jr.,
A. M. Holding,
Representing the Applicant.

Ralph J. Baker,
Arthur B. Huey,
Representing the Protestant.

Report of the Commission.

By the COMMISSION:

This is an application for the issuance of a certificate of public convenience evidencing the Commission's approval of a charter and the beginning of the exercise of the rights thereunder, in territory for which another and protesting company has secured such rights.

The Thornbury Township Electric Company was incorporated in February, 1915, and obtained a certificate of public convenience to render electric service in Thornbury Township, Delaware County. This corporation and its rights were in due form of law by merger, with the approval of the Commission, incorporated into the Delaware County Electric Company in August, 1916.

With the exception of stringing a few short spans of wire, entirely disconnected from any electric circuits, the Delaware County Electric Company apparently made no serious attempt to exercise its acquired rights or to render to the public the service which under the charter of its constituent company, the Thornbury Township Electric Company, it was obligated to perform, until about the period the Glen Mills Electric Company presented the pending application for approval of its charter.

In other words, the Thornbury Township Electric Company or the Delaware County Electric Company have permitted a period of over four years to elapse without making any substantial efforts to function in public service in the territory in question. The testimony discloses that not until notice that a competing company was prepared to enter the field did the protestant company take on activity to comply with its public obligations. Such a situation, under anything like normal or usual circumstances, should not and could not be tolerated. It would be the plain duty of this Commission to grant public relief, either by giving another company the right to enter into the territory competitively, or by compelling the recreant company by appropriate order to extend its service.

Certificates of public convenience are not granted by this Commission in order that legal rights may be acquired by corporate interests and then held for the purpose of exploitation or development at a later period. Certificates are granted only if and when public convenience or necessity is shown to demand their issuance. When issued, it follows as a matter of good faith and legal obligation that immediate efforts should be put forth to care for the public requirements. If such obligations are not fulfilled, it follows that the Commission may, in a proper case, permit the territory to be served by a competing company.

In this case the Delaware County Electric Company, apart from general disavowal of neglect in the exercise of its rights, sets up the claim that it was prevented by war conditions and the demands upon its equipment for war work, from extending its service into Thornbury Township. There is sufficient in the testimony to lead the Commission, if not to absolve the protestant entirely, at least to give it

the benefit of the doubt and to afford it a further opportunity to exercise its rights, now that war priority demands no longer prevail.

In so concluding, we are placing emphasis upon the fact that
834 the non-competitive rule is one that ought not to be lightly set aside, because it is a rule of regulatory policy inuring to the benefit of the public and the utility. Competition in public service, with its attendant evils of duplication of plant investment, the burden of which ultimately falls upon the rate payers, is of course to be avoided.

In the circumstances the Commission is unable to find, upon a consideration of all the evidence that the approval of the pending application is necessary or proper for the service, accommodation, convenience or safety of the public, and it is therefore refused.

Order.

This matter being before The Public Service Commission of the Commonwealth of Pennsylvania upon application and protest on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been had, and the Commission having on the date hereof made and filed of record a report containing its findings of fact and conclusions thereon, which said report is hereby approved and made a part hereof;

Now, to-wit, February 3, 1920, it is ordered: That the prayer of the petition for a Certificate of Public Convenience be, and the same is hereby refused and the application dismissed.

THE PUBLIC SERVICE COMMISSION OF THE COMMONWEALTH OF PENNSYLVANIA.
MILTON J. BRECHT,
Acting Chairman.

Attest:

[SEAL.] JNO. G. HOPWOOD,
Acting Secretary.

835 No. 778.

The Public Service Commission of the Commonwealth of Pennsylvania.

Complaint Docket, No. 3147.

AUSTIN BOROUGH COUNCIL

vs.

POTTER GAS COMPANY.

Natural Gas Companies—Service—Indequacy of Pressure and Supply.

Upon a complaint alleging insufficient supply of the natural gas furnished to complaining borough, due to the small size distribution pipes installed by respondent and the inadequate pressure caused thereby, the Commission found that owing to the general exhaustion of the gas fields the replacing of the entire pipe line of respondent would be unwarranted, but ordered certain specific replacements to be made.

Decided April 20, 1920.

S. C. Bayless and Dr. F. W. Orwan for Borough Council.
E. B. Reeser for Respondent.

Report of the Commission.

BRECHT, *Commissioner:*

This complaint alleges that the respondent's supply of natural gas to the public in the borough of Austin, Potter county, has been entirely inadequate for the purpose of heating and cooking in cold weather; that due to the proper service furnished, the public schools had to be dismissed on certain days in November and December last; and that in many of the homes the occupants have been unable to maintain a temperature of 60 degrees in extreme winter weather. As a result of the poor service it is further alleged that a situation exists in Austin that is detrimental to the health of its citizens. The insufficient supply of gas complainants contend is due to inadequate pressure resulting from the failure of the company to lay 6-inch distributing pipes as required under a borough ordinance, and the replacement of a 5⅝-inch supply pipe leading from the gas fields by a 3-inch line.

In its answer respondent admitted that its supply of gas in Austin has not been adequate to meet all demands of the service during certain hours of certain days in the month of December, 1919, but attributed such inadequacy in Austin and other places to a reduced field supply. It averred that it has not extended its distributing

lines into any additional communities since 1908, and that it has not entered into new contracts for service recently except such as it was required to make in compliance with its duties as a public service company. It maintains that the Austin situation is due to a diminution in the supply of natural gas in the fields, and not to any neglect or negligence in the rendition of respondent's service.

The borough of Austin has a population of approximately 1,450, and 348 service connections with the plant of respondent. It is located about 12 miles from the natural gas fields in the vicinity of Roulette, and is supplied with current through a 3-inch pipe from a compressor station at the latter point. The line into Austin is a branch of a main artery leading into respondent's primary trunk line which extends from the borough of Shingle House to Elmira, New York. The latter with its chain of feeders and laterals to Pennsylvania and New York towns constitutes the plant system of the Potter Gas Company. In the borough of Austin the supply is distributed from two regulators through a series of 5-inch, 3-inch and 2-inch pipes gridironed together into one system of delivery. The service pipes owned by the consumers are mostly 1-inch and nearly all house piping is ⅜ inch.

It appears that respondent began doing business in Austin in the latter part of 1899, obtaining its supply through a 3-inch pipe from gas fields in McKean county by way of Coudersport. According to the record the original company operating under a franchise in the borough of Austin was the Consumers Gas Company whose rights and privileges were ultimately absorbed by the respondent. Under an ordinance passed in June, 1901, that company was granted the right to enter upon the streets of Austin for the purpose of supplying natural gas to the public on condition that the company's mains from the wells to the borough limits shall not be less than
836 4-inch pipes, and upon the principal streets of the borough not less than 6-inch pipes laid 12 inches underground. In due course of time a 5⅝-inch supply main was installed from the gas fields which has since been practically all replaced by respondent with a 3-inch line and a compressor station at Roulette. There were no 6-inch pipes laid in the borough as called for in the ordinance.

From an inspection of respondent's pressure records at Austin it has been ascertained that during the past winter of 1919-1920, there were nineteen days at least when the pressure was insufficient to maintain a proper temperature in the homes or provide adequate heat for the purpose of cooking. In the winter of 1916-1917 the pressure as found recorded was sufficient to provide adequate service. In 1917-1918 slight trouble occurred in January but of short duration, while in 1918-1919 no periods of low pressure appear to have occurred. It was conceded on behalf of complainant that when the weather is not very cold the supply of gas seems to be sufficient to answer all essential needs.

The pressure gauge of the company upon which the records are made is located at its office in the center of the town and was found in a test check made upon it to be accurate in its registration. Dur-

ing the 19 days of low pressure at Austin indicated above, the records for Galeton a town similarly situated and supplied by respondent show a pressure as low as Austin and on some of the days even lower. But at Port Allegany and Coudersport both supplied through larger mains but located closer to the source of supply the pressure for the same intermittent period was sufficiently high to give satisfactory service.

The witnesses for complainant maintained that the shortage in the gas furnished at Austin is due chiefly to the small size pipes installed by respondent in its supply and distribution system for that community. Respondent admits an inadequate supply at certain stated times but ascribes it to the general depletion or exhaustion of the gas fields, contending that the pipes now laid are large enough to carry an adequate flow when there is a sufficient volume of gas obtainable from the wells. The insufficient supply of gas at Austin during periods of extremely cold weather when Coudersport with a 5⅝-inch feeding main experienced no trouble, would appear to indicate quite clearly that the 3-inch line supplying complainant is not large enough to carry the volume of gas required a distance of approximately 12 miles when a low temperature is prevailing. But the question of replacing the existing line by a larger one involving an outlay especially under present day prices of many thousands of dollars, would be difficult to justify in this instance in view of the comparatively few days of the year during which a larger main would be found necesary, more especially when considered from the angle of what is generally regarded as a depletion of the gas fields, and the consequent uncertainty as to the future of the natural gas situation.

It would appear from the evidence that in a situation like the one at Austin where the trouble experienced is limited at the utmost to a comparatively few days in the year, the patron through a proper cooperative spirit could accomplish much to reduce to a negligible quantity the occasional inconvenience which may arise. This could be brought about in large measure if the consumer were to provide himself with proper auxiliary heating appliances to be utilized during days of extreme winter weather.

It is incumbent upon all patrons in natural gas territory in these days of conservation and economy campaigns encouraged in more or less all communities affected because of a gradually diminishing supply of gas, to recognize the importance of carrying a certain share of the burden imposed under the changed and changing conditions controlling the supply and consumption of this natural commodity. The extravagant and wasteful habits bred as it were in the bone through long years of an unlimited supply of this gas must give way to an era of prudent and cooperative economy in its use and distribution.

In the present instance it was ascertained from a field inspection made by an engineer of the Commission that the fixtures of consumers are typical of those usually found in natural gas territories. The service lines are nearly all ⅜ inch and therefore too small to

serve their purpose adequately. The cook stoves and heaters are largely neglected, the air mixtures being incorrectly adjusted causing wasteful red flames to predominate. The range burner flames are generally too long and lick the base of cooking utensils instead of being so adjusted that the flame tips will just touch the vessel about being heated. In many of the converted ranges and heaters the draft from the chimney sweeps the flame away from the object to be heated.

In view of the tense situation now obtaining throughout natural gas territory by the apparent shrinkage in the volume of gas obtainable, it would appear to the Commission under the combination of circumstances here present, which it is safe to assume are duplicated in other communities served by the same company, that the respondent in the interest of protecting its own property and promoting the efficiency of its public service, should inaugurate and encourage a campaign of education in the way of suggestions and helpful advice which would look towards the use of more economic heating and cooking appliances by the consumer, and the installation of service lines and house piping better suited for their purposes. This could be done in various ways and at such opportune times as the
837 season may require either through one of its engineers or its local superintendent under some system of inspection and regulation at a modicum of additional expense.

Under all the circumstances as they appear in the record and evidence, supplemented by supporting data discovered from a survey of the local situation by its expert, the Commission finds that as a partial remedy to increase and equalize the pressure at points of consumption, certain 2-inch pipes and one section of 3-inch pipe used as connecting links in respondent's distribution system at Austin should be replaced by larger pipe. An order will issue directing the Potter Gas Company, respondent, to replace in its distribution system in the borough of Austin:

(*a*) The 2-inch lines from the 3-inch supply line to its 3-inch regulators with 3-inch lines.

(*b*) The 3-inch section of the low pressure line on Main Street with a section of 5-inch line.

(*c*) The 2-inch low pressure line on Elliott Street with a 3-inch line.

(*d*) The 2-inch low pressure line at the Swedish Lutheran Church with a 3-inch line.

With respect to the prayer for relief in other features the complaint is dismissed with the suggestion that respondent put into active effect some plan of education or supervision that will show the consumer the advantages that would accrue from the installation of a better system of pipage on his premises and from having a more modern adjustment made in his equipment for heating and cooking. It is believed where the patron is approached upon this matter in the proper spirit and shown how his gas troubles may be materially re-

ıced, he will be found in a receptive state of mind and make some fort to co-operate. The Commission is fully persuaded that a reprocal attitude of this kind must ultimately be established between e utility and the user before a workable solution will be found of e problem now rapidly developing in the natural gas situation roughout the country.

Order.

This matter being before The Public Service Commission of the ommonwealth of Pennsylvania upon complaint and answer on file, d having been duly heard and submitted by the parties and full vestigation of the matters and things involved having been had, d the Commission having on the date hereof made and filed of cord a report containing its findings of fact and conclusions ereon, which said report is hereby approved and made part hereof;

Now to wit, April 20, 1920, it is ordered: That the Potter Gas ompany, respondent, on or before October 1, 1920, make the folwing pipe line replacements in its distribution system in the orough of Austin:

(*a*) The 2-inch lines from the 3-inch supply line to its 3-inch egulators with 3-inch lines.

(*b*) The 3-inch section of the low pressure line on Main Street ith a Section of 5-inch line.

(*c*) The 2-inch low pressure line on Elliott Street with a 3-inch ne.

(*d*) The 2-inch low pressure line at the Swedish Lutheran hurch with a 3-inch line.

It is further ordered: That the complaint in so far as it relates all other matters be, and the same is hereby dismissed.

THE PUBLIC SERVICE COMMISSION
OF THE COMMONWEALTH OF
PENNSYLVANIA.
WM. D. B. AINEY,
Chairman.

Attest:
[SEAL.] JNO. G. HOPWOOD,
Acting Secretary.

Office Supreme Court, U. S.
FILED
DEC 1 1921
WM. R. STANSBURY
CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1921.

Number ~~17~~—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Complainant's Digest of Evidence

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James McMillin Printing Company, Penn Ave. and Barbeau St., Pittsburgh, Pa.

INDEX

I. QUALIFICATIONS AND EXPERIENCE OF WITNESSES OF COMPLAINANT AND DEFENDANT RESPECTIVELY.

CONTRAST BETWEEN SAME..... 2
Harry A Quay..... 2
T. O. Sullivan..... 2
John B. Corrin..... 3
H. A. Wallace..... 3
John B. Tonkin..... 3
W. W. Freeman..... 4
Judge James H. Reed..... 4
J. E. Angle..... 4
Martin B. Daly..... 5
T. J. Jones..... 5
L. B. Denning..... 5
J. W. McMahon..... 6
G. F. Batchelor..... 6
Eugene B. Whitcomb..... 6
J. K. Anderson..... 7
Samuel S. Wyer..... 7
Edwin Robinson..... 10
Robert Cummins..... 10
H. E. Nease..... 11
Charles E. Krebs..... 12
J. S. Lakin..... 13
John J. Cornwall..... 13
B. F. Robinson..... 13
W. C. Allman..... 14
I. Wade Coffman..... 14
R. T. Cunningham..... 14
Charles M. Snaith..... 14
Charles A. Short..... 15

E. D. Lewis 16
George W. Wilson 16
Vance L. Horner 16
Parker Bowser 17
F. C. Devericks 17

II. EARLY HISTORY OF NATURAL GAS INDUSTRY — DEVELOPMENT — OPERATING METHODS 19
Methods for determining the pressure of gas ..... Quay 20
Life of gas field uncertain ..... Quay 20
Wyer 33
Rock pressure ..... Quay 20
Wyer 23, 29
"Shutting in" gas wells ..... Quay 20
Discovery and development of natural gas fields incidental to oil development ..... Quay 21
Corrin 34
Snaith 36-7
Bowser 37-8
Devericks 38
Use of natural gas gradually extended Quay 21
Business methods employed in developing gas territory ..... Quay 22
Drilling wells ..... Quay 22
Quay 23
Wyer 29, 30
Depletion of gas fields ..... Quay 22
Depth of gas sands below earth and surface Quay 22
Storage of gas not feasible ..... Quay 23
Wyer 33
Equalization of rock pressure throughout field ..... Quay 23

Gas pressure—Inherent—Artificial—Compressing stations.....Quay-Wyer 24, 25
Quay 26, 27
Corrin 27
Wyer 28, 29, 30
Description of pipe line systems.....Quay 24-5
Ratio of gas pressure and diameter and length of pipe line to amount of gas delivered in unit time.....Quay 26
Daly 27
Physical characteristics of natural gas
Wyer 28-9
Estimation of amount of gas in any gas field difficult.....Wyer 29
Variation in productivity of different wells in same gas field.....Wyer 29
Transmission of gas from well to consumers.....Wyer 30
Gas transmission differs essentially from railroad transportation.....Wyer 30, 32-4
Effects of reducing pressure by only partial diversion of gas.....Daly 164
Wyer 30-31, 177-8
Quay 77-8
Gas never at rest.....Wyer 31
Quay 31
No regeneration of natural gas in sands
Wyer 32
Impossible to forecast or provide for potential heavy demands for gas.....Wyer 33
Early development of gas industry and gas companies .....Corrin 34, 36
Snaith 36-7
Bowser 37-8
Devericks 38

III. LATER DEVELOPMENT — PURPOSE WAS EXPORTATION OF WEST VIRGINIA GAS TO OTHER STATES..... 39

Earlier and later operations of the manufacturer's company.....Quay 39

Purpose of investments of the large companies was furnishing West Va. gas to other states or other companies serving consumers in other states.....Quay 40

Corrin 41-2

Tonkin 42-3

Freeman 44

Daly 46

Denning 46-9

Whitcomb 50-53

McMahon 55

Wyer 56-7

Later development of the Hope Natural Gas Co.....Tonkin 42-3

Operations of the People's Natural Gas Co. .....Tonkin 43-4

Later development of the Philadelphia Co. .....Reed 44-6

Later development of the Ohio Fuel Supply Co. .....Denning 48-50

Earlier and later development of the Northwestern Ohio Natural Gas Co.....McMahon 53-4

Comparison between acreage held by larger interstate and small local intrastate gas companies respectively.....Anderson 55-6

Nease 58

Robinson 58-9

Significance of above comparison.....Wyer 56-7

IV. INVESTMENT OF THE INTERSTATE GAS COMPANIES..... 60
Manufacturers Light and Heat Co.....Quay 60
Hope Natural Gas Co.....Sullivan 61-2
Reserve Gas Co.....Corrin 62
United Fuel Gas Co.....Wallace 63
Peoples Natural Gas Co.....Tonkin 63-4
67
Columbia Gas and Electric Co.—Cincinnati Gas Transportation Co.....Freeman 64-5
Philadelphia Company.....Reed 65-6
Fayette County Gas Co.....Angle 66
East Ohio Gas Co.....Daly 66-7
Ohio Fuel Supply Co.....Denning 68
Northwestern Ohio Natural Gas Co.....
McMahon 68-9
Union Natural Gas Corporation.....
Whitcomb 69-70
Reserve Gas Co.—Connecting Gas Co.....
Whitcomb 70-71
Total of investments computed from above 71

V. INTERSTATE TRANSMISSION OF NATURAL GAS..... 72
Location and size of main lines of Manufacturers Light and Heat Co. in Ohio, Pennsylvania and West Virginia.....Quay 73-4
Wyer 92-3
Pipe lines of the various gas companies cross and re-cross State lines.....Quay 74-75
Sullivan 79-80
Wallace 83-5
Tonkin 86-7
Reed 87
Angle 88
Wyer 92, 93, 95, 96

Pipe-line systems of the Companies are operated as a unit and in disregard of State lines .....Quay 75-9
Sullivan 79, 81-3
Wallace 84, 85, 86
Whitcomb 91
Wyer 92-3, 95-6

Gas flow in lines may be to some extent controlled but only to some extent.
Quay 75
Sullivan 81
Denning 90
Whitcomb 91
Wyer 96

Maps showing pipe lines of Gas Companies
Hope, Reserve, Peoples Natural Gas Companies .....Wyer 79-80
United Fuel Gas Company.....Wallace 85
Philadelphia Company.....Reed-Wyer 87
East Ohio Gas Company.....Daly 88
Ohio Fuel Supply Company.....Wyer 88-9
Natural Gas Co. of West Virginia.....
Batchelor 90
Logan Natural Gas and Fuel Co..Whitcomb 91
Fayette County Gas Co.....Wyer 92
Manufacturers Light and Heat Co.....Wyer 94
Hope Natural Gas Co.....Wyer 94
Reserve Gas Co.....Wyer 94
United Fuel Gas Co.....Wyer 94
Carnegie Natural Gas Co.....Wyer 95
Eastern Oil Co.....Wyer 95
Composite Map of a number of above companies .....Krebs 97
The connecting gas company is a transporting and not a producing Co. ..Corrin 83

Gas fields crossed by state lines..Wallace 84
Route of gas transmitted by United Fuel Gas Company .....Denning 89

VI. EFFECT OF OPERATION OF STATUTE UPON GAS COMPANIES..... 99
Interrupted or partial service will not be tolerated by the consumer.....Quay 99-100
Sullivan 101,103
Corrin 104
Wallace 105
Tonkin 107
Denning 111
Whitcomb 113
Anderson 114-15
Appropriation of gas already committed to interstate transmission .....Quay 100
NOTE:—In this connection see evidence under "pipe lines operated as unit" *supra*.
Diversion of gas under operation of statute would demoralize operation of the Companies, render their plants valueless and ruin them financially.....Quay 99
Sullivan 102-3
Corrin 104
Wallace 105
Tonkin 106-7
Reed 107
Angle 107-8
Daly 108-9
Jones 110
Denning 111-12
McMahon 112
Whitcomb 113-14
Anderson 114

Gas shortages in Pa. and Ohio already exist. Further curtailment will have the effects above described.....Sullivan 103
See infra—Heading—VIII.
Statement showing present and potential consumers of natural gas in West Va..Nease 115
Extent of present use of natural gas in West Va. .....Cunningham 118-20, 123
Robinson 120, 122
Nease 121
Cornwell 122
Snaith 123
Short 124
Horner 124
Bowser 124
Devericks 125

VII. EFFECT OF OPERATION OF STATUTE UPON CONTRACTS..... 126
Contracts between Gas Companies and States or their municipal subdivisions and institutions.....Quay 126
Sullivan 127
Wallace 129
Freeman 132
Reed 132
Daly 134-6
Jones 136
Contracts among Gas Companies themselves .....Quay 127
Sullivan 127-9
Wallace 129-32
Freeman 132
Reed 132-3
Angle 133-4

Daly 134, 136
Jones 137
Denning 137-8
McMahon 138-9
Whitcomb 139-42

NOTE: See evidence under Headings VI and VIII showing that under the operation of the Statute these contracts could not be carried out.

VIII. EFFECT OF OPERATION OF STATUTE UPON EXPORTATION OF GAS..... 143

West Virginia consumers, especially industrials would demand enormous amounts of gas .....Quay 143
Sullivan 149-50, 151-2
Corrin 154
Wallace 156-7, 160
Tonkin, Corrin, Reed 160
Anderson 171-2
Wyer 181
Cunningham 183
Devericks 183

Gas shortages already exist in Pennsylvania and Ohio. (See *supra* Heading VI.)
Quay 144, 145
Sullivan 152
Freeman 161
Daly 163, 164

Supply to industrial consumers has been systematically curtailed and preference given domestic consumers.....Quay 147-8
Sullivan 152-3
Corrin 154-5
Tonkin 157-8
Freeman 161
Reed 161

Angle, Daly, Jones, Denning, McMahon, Whitcomb 162
Peak Load.....Sullivan 150-1
Corrin 154
Tonkin 158
Denning 168-9
Anderson 173
Wyer 32-33
Operation of Statute will absolutely prohibit exportation of gas from West Virginia during cold weather.....Quay 144-6
Sullivan 152
Corin 153, 154
Wallace 156
Tonkin 159-60
Reed 160-161
Freeman 161
Daly 163-4
Jones 165
Denning 165-7
McMahon 168
Anderson 172
Wyer 177-81
Tables of production and exportation of natural gas in West Virginia.....Wyer 173-6
Resulting inability to perform contracts Sullivan 129
Wyer 142
Waste of gas in carbon black industries in West Virginia.....Nease 181
Krebs 182
Devericks 182

IX. EFFECT OF OPERATION OF WEST VIRGINIA STATUTE UPON CONSUMERS IN OTHER STATES..... 184

Communities in Pennsylvania, Ohio and other States are dependent on natural gas for heat and light; most of them on gas from West Virginia solely.

Sullivan, Corrin, Wallace, Tonkin, Freeman, Reed..... 184

Angle, Jones, Denning, Daly, McMahon, Whitcomb, Anderson, Wyer..... 185-7

The present gas fields are inadequate and declining.

Wallace, Tonkin, Freeman, Reed, Angle, Daly, Jones, Denning, McMahon, Whitcomb, Anderson..... 188-9

Quay 214-15

Sullivan 216, 217

There is little or no new and undeveloped gas territory, tributary to Pennsylvania and Ohio, except in West Virginia.

Quay, Sullivan, Corrin, Wallace, Tonkin, Freeman Reed, Angle, Denning, Whitcomb, Anderson, Wyer..... 190-2

Curtailment or cessation of gas supply will dangerously affect life, health, safety and comfort of domestic consumers in Pennsylvania and Ohio—Summarized..... 193

Quay 193-4

Sullivan 195-6

Corrin 197-8

Wallace 198-9

Tonkin 199-200

Natural gas is the best fuel known for heating, lighting and cooking.....Quay 147, 195

Denning 212

Pecuniary loss to domestic consumers—houses adapted in construction to use of natural gas—must be reconstructed to use other fuel—Summarized		201
	Quay	202-3
	Corrin	203
	Wallace	204
	Anderson	204-5
	Jones	205
	Denning	205-6
Cost of reconstruction	Quay	206-7
	Sullivan	207-8
	Corrin	208
	Denning	678
	Wyer	907
Pecuniary loss to industrial consumers—necessity for reconstructing plants—Summarized		210
	Quay	210-11
Tables and statistics showing dependence of consumers in Pennsylvania, Ohio and other States on West Virginia for gas	Quay	213-14
	Wallace	217
	Reed	218-21
	Angle	222-4
	Jones	225-6
	Denning	226-9
	Batchelor	229
	Whitcomb	229-30
	Anderson	231-4
	Wyer	234-6
	Krebs	237

X. EFFECT OF OPERATION OF WEST VIRGINIA STATUTE ON STATES OF PENNSYLVANIA AND WEST VIRGINIA IN THEIR SOVEREIGN CAPACITY 238

The large interstate gas companies have contracts with and serve States, municipal subdivisions and Federal and State institutions.

(NOTE: See Heading VII)

Quay 238-9
Sullivan 239
Corrin 240
Wallace 240
Tonkin 241
Freeman 241
Reed 241-3
Angle 243-4
Daly 244-5
Jones 246
Denning 246-8
McMahon 248-50
Whitcomb 250-252

(NOTE: See "Resulting Inability to Perform Contracts," Heading VII.)

XI. PUBLIC SERVICE CHARACTER OF GAS COMPANIES.

The gas companies in West Va. operate under franchises when necessary.....Quay 253
Sullivan 253-4
Wallace 254
Reed 254
Nease 255
Lakin 255

Short 255
Devericks 256
And exercise the right of eminent domain
Allman 256
Coffman 256-7
Devericks 257
Rate applications: reports to State Departmental Boards.....Nease 258
Devericks 258
XII. RELATION OF LARGE INTERSTATE GAS COMPANIES TO EACH OTHER AND TO OTHER GAS COMPANIES. PRODUCTION AND EXPORTATION OF GAS, RESPECTIVE HOLDINGS.... 259
Comparative tables showing amount of gas produced in West Va., and the amount exported in figures and percentages.....
Nease 259-65
Counties and consumers in West Va. served by the large interstate gas companies
Nease 266-8
Gas shippel out of West Va. 1914-18.....
Krebs 268
Production and consumption, importation to, exportation from West Va. of natural gas.
Krebs, Anderson, Nease, Robinson 268-75
Lack of affiliation between large interstate Gas Companies and Standard Oil interests and with each other.....Quay 275
Corrin 275
Wallace 275
Freeman 276
Reed 276
Angle 276

	Jones	276
	Denning	277
	Tonkin	277
Affiliation between gas companies	Nease	278
	Lakin	281-2
	Robinson	282
Competition among large interstate gas companies	Quay	282
	Sullivan	282
	Corrin	283
	Wallace	284
	Anderson	284
	Wilson	284
Operations of local gas companies in West Va.	Nease	284
	Short	285
	Summarized	287
	Devericks	287-90
Dealings between large interstate gas companies and smaller local companies in West Virginia	Devericks	290-91
	Nease	292
	Wilson	292
	Horner	293
	Bowser	293
Statements showing relation of operators and unoperated leasehold of large interstate companies in West Va.	Anderson	294
state companies in West Va.	Anderson	289-90
Holdings (Leases, Wells, Pipe Lines) of large companies, in West Va.	Anderson	294-5
	Lakin	296-7
	Robinson	297-8

IN THE

Supreme Court of the United States

OCTOBER TERM, 1921.

Number 17—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Complainant's Digest of Evidence

I.

DESCRIPTION OF WITNESSES AS EXPERTS, THEIR EXPERIENCE, THEIR OPPORTUNITIES FOR OBTAINING INFORMATION RELATING TO THE NATURAL GAS INDUSTRY, &c., AND THE CONTRAST IN THESE RESPECTS OF THE WITNESSES FOR COMPLAINANTS AND THE WITNESSES FOR DEFENDANT.

Witnesses Produced by Plaintiffs.

HARRY A. QUAY.

(Pages 4-5):

General Manager of The Manufacturers Light & Heat Company (a Pennsylvania corporation). Has been in the natural gas business for about 25 years. Has served as Assistant General Manager, District Manager, General Foreman and Chief Inspector for numerous gas companies in Pennsylvania, Ohio and West Virginia, to-wit, The Oil City Fuel Supply Company, The East Ohio Gas Company, Irriquois Natural Gas Company, Peoples Natural Gas Company, Northwestern Natural Gas Company, River Natural Gas Company, Mountain State Gas Company, Hope Natural Gas Company, Clarksburg Light & Heat Company, Keener Oil & Gas Company and South Penn Oil Company.

T. O. SULLIVAN.

(Pages 183-184):

Vice-President and General Manager of the Hope Natural Gas Company. Connected with the natural gas

business for about 35 years. Had been General Manager of The Manufacturers Light & Heat Company for about eight years; has been Superintendent of the Peoples Natural Gas Company, in Pittsburgh, and has served in various capacities for the Central Kentucky Natural Gas Company, the Reserve Gas Company, the United Natural Gas Company and the Buffalo Natural Gas & Fuel Company.

JOHN B. CORRIN.

(Pages 316-317):

Assistant Manager and Vice President of the Hope Natural Gas Company, Manager of the Reserve Gas Company, Vice-President and Manager of the Connecting Gas Company, Vice-President and Manager of the River Gas Company, Vice-President of the Clarksburg Light & Heat Company. Has been in the oil and natural gas business for about 30 years.

H. A. WALLACE.

(Pages 358-359):

General Manager of the United Fuel Gas Company, President of the Cabin Creek Gas Company. Has had 30 years' experience in the oil and gas business. Has served in various capacities for the Hope Natural Gas Company and has been Division Superintendent for said Company in West Virginia.

JOHN B. TONKIN.

(Page 416):

Vice-President and General Manager of the Peoples Natural Gas Company. Has been in the natural

gas business for 26 years. For 16 years was the Treasurer of the Hope Natural Gas Company, the Reserve Gas Company, the Connecting Gas Company, the River Gas Company and the Marion Oil Company. Prior to that was the General Bookkeeper of the East Ohio Gas Company and the Hope Natural Gas Company, and prior to that was in the purchasing department and in field work for the River Gas Company.

W. W. FREEMAN.

(Page 453):

President of the Union Gas & Electric Company of Cincinnati, Vice-President of the Columbia Gas & Electric Company and Vice-President and Director of the Cincinnati Gas Transportation Company.

JUDGE JAMES H. REED.

(Page 483):

Senior Vice-President of the Philadelphia Company.

J. E. ANGLE.

(Pages 533-534):

General Superintendent of the Fayette County Gas Company. Has been in the gas industry for 24 years. Prior to being connected with the Fayette County Gas Company had been connected with the Corning Natural Gas Company, in Ohio, and with the Youngstown Fuel Supply Company, in Pennsylvania.

MARTIN B. DALY.

(Pages 563-564):

President of the East Ohio Gas Company. Has served as President and General Manager, and in an executive capacity has participated in the general management of all the affairs of said Company. Has been individually connected with the natural gas business in all its aspects for 37 years.

T. J. JONES.

(Pages 629-630):

Manager of the natural gas properties of the Pure Oil Company, which includes Columbus, Dayton and Springfield. From 1913 has been connected with gas companies in the vicinity of Columbus, Ohio. From 1898 to 1913 engaged in the artificial and manufactured gas business.

L. B. DENNING.

(Pages 650-651):

Vice-President and Director of the Ohio Fuel Supply Company. Actively identified with this Company since its organization in 1902. From 1902 to 1910 counsel of the Southern District of Ohio for said Company. 1910 General Counsel and Director. 1918 Assistant to President and Secretary of Company and made Director of the Company. In June, 1918, Vice-President of the Company.

J. W. McMAHON.

(Pages 716-717):

Manager of the Northwestern Ohio Natural Gas Company. Identified with same since 1902. Has had experience in the oil and gas business since 1895. Has worked as fuel agent in Ohio and Indiana and in 1902 became Manager of the Northwestern Ohio Natural Gas Company located at Toledo.

G. F. BATCHELOR.

(Page 741):

President of the Natural Gas Company of West Virginia since 1915. Connected with said Company for 33 years. Acted as Secretary and Treasurer for 12 years.

EUGENE B. WHITCOMB.

(Page 747):

President of the Union Natural Gas Corporation. Has had experience in the natural gas industry in Ohio and Pennsylvania for about 45 years. Has been Secretary and Treasurer and Assistant to the General Manager of the Manufacturers Gas Company, Warren and Chautauqua Gas Company, the Northern Oil Company and the Southern Oil Company. From 1902 to 1907 Secretary and Treasurer of the Union Natural Gas Company. From 1907 to 1917 General Manager and Vice-President of the Union Natural Gas Company. In 1917 made President of said Company.

J. K. ANDERSON.

(Pages 808-811 Inc.):

Consulting Engineer and senior member of the firm of Anderson & Taylor, Consulting Engineers, at Charleston, W. Va. Has acted as Consulting Engineer for the Public Service Commission of West Virginia and has had experience in that connection in the matter of the valuation of natural gas utilities. From July, 1913, to October, 1919, acted as Chief Engineer of the Public Service Commission of West Virginia and spent considerable time in matters concerning natural gas utilities. Has had considerable experience in the production of natural gas and has a general knowledge of the gas industry, especially in West Virginia. Is a member of the American Institute of Mining and Metallurgical Engineers, American Society of Civil Engineers, American Association of Engineers and the West Virginia Engineers Association, being President of the latter association. Also a member of the Natural Gas Association of America. Has a particular knowledge of the conditions obtaining in some of the large gas utilities and some of the large industrial consumers of those utilities in West Virginia.

SAMUEL S. WYER.

(Pages 860-865, Inc.):

Consulting Engineer of Columbus, Ohio. An expert on gas questions. Member of American Society of Mechanical Engineers, American Institute of Mining Engineers and American Association for Advancement of Science, and of the American Gas Association. During

the war was in charge of the natural gas affairs of the United States Fuel Administration. All his professional life has been devoted to natural gas problems, since graduating from the College of Engineering of Ohio State University in 1903. Author of numerous treatises on the subject of natural gas and kindred subjects, as per the following:

A textbook on Producer Gas and Gas Producers; a pamphlet on Rate Regulation and Electric power; a treatise on Regulation, Valuation and Depreciation of Public Utilities; a pamphlet on Depreciation of Natural Gas Wells; a pamphlet on Natural Gas Service; compilation of all of the leading cases relating to the use of gas compressors; paper before the American Institute of Mining Engineers on "Is it Feasible to Make Common Carriers of Natural Gas Transmission Lines?"; paper before the American Institute of Mining Engineers on "Development of the Law Relating to the use of Gas Compressors in Natural Gas Production;" paper before the American Institute of Mining Engineers on "Effect and Necessary Use of Gas Compressors in Natural Gas Production;" paper before the American Society of Mechanical Engineers (jointly with Prof. Robert F. Earhart, Professor of Physics, Ohio State University, Columbus, Ohio), on "Deviation of Natural Gas from Boyles' Law;" paper on "Criteria for Making Public Utility Service Extensions," published in Case and Comment; paper on "The Reasonableness and legal Right of the Minimum Charge in Public Utility Service;" paper before the American Institute of Mining Engineers on "Principles of Natural Gas Leasehold Valuation;" paper on "Electrolysis Damages from Stray Electric Currents from Single Trolley Elec-

tric Railways," published in Case and Comment; paper on "Effect of Gas Pressure on Natural Gas Cooking Operations in the Home," (jointly with Edna Noble White and Grace Linder, of the Department of Home Economics, Ohio State University), —this was published as Ohio State University Bulletin No. 28; Digest of all the publication of the Bureau of Standards on Electrolysis of Undergraund Structures, caused by the Disintegrating Action of Stray Electric Currents from Electric Railways; paper before the Natural Gas Association of America, on "Elimination of Discrimination in Public Utility Rates by Readiness-to-Serve Charges;" paper on "Natural Gas, Its Production, Service and Conservation," published as Part 7, Bulletin 102, of the Smithsonian Institution, Washington, D. C.; pamphlet on "Use and Conservation of Natural Gas," published by the United States Fuel Administration; paper on "Fire Hazard due to Stray Electric Currents from Single Trolley Electric Railays," published by National Fire Protection Association; Compilation of Cases Relating ot Off-Set Well Drilling; pamphlet on "Waste and Correct Use of Natural Gas in the Home," published as Technical Paper No. 257, United States Bureau of Mines; Catechism on Natural Gas, prepared especially for those teaching conservation of natural gas, published and printed as part of the natural gas conservation program of the United States Bureau of Mines.

Has studied production, transportation and distribution of natural gas and has made an examination of the plants of natural gas companies in practically every section of the United States.

At the present time is Consulting Engineer for the United States Bureau of Mines, is in charge of the natural gas conservation activities of this Bureau all over the United States, and is working with various other Federal departments on important gas questions. Has been employed from time to time as natural gas expert on the production, transportation and distribution of natural gas to the Federal Government by various States, by a number of Public Service Commissions and by most of the larger natural gas companies of the United States and Canada.

EDWIN ROBINSON.

(Page 1372):

Secretary of the West Virginia Oil and Natural Gas Association since it was organized in 1915. The purpose of this organization is to gather information of the oil and gas industry of the State, and gather statistics that is vital to the oil and gas industry in West Virginia. There are about 2,000 members in this organization, producers of oil and gas, in the State of West Virginia.

ROBERT CUMMINS.

(Page 1444):

Secretary and member of the Board of Directors of and counsel for the South Penn Oil Company. Has kept these official positions for about nineteen years.

Compare foregoing witnesses with those of Defendant as to experience and knowledge of the Gas Industry.

DEFENDANT'S WITNESSES.

H. E. NEASE.

(Pages 976, 977, 978,979,980) :

Has been Chief Statistician of the Public Service Commission of West Virginia for the past seven years. Prior to that time was connected with the office of the State Tax Commissioner for eight years, making a total of 15 years in which he has been connected with the executive departments of the State of West Virginia, i. e., the Board of Public Works or the Public Service Commission. As State Tax Commissioner had charge of the reports made by the public utilities of the State for tax purposes, all public utilities being required to report to the Board of Public Works under the laws of West Virginia. As Statistician is in charge of the Commission's Public Service Department of Statistics and Accounts. Is frequently called upon in an official capacity to make investigations in connection with the rates and service of public service corporations, which investigations involve examination of the books and records of the utilities with respect to their financial operations. Prior to service with the West Virginia Public Service Commission and the Tax Commission was engaged in the lumber manufacturing business as a bookkeeper and assistant manager, and prior to that was a school teacher. Has had no practical experience in the oil and gas business, other than that stated. For 15 years has sat in an advisory capacity with the Board of Public Works. Has never made any personal investigation of gas companies except those that had rate cases pending. In case of appeals from assessments by the Board of Public Works has had occasion to make some further investigations.

CHARLES E. KREBS.

(Pages 1083 to 1086):

By profession, General Engineer and Geologist. In 1909 was appointed as assistant state geologist to Dr. I. C. White of the West Virginia Geological Survey; was assistant to Dr. White until 1915. Work here consisted in gathering data for detailed geological reports that were published by the West Virginia Geological Survey under the direction of Dr. I. C. White. From 1909 to 1915 his work took him over a great part of the State of West Virginia. In 1906 took up general geological work leaving the West Virginia Geological Survey, and during 1917 worked in West Virginia, Ohio and some in Kentucky, in which considerable work was done in studying the general structure of oil and gas for different operating companies. In 1918 continued on the same work in West Virginia, Ohio and Kentucky. In 1919 worked along the same line in Ohio, West Virginia, Kentucky, Texas and Louisiana. In 1920 still continued the same. During the past year has done work in West Virginia, Ohio, Kentucky, Texas, Louisiana, Mississippi and a little work in Florida. The data collected in the years 1911 to 1916 related to the study of the general structure of the different counties of West Virginia, making structural maps on which were indicated the anticlines and synclines, and in gathering data for oil and gas wells, their records, elevations, studying the sands where they could get production. His work with the West Virginia Survey has brought him into actual personal experience with and examination of the minerals of West Virginia, including oil and gas.

J. S. LAKIN.

(Page 1138):

Has been a member of the State Board of Control of West Virginia since June 30, 1909. The State Board of Control has charge of the financial and business affairs of the State educational insitutions, and has full power to govern, manage and control all the penal, charitable and correctional institutions. It has charge of the property of the State owned away from the capitol. It has charge of the financial and business affairs of any officer, board or agent of the State of West Virginia not having offices at the capitol. It has charge of the State insurance.

JOHN J. CORNWELL.

(Page 1193):

Governor of the State of West Virginia. Governor since March 4th, 1917.

B. F. ROBINSON.

(Page 1202):

Resides in Clarksburg, West Virginia. Has resided there all his life. Is President of the Clarksburg Light & Heat Company. Has been connected with that Company since its organization in 1904. Prior to the organization of the Clarksburg Light & Heat Company was an officer, for four years, in the West Fork Oil and Gas Company, a local organization. Is a stockholder in the Clarksburg Light & Heat Company.

W. C. ALLMAN.

(Page 1214):

Resides at Weston, West Virginia. Was Clerk of the Circuit Court of Lewis County for six years, term having expired January 1st, 1921.

I. WADE COFFMAN.

(Page 1216):

Resides in Clarksburg, West Virginia. Clerk of the Circuit Court of Harrison County for the past 12 years.

R. T. CUNNINGHAM.

(Page 1217):

Age 46. Secretary and Treasurer of the Monongah Glass Company, located at Fairmont. Has been interested in the glass business since 1910 and an officer of that Company, devoting all his time to it since 1914. Prior to 1914, about 1894, was employed in the coal business, with the Fairmont Coal Company, Consolidation Coal Company and kindred companies.

CHARLES M. SNAITH.

(Page 1251):

Has been engaged in the production of oil and gas for about 10 years. Prior to that time was in the business of drilling oil and gas wells for about a period of 25 to 28 years. Has drilled wells in Lewis, Gilmer and Braxton Counties, West Virginia, for the Hope Natural Gas Company, South Penn Oil Company, Crude

Oil Company and several independent producers. Together with other associates is at present drilling and producing principally in Lewis County, also in Braxton and Gilmer Counties. Together with his associates has a lease of 1378 acres of gas territory in Lewis, Braxton and Gilmer Counties. Is also producing gas from the Smith Farm of about 200 acres, two and a half miles from Weston in Lewis County. Also producing oil from three farms on Sand Fork in Gilmer County, the acreage there being about 268 acres. As a result of experience gained in drilling for others and in operating on his own behalf, has had occasion to look for leases and is more or less familiar with the oil and gas territory of Lewis, Braxton and Gilmer Counties.

CHARLES A. SHORT.

(Page 1274):

Has resided within four miles of Shinnston all his life. At present is a contractor and dealer in lumber and builders' supplies. Since October 2nd, 1902, has been interested in the development and furnishing of gas to the town of Shinnston. The Home Petroleum Gas Company, with which he is connected, has an acreage of about 250 acres in Eagle District, Harrison County, about four miles from Shinnston, and 40 acres at the edge of Marion County, two miles beyond the former acreage; 32 acres about two miles North of Shinnston. Is familiar with the section surrounding Shinnston with respect to oil and gas territory and the development of it. Is at present the Vice President of the Home Petroleum Gas Company and a large stockholder in said Company.

E. D. LEWIS.

(Page 1297) :

A member of the Public Service Commission of West Virginia since June 1st, 1919.

GEORGE W. WILSON.

(Page 1298) :

A resident of Weston, West Virginia. Associated in business with Charles M. Snaith. Has been in the gas business for about 10 years. Prior to that time was in the oil business and real estate business. Had no experience in connection with the production of natural gas until within the last 10 years. Is interested with Mr. Snaith and others in the 1378-acre lease and a little gas well near Weston, in Lewis County.

VANCE L. HORNER.

(Page 1304) :

Resident of Lumberport, West Virginia. Has lived in Harrison County, West Virginia, all his life. Has been interested in the oil and gas business since 1907. Is connected with the Lumberport Gas Company as Vice President, and President of the Shinnston Gas Company and President and Manager of the Eagle District Gas Company and Manager of the Horner Gas Supply Company and has some outside wells in partnership with Shaffner Brothers.

PARKE BOWSER.

(Page 1324):

Resident of Parkersburg, West Virginia, Wood County. Has been engaged in the oil and gas business all his life. Began work at the age of 14 handling wells, and as an owner at the age of 15 or 16. Started in pumping and roust-about work. Worked in the oil and gas fields in Pennsylvania, West Virginia and California for about 20 years. At the present time is engaged in pumping and roust-about work and general work for the different companies and some office work, foreman and superintendent and as owner. Worked first in the oil business as a pumper. In Ohio and in California worked in drilling wells. Then worked for the South Penn Oil Company in Lewis County, West Virginia; did some lease work, office work and foreman work for this Company in the years 1901, 1902 and 1903. Then with the Guarantee Oil Company in Calhoun County, as foreman. Following that looked after his own interests in oil and gas from about 1904 up to the present time. Has worked for others or operated on his own behalf in Lewis, Calhoun, Ritchie, Gilmer and Wood Counties. At the present time is operating in Calhoun, Ritchie and Gilmer Counties, where he has about 70 oil and gas wells. All of these wells produce some gas, but about 15 produce gas alone.

F. C. DEVERICKS.

(Page 1340):

Is a resident of Clarksburg, Harrison County, West Virginia. Is a native of West Virginia. Has lived practically all his life in the vicinity of Clarksburg. At

present is engaged in producing gas. His experience in the oil and gas industry dates back to 1897. Was first employed by the South Penn Oil Company, in Doddridge County, as a grader on the roads. Next was employed by the Carter Oil Company, pumping, in Doddridge County, Then went to dressing tools. Later worked with the Eastern Oil Company. Later came to Clarksburg and began to look up leases. Has been engaged in the real estate business and the taking of leases in connection with various parties in Clarksburg for about 16 years. Has been interested in the development of gas territory in Doddridge County, and has been engaged in the production of gas in Harrison, Ritchie and Doddridge Counties.

II.

HISTORICAL AND DESCRIPTIVE OUTLINE OF DEVELOPMENTS OF AND OPERATING METHODS EMPLOYED IN NATURAL GAS INDUSTRY. THE DISCOVERY OF NATURAL GAS AND DEVELOPMENT OF NATURAL GAS FIELDS WERE INCIDENT TO OIL DEVELOPMENT AND AT FIRST GAS WAS OF NO VALUE THERE BEING NO MARKET FOR THE SAME.

HARRY A. QUAY.

Pages 10 to 12; 18 to 20; 23, 24; 126, 127; 128, 129, and 153 to 155.

T. O. SULLIVAN.

Pages 193, 194; 196 to 203; 249 to 253; cross-examination; 284, 285, 314.

JOHN B. CORRIN.

Pages 329, 330, 345, 346—cross-examination.

MARTIN B. DALY.

Pages 579, 584:

L. B. DENNING.

Page 683.

J. K. ANDERSON.

Pages 818, 827.

The testimony of the above witnesses is summarized as follows:

The only way to determine the presence of gas in any particular field or territory is by drilling a hole down into the various gas bearing sands. No other way has been discovered by the trade. Natural gas is found in a comparatively small number of fields, all being small, in Pennsylvania, Ohio and West Virginia.

How long the supply of gas from a particular field or territory will last is indefinite, impossible of determination, but some indication may be furnished by the ratio of decrease in rock pressure. By "rock pressure" is meant the pressure under which the gas is confined in the gas bearing sands. When these sands are tapped by the drill in the well the natural tendency of gas to expand drives the gas to the mouth of the well.

As the supply in a particular sand becomes depleted, the pressure decreases accordingly, owing to the fact that a lesser amount of gas is confined in a given space.

Rock pressure indications are by no means infallible, and wells which have started off with a high pressure have produced less gas than wells which when first drilled showed a low rock pressure. Sometimes the hardness of the sand has some effect upon pressure.

The discovery of gas in any field does not necessarily prove that the drilling of more wells in the same field will result in finding more gas. It is impracticable to shut in wells for the purpose of conserving one's gas since the operations on the adjoining land, will drain the entire gas bearing sand, including that extending

under the land of others as well. Sometimes also rock pressure decreases in a well which has been shut in when there are no operations in the same territory draining the sand. It has been conjectured that this may sometimes be due to the "drowning out" of the wells, that is, the settling of moisture in the well which has been shut in.

In the days preceding the establishment of the gas industry, drilling operations were carried on for the sole purpose of finding oil. In drilling for oil quantities of gas were encountered. At that time the gas was considered useless. As a matter of fact it was a source of constant danger, inasmuch as the gas was liable to ignite and destroy the oil derrick, causing accidents and delaying operations. Ordinarily the gas was taken off to one side of the regular derrick, lighted and permitted to burn. This was the condition until about 1890.

At about this time, however, the potentialities of natural gas as fuel for cooking, heating and lighting purposes began to be observed. The men working on the oil leases took some of the gas to their shanties or to boiler houses and used it for these purposes. Gradually the use extended to homes in the vicinity, later on to little settlements and finally the gas was piped to larger towns. Although the crudeness of the appliances in the early days prevented the service from being altogether satisfactory, still it was noted that the use of this fuel was unaccompanied by soot or dirt, and that it necessitated less work and trouble than did other fuels. The gas was used wastefully because of its abundance and the general impression that the supply was unlimited. This condition was corrected to some extent by installing regulators and meters and other appliances.

When a gas company decides to explore in any given field or territory the first step is to send out representatives to obtain a block of leases. The leases are between the company and the owners of the land, generally farmers. The companies pay rent to the owner of the land for the period between the date of the lease and commencement of operations, sometimes called "delay rentals." If gas is discovered and taken out there is a rental or royalty paid to the owner.

Leases are generally secured over a block of territory to protect wells when drilled from being drained by adjacent operations. A derrick or rig is built on a spot decided upon, generally by the engineering department, if there is one, and a well drilled. The method of drilling is utilizing the force of a body falling through space; in other words, heavy tools, or drills, are repeatedly raised by means of pulleys, ropes, etc., and dropped. These tools or drills or bits, with their stems and jars, weigh perhaps two tons. With each impact of the bit the hole is deepened.

In some districts, as in Louisiana for instance, a different method of drilling, to-wit, rotary drilling, is employed, but the object is always to make a hole in the ground down into the gas bearing sands.

Gas fields are depleted steadily. From this rule there is no variation. This process has been noted in every field which has ever been discovered. As has been indicated above, gas exists in the sands in limited quantities and every foot of gas taken out decreases the supply available by an equal amount.

Gas is not always found at the same distance beneath the earth's surface. Gas has been encountered

in Pennsylvania at a depth of 6,500 to 7,000 feet. However, it is generally found at from 3,000 to 3,500 feet below the surface in Southwestern Pennsylvania and Northern West Virginia. The cost of drilling a well runs between $15,000 and $18,000, depending in some measure on the depth to which it is necessary to drill. When gas is found in a well it is usually shut in until a market can be found for it or it can be connected to the pipe lines of a distributing company.

The rock pressure of gas wells varies greatly in different localities and in different sands. It is generally defined as the pressure which will accumulate in a well when the gate or valve at the top of the well is closed and no gas is taken from the well. In other words, it means the pressure at which the gas is confined in the rock.

Storage of gas is possible to perhaps a small extent; that is, limited quantities of gas may be stored in special holders built for the purpose, but one difficulty is that a holder cannot be built that will hold sufficient gas that will make it of any benefit to the trade. A holder containing 10,000,000 cubic feet of gas would be an unusually large one, and that would permit the gas company to operate only a few hours. As a consequence, companies producing gas are constrained to market what gas they obtain quickly, and to secure leases on territory surrounding producing wells in order to prevent other operators from draining the gas from under their leases.

Where wells are drilled in the same territory it is the tendency of the rock pressure in the respective wells to equalize itself throughout a fairly well operated field, although this result might depend also upon the porosity of the sand. Therefore, as a practical proposition, it is

advisable for a gas company, which is operating in a territory where other companies are conducting operations, to drill enough wells in that territory to get its share of the gas as soon as it can.

Gas possesses the property of limited self-transmission, and it usually leaves the well at a pressure sufficient to transmit itself through pipe lines for some distance. Artificial means are employed by the gas companies in order to create a pressure in the lines sufficient to transmit it to distant points. For this compressing stations are employed.

The pressure of gas in the lines is reduced in direct proportion to the distance which it has traveled. It is, therefore, obvious that a point will be reached in the lines where the pressure is insufficient to carry the gas to consumers. This difficulty is overcome by means of compressing stations. The "compressing stations take the gas out of the low pressure, squeeze it or compress it so that it reaches a considerably higher pressure, and is then discharged into what is styled the main lines, main transporting lines." "Compressing stations" reduce the volume of gas in the chamber of the compressor, so that in accordance with well recognized physical laws the gas is raised to a high pressure by being reduced in volume. Compressing stations are placed at intervals along the lines wherever necessary; that is, wherever such a distance had been traversed that the pressure has become too low for proper or further transmission of the gas.

In general, the systems of the gas producing and distributing companies consist of gathering lines, which are lines leading to the main transportation lines; main

transportation lines, compressor stations; further transportation lines, leading to other compressor stations or to the various communities where gas is supplied by the companies, and the distributing systems in those communities, by which is meant a system of line regulators and curb boxes through which the gas is reduced in pressure and fed directly to the consumer's home or plant.

Compressing stations aid materially in the transmission of gas. It is not possible, however, to estimate just what distance the gas would go without compressing stations. In winter when the demand for gas is very heavy, many shortages are avoided by the use of compressing stations.

They serve more than one purpose. It has been explained that they are used to increase the gas pressure in order to permit its transmission for a greater distance. The stations are also utilized, however, in this way: By the installation and operation of compressing stations the pressure in the line between that station and the mouth of the gas well is reduced. Now, the lower the pressure at the mouth of the well, or in the lines leading from the well, the larger will be the amount of gas discharged from the well, since any discharge from the well must operate against whatever the resisting pressure is at the mouth. If, therefore, the latter is reduced, the result is a greater production of gas from that particular well. The operation of any compressing station affects the gas as to its pressure throughout the entire system. The gas passes back and forth through the pipe line system according to the point of lowest pressure upon the line.

HARRY A. QUAY.

Pages 153-155:

"Q. Very well, then, using the nomenclature of the trade, the effect is to reduce the pressure in the suction lines, so as to enable the gas from the oil sands to pass up through the gas sands, and pass up to a point where the compressor station will affect that gas, and then compress it in the compressing cylinders, so that when it is discharged into the transmission lines, it has an initial pressure of the amount to which it has been compressed by the compressors, so as to pass through those transmission lines to some other point distant therefrom?

A. That is correct. That is the effect the operation of the station has on the gas."

Compressing stations were first installed some 30 years ago in fields where gas had commenced to decline. The first models of stations have been very much improved.

If two companies are operating in any one gas territory, the installation by one company of compressing stations practically necessitates their installation by the other company, since the first company would be enabled by means of the stations to get more gas, other things being equal, than the company without such stations.

Assuming an initial rock pressure of 100 pounds constantly maintained, an outlet pressure of 25 pounds at which to deliver the gas to a distributing company, a 10-inch pipe line 100 miles in length would deliver in 24 hours 3,144,000 cubic feet of gas.

the same line 25 miles in length with the same pressures as above would deliver in 24 hours 8,640,000 cubic feet of gas.

The stations materially increase the distance through which gas can be transmitted. Without their operation thousands of wells today producing gas in West Virginia would long ago have been abandoned. They "permit the gas to come from the wells and go to market that otherwise would not have gone to market at all." (John B. Corrin—329 and 330).

In no case of which the witness (Mr. Corrin) knew had the Hope or Reserve Companies ever resorted to suctions or to vacuums on their wells. Other companies, however, may have done so. It is possible by means of compressor stations, however, to create a vacuum and to use said vacuum to extract gas from a well at a point below atmospheric pressure. The creation of a vacuum at the mouth of a well is merely the reduction of the pressure at that point below atmospheric pressure, the effect of which is to draw the gas up out of the well. The gas business will eventually arrive at a point where suctions or vacuums will have to be made use of in order to get as much production as possible from the lines. Much gas was wasted during the years 1892 to 1896 which had been discovered in drilling for oil.

MARTIN B. DALY.

Pages 579, and 581:

The consumer located nearest to the point of distribution between the high and low pressure gets a better supply of gas than those furthest away. The pressure is

lessened to a certain extent by each one taking out a little gas. It may not be noticeable until you get a considerable distance away, but it is a natural result that the nearer to the distributing point from the high to the low pressure, the greater the pressure to the consumer. If there were adequate pressure to go around, the man getting lower pressure would be served as well as the man getting higher pressure; but if there is a demand and gas is taken out of the wells to the extent that there is not enough left naturally the man farthest away does not get any service. In times of shortage of supply the consumers nearest the wells or source of supply have the better service.

SAMUEL S. WYER.

Pages 865 to 876:

> "• • • gas is a fluid composed of a large number of molecules which are vehicles of energy continually in motion, and having an inherent tendency to get farther and farther apart. The range of motion of the molecules is limited only by the volume of the closed containing vessel in which they constantly move to and fro. Every molecule possess the inherent power of energy and is eternally energetic within itself—that is the molecules are in a state of constant bombardment against each other and against the sides of the containing vessel. The most distinguishing characteristic of gas is its universal property of completely filling an enclosed space."

The term "natural gas" is used to denote a gas that is highly combustible and made by a secret process

of nature. Like water, it always seeks the lowest level; confined gas always tends to expand to lower pressures and this inherent tendency is the basic cause of all gas flow. Invariably gas flows in pipes or underground reservoirs from between openings of higher to openings of lower pressure and invariably this flow is accompanied by a decrease in pressure. The volume of any given mass of gas is inversely proportional to the pressure.

An illustration of one of the fundamental features of natural gas transmission, and one of the fundamental principles on which the whole transmission problem is predicted, is afforded by Pennsylvania Exhibit No. 35, appearing at page 1577, offered at page 867, which is a diagram showing that raising the pressure of a given mass of gas from 4 ounces per square inch to 300 pounds per square inch contracts the volume of that gas from 1,000 cubic feet to 46 cubic feet.

Given the thickness of a gas bed or sand, its degree of porosity, the limits of the gas pool and the rock pressure, a rough estimate might be made as to the amount of gas that is stored under ground. In no way, however, is such estimate to be depended upon as accurate. Furthermore, there is no way of determining accurately the degree of hardness or porosity of the gas sand or rock under any given area.

Fields drilled within 500 or 1,000 feet of each other display great variations in the amount of gas obtainable from each respective well. This is a common phenomenon. The only way of computing the potential productivity of a well is by actually drilling and testing it. The supply of gas produced by any given well is not directly proportionate to the rock pressure. Natural gas is

severed rom the soil in two different steps. After the well is drilled the first step is to place what is known as a packer at or near the bottom of the well, and the second step is the delivery of the gas into the well discharge line: Exhibit 36, offered at page 870, appearing at page 1578—diagrams of mechanical devices employed in first severing the gas from the soil, which merely means the puncturing of the gas bearing sand and affording the gas an outlet, and, second, bringing the gas under control by means of gates or valves and affording it a further outlet to the transmission lines of the Company.

See Pennsylvania Exhibit 37, offered at page 871, appearing at page 1579. This diagram shows how natural gas from West Virginia is directly transmitted to the consumer in another State. It shows the transmission of gas from the gas well to the gas measuring station in field; thence to the gas compressing station; thence to the gas cooling basin; thence by the main transmission lines to the gas measuring station at the gates of the various distributing plants where it is measured and then delivered to the medium pressure regulator; thence to the low pressure regulator and into the service line, and thence into the lines of the consumers.

Pennsylvania Exhibit No. 38, offered at page 874, appearing at page 1580, is a diagram showing the action of a natural gas compressor.

Page 876:

"Q. And to bring out—in view of the objection that has been made—the purpose of this distinction [between the terms 'transmission' and 'transportation'

and their respective significations]: if there are being transported over a line of railway a thousand cars of coal, when you take out in the State of West Virginia 100 of those cars, it does not affect the delivery of the other 900 cars, does it?

A. That is correct.

Q. But if you take out of the line through which gas is being transported, out of a thousand feet thus being transported, 100 feet before it leaves the line of the state of West Virginia, what is the effect on the other 900 feet which was being transported through that line?

A. You immediately disturb the pressure conditions, and thereby alter the flow capacity of the line—that is, the diversion of natural gas from a transmission line is not merely a separation of the commodity from the line, but by virtue of that separation, you get an inevitably disturbed pressure condition, which, if the amount of gas diverted is large enough, may annihilate the service at the extreme end of the line to the ultimate consumer.

Q. Even though the amount of gas taken out would not be the entire capacity of the lnie?

A. That is correct."

Page 908:

"Q. If the gas going from the well into the field to the ultimate consumer ever at rest?

A. It is not."

HARRY A. QUAY.

Page 18.

"* * * Natural gas in our lines is never at rest."

Page 909:

There is no such thing as the regeneration of natural gas in the sands from which it has once been removed.

Page 910:

"Q. Has the capacity of the transmission lines through which the gas is at the present time being transmitted for service in other states than West Virginia, been computed and fixed and arranged for the purpose of supplying that service?

A. It has."

Pages 1419 and 1420:

"A. In most cases the gas in the transmission line always goes in one geographical direction. There are, of course, a number of cases in West Virginia, and more in West Virginia than in all other parts of the United States combined, where there is a reversal of gas flow in the same transmission line; the gas may go in one direction part of the day, and in a diametrically opposite direction during another part of the day, but of course, in one direction only at one time, as contrasted with the constant current of trains going in both directions on railroads."

There is no way of calling into use extra equipment to carry the commodity transported in the case of pipe lines as there is in the case of railroads, where extra trains may be put on to handle heavy traffic or overloads. The variation in the transmission of gas between peak loads and normal loads is on an average of 700 per cent.

In transmission agencies, other than gas lines, such as railroads and traction lines, delays in rendering service are possible and universally practiced. For instance, a railroad can start a train one hour behind its schedule in case of congestion; natural gas service, however, must be instantaneous, for gas needed to cook breakfast cannot be furnished an hour late as the supply would then be useless.

Because of the uncertain life of gas wells, it is practically financially impossible for gas transmission companies to build additional lines to take care of all common carrier gas that might be offered them in view of the large indebtedness that would have to be incurred without any prospect of a fair return.

Another feature which renders a distinction or classification of pipe lines as common carriers unfeasible is the unsurmountable difficulty offered by the great fluctuations from normal to peak load, in that the pressure which can be placed on the gas is limited by the strength of the pipe lines.

Page 1421:

"The market for natural gas is not fixed, but varies largely with the season of the year, time of day. * * *"

It is impossible to forecast what the demand on the gas supplied by the companies by their domestic or industrial consumers will be at any given time.

Leakage in transit must be taken care of.

Natural gas cannot be readily stored.

Page 1422:

Gas being volatile and invisible cannot be transported or identified or measured in bulk as coal or oil or other commodities, and apparatus for measuring gas in large quantities is expensive to install and operate.

Pennsylvania Exhibit No. 55, offered at Page 1442, appearing at page 1619 (Exhibits Vol. 1): "Natural gas production, service and conservation. This exhibit embraces on pages 30 to 34 of the discussion heretofore cited.

JOHN B. CORRIN.

322—324:

The South Penn Oil Company was the Pioneer operator in West Virginia for oil. Its primary object in going there was to operate for and produce petroleum, but in its operations they got some dry holes and they got a lot of gas wells. The great problem was what to do with the gas wells. Many of the smaller operators abandoned these gas wells, but the South Penn Oil Company retained them and endeavored to get a market for gas around West Virginia. A company was formed called the Flaggy Meadow Gas Company to take over these gas wells and supply small West Virginia towns with gas, and also to supply the drilling wells and pumping wells. About 1894 the same owners that owned the South Penn and the Flaggy Meadow Companies formed the Mountain State Gas Company to produce natural gas and supply it to some of the river towns like Sistersville and Parkersburg. It was soon found, however, that the gas wells were accumulating so fast, both from the South Penn, Flaggy Meadow and Mountain State companies, that another market had to be sought, and the

Hope Natural Gas Company looked to Ohio and Pennsylvania for a further market. In Harrison and Lewis Counties, which territory the South Penn Oil Company had acquired, there was another heavy operator named T. N. Barnsdall, who had drilled quite a lot of territory for oil and had found gas. This territory of Mr. Barnsdall's was interlocked with the territory of the South Penn Oil Company.

In 1898 the Hope Natural Gas Company was formed, and the territory that the South Penn had held was transferred to the Hope Natural Gas Company. The territory of the Hope Company interlocked with Mr. Barnsdall's territory, and both were supplying gas to quite a number of towns in Ohio. At this time it was decided to join the interests of the Standard Oil Company and the Barnsdall interests in Harrison and Lewis Counties and form the Reserve Company and transport gas to Ohio, so that the Standard Oil Company interests might have a share of gas out of this field that was being transported to Toledo, and the Barnsdall interests might have their share of the gas transported to Ohio. The Barnsdall interests were later transferred to the Union Natural Gas Corporation.

The Connecting Gas Company was formed by the same interests that formed the Reserve Gas Company, and was intended to transport gas from the Ohio River or the division line between the states of Ohio and West Virginia to two points in Ohio, one of which is called Sugar Grove, where the Barnsdall interests or the Union Gas Corporation was to take its gas. The other point was at Wheeler, where the Standard Oil interest was to take its share of gas for transportation to Toledo.

The parties who were at that time interested in

the Northwestern Ohio Natural Gas Company transferred their interest in that company to the people who now own the Ohio Fuel Supply Company. This transfer was made in about 1910 or 1911.

Page 332 to 333:

(Note: The companies referred to below are the South Penn Oil Company, the Flaggy Meadow Company, the Mountain State Company, the Hope Natural Gas Company, the East Ohio Company and the Peoples Gas Company.)

"Q. These companies which you have mentioned were to a considerable extent, were they not, the pioneers that invested millions, and tens and hundreds of millions of dollars, in finding markets for the use of this gas that was being developed at that time in the State of West Virginia?

A. They certainly were the pioneers, there is no question about it; and if it hadn't been for these companies or companies similar to them, with a good backing of capital, why, I don't think that West Virginia would have been advanced to where it is to-day. * * *"

CHARLES M. SNAITH.

(Defendant's Witness—Cross Examination).

Page 1260.

The operations in Lewis, Braxton and Gilmer Counties by the early companies or individual operators in West Virginia, even though they resulted in the discovery of gas, were originally commenced for the pur-

pose of oil development, and as a matter of fact it was considered a misfortune when a prospector looking for oil discovered gas instead.

Page 1265.

About 1900, when gas was first found in Lewis County, independent producers flocked to that territory, hoping, however, to discover oil and drilling for it and sometimes finding gas instead although the discovery of gas was not the object of their operations.

Pages 1269, 1270:

Independent producers, drilling for oil and finding gas instead, regarded this as an unfortunate circumstance inasmuch as a market for the gas was not at that time available. This refers to independent operators in West Virginia.

PARKE BOWSER.

(Defendant's witness—Cross Examination).

Pages 1331, 1332:

The small independent producers of gas have no pipe line systems of their own, their property having been developed merely by reason of their having drilled test wells for oil and struck gas and then tried to obtain markets for gas. At such times when gas was struck in testing for oil the pipe line companies would afterwards come in and furnish the market for the gas.

Pages 1335, 1336:

The witness is a small producer. His purpose, as well as that of the majority of independent producers,

in taking up leases and going out for the purpose of drilling wells, was to find oil and not gas. However, when gas is discovered, although this is incidental to oil operations, an effort is made by such independent producers to find a market for the gas found. Independent producers do not as a rule set out deliberately for the purpose of obtaining a block of territory for the production of gas alone. As a matter of fact, independent producers were wont to consider discovery of a supply of natural gas as worse than a dry hole because of the trouble of plugging same.

F. C. DEVERICKS.

(Defendants' witness—Cross Examination)

Pages 1351 to 1354:

The South Penn Oil Company and the Southern Oil Company, which was one of Barnsdall's interests, operated originally in Tyler County, Preston County and Doddridge County, West Virginia. They took up a number of leases in that territory which were acquired primarily for the purpose of obtaining oil and not for obtaining gas although the leases covered both subjects. The companies, however, were originally oil development companies, and in those days natural gas was not regarded as a valuable find.

III.

THE LATER DEVELOPMENT OF THE NATURAL GAS FIELDS OF WEST VIRGINIA WAS MADE BY THE GREAT INTERSTATE TRANSPORTING COMPANIES FOR THE PURPOSE OF OBTAINING GAS TO BE TRANSMITTED TO MARKET IN OTHER STATES, WHICH MARKETS HAD BEEN SOUGHT SO AS TO GIVE VALUE TO THE NATURAL GAS PRODUCED IN WEST VIRGINIA.

HARRY A. QUAY.

Pages 18-20, 20-21:

It was about 1888 that the Manufacturers Company entered West Virginia and began operating there, and this was just a little after the propensities and potentialities of natural gas had been discovered.

At the present time the gas companies are supplying large and small communities located anywhere near their lines with natural gas.

Page 63-67:

The Manufacturers Light & Heat Company, which has been in the natural gas business since 1885, was incorporated under the laws of Pennsylvania, and has been engaged in the production and transportation of gas in West Virginia since 1902. By purchase or merger they secured the Tri-State Gas Company, the Wheeling Natural Gas Company and the Fort Pitt Company, which were operating in West Virginia in the Proctor, Hundred and Sedalia Fields and in certain other fields in Pennsylvania and Ohio.

Page 25:

"Q. Do you know for what purpose these investments were made with reference to the use of gas—as to where it was to be transported and sold—as to the Manufacturers Light and Heat, and as to all of these companies?

A. Speaking for the Manufacturers Light and Heat Company, this money was expended, and the developments made, for the purpose of supplying all of its customers as much gas as it could possibly secure for their use.

Q. And what as to the other companies, if you know?

A. Those that I am familiar with (Hope Company, Philadelphia Company, Ohio Fuel Supply Company, United Natural Gas Company), it was the same condition."

JOHN B. CORRIN.

Pages 210 to 211:

There are no known fields tributary to the cities and towns now being supplied by the large companies with natural gas which are not being developed and occupied by the various gas producing companies. Practically all the big operating companies and many of the smaller have been conducting pioneer development for the purpose of discovering new gas deposits or fields, which development work is known as "wild-catting."

Pages 319-320:

The Connecting Gas Company and the River Gas Company do not purchase any gas in West Virginia but secure all their West Virginia gas from the Hope Company, and, as has been testified to previously, have been organized for the purpose of furnishing the Peoples Gas Company with gas.

Pages 322-323:

The Reserve Company was formed by joining the Barnsdall interests in Harrison and Lewis Counties, and the Standard Oil Company interests, in order to transport gas to Ohio.

Page 325:

The Eastern Ohio Natural Gas Company was organized as a part of the operations of the Hope Natural Gas Company as an outcome of the operations of it and of the South Penn Oil Company in an endeavor by those interests to obtain an outlet for the gas they had secured and expected to secure in West Virginia. The East Ohio Company, supplying Cleveland, Canton, Akron and thirty or forty other cities in Ohio, afforded the market they desired to find for that gas.

Pages 331-332:

At the time of the organization of these companies gas was plentiful in West Virginia and the State did not afford a sufficient market for the gas available. It was necessary to find markets quickly and the organization of the companies above mentioned was for the purpose of seeking new markets in other States.

Pages 340-341:

The South Penn Oil Company, operating in West Virginia, had discovered large supplies of gas and the Flaggy Meadow Gas Company and the Mountain State Gas Company were organized for the purpose of "taking care of" the gas discovered by the South Penn; that is, finding a market for that gas.

H. A. WALLACE.

Pages 390-391 (Cross-examination):

Some of the predecessors of the United Fuel Gas Company, that is, some of the companies later taken over by that company, had built lines and conducted their operations for the purpose of supplying gas to consumers in West Virginia before the construction of the line to furnish gas to Cincinnati or to Louisville. The lines and systems of these predecessors were later acquired by the United Fuel Gas Company and made a part of their system.

JOHN B. TONKIN.

Pages 424-427:

In 1903 the Hope Natural Gas Company had a surplus of natural gas. The Peoples Natural Gas Company had the market but not the gas, consequently the Standard Oil Co. of N. J. purchased the Peoples Company. Immediately after the purchase the Hope Company started to lay a 16-inch line from Hastings Station up to Brave, Pennsylvania, a 16-inch line from Wilsonburg, Harrison County, West Virginia, also to Brave, Pennsylvania. The People Company at the same time started to build a 20-inch line from Pittsburgh to Brave to get this gas. The line was about 60 miles long.

The Hope Company was originally organized for the purpose of supplying the East Ohio Company with gas. The Standard Oil Company of New Jersey was the parent organization, acting through another subsidiary, the National Transit Company. Lines were built by both the Hope and East Ohio companies from West Virginia to Akron, Ohio, and later, in 1902, a line was built paralleling this line, and continuing through to Cleveland, Ohio. Later on an 18-inch line was built by the Hope Company from Hastings across the river near Clarington, Ohio, some ten or fifteen miles distant from the original river crossing, and also continued through to Cleveland. Later on a 20-inch line and another 18-inch line were built.

Pages 424-425:

In 1903, when the Standard Oil interests purchased the Peoples Company, the Hope Company had a large surplus of gas and the reason for the purchase was their desire to market this gas in States other than West Virginia. At this time the Peoples Company also had franchises in Pennsylvania and the opportunity to market large quantities of gas there, especially in the vicinity of Pittsburgh. The Hope Company, on the ther hand, had a large amount of gas for which it was otherwise unable to find a market.

Pages 614 to 617:

Statement showing acreage, gas wells and gas production in Pennsylvania and West Virginia, the number of producing gas wells, number of wells drilled, number of consumers,—domestic, industrial and other companies,—and the amount of sales,—domestic, industrial and other companies, fuel used in pumping stations, and

pumping and drilling wells, for the years 1910 to 1919, inclusive, of the Peoples Natural Gas Company: The statement for 1918 and 1919 is as follows:

	1918	1919
Operated Acreage—Acres	82,277	85,819
" " Cost	283,773.58	374,382.22
Unoperated Acreage—Acres	310,461	302,559
" " Cost	179,304.29	167,966.58
Gas Produced—M Cu. Ft.	13,850,362	12,223,833
Gas Purchased (Penna.) M Cu. Ft.	1,269,314	6,948,119
" " (W. Va.) M Cu. Ft.	18,209,928	6,496,994
No. Producing Gas Wells	1,042	1,108
No. Wells Drilled	146	130
No. Consumers—Domestic	75,697	79,112
" " Industrial	206	227
" " Other Companies	5	5
Amt. of Sales, Domestic—M Cu. Ft.	9,715,074	9,654,042
" " " Industrial— "	**18,377,988	12,264,921
" " " Other Cos. "	5,236,542	3,749,983
** Includes Gas for Own Operations, as follows:		
Fuel Used at Pump Stations, etc.	1,283,737	574,062
Pumping & Drilling Wells (Est.)	550,000	250,000
Total Gas for Operations	1,833,737	824,062

W. W. FREEMAN.

Page 456:

The investments made by the Columbia Company in West Virginia and by the Cincinnati Gas Transportation Company in laying gas lines was for the express purpose of bringing natural gas from West Virginia to the city of Cincinnati and the surrounding territory.

JUDGE REED.

Pages 487-488:

The first gas company acquired in West Virginia by the Philadelphia Company was the Fairmont and Graf-

ton Gas Company in 1905. The latter is now known as the Pittsburgh and West Virginia Gas Company. The Philadelphia Company also acquired in 1913 the stock of the Monongahela Natural Gas Company, the title actually passing, however, to the Pittsburgh & West Virginia Gas Company. In 1896, about the time of the organization of the Philadelphia Company in West Virginia, that company acquired 6,000 acres of gas in Tyler County, West Virginia, and about 34 miles of pipe line in that County, and 76 miles of pipe line in Green County. About 1900 the Philadelphia Company bought the Union Gas Company of McKeesport.

Pages 521 to 524:

Sometime in 1901 the Philadelphia Company acquired 30,693 acres of leases of productive gases in Lewis and Gilmer Counties, West Virginia. Some insufficiency of gas supply had manifested itself as early as 1891, and Mr. George Westinghouse, President of the Philadelphia Company, was considering the necessity of extending lines of the company southward and of establishing a fuel gas plant. By 1894 Brunot Island had been bought for the purpose of erecting such a plant. The gas business was increasing fast and it was necessary to get more gas. Therefore, subsequent to 1894 the Philadelphia Company gradually extended its own acquisition of other fields and other territory in a southward direction.

Page 486:

At the time the Philadelphia Company commenced operations in West Virginia, the Pennsylvania gas fields were becoming exhausted and insufficient to supply the consumers of the Philadelphia Company in Pennsylvania. The Company proceeded to lay lines in

West Virginia and extended their business into Pennsylvania territory for the purpose of supplying West Virginia gas there.

MARTIN B. DALY.
(East Ohio Gas Company)

Page 582:

"Q. Now, from your Ohio Exhibit No. 1 give the extent of your company's main lines and connecting lines that were designed and constructed and are being operated for the purpose of transporting and distributing natural gas from the Hope Natural Gas Company in West Virginia.

A. These pipe lines, with the exception of the Imperial line running from Youngstown to the southeasterly corner of Mahoning County, being an 8-inch pipe, and the pipe line from Ashland County to Barberton, a 12-inch pipe line, were all constructed with a view of bringing gas from West Virginia and distributing and delivering it to the various municipalities. The line known as the Imperial lines was formerly bringing gas into Pennsylvania. That is no longer available. The quantity was very small. A line from Loudonville to Barberton is transporting gas now from our producing fields; otherwise all the pipe lines were constructed with a view of transporting gas from the West Virginia fields.

L. B. DENNING.

Pages 664-665:

The cost of the main lines of the Ohio Fuel Supply Company for the purpose of transporting and distributing West Virginia gas in Ohio is as follows:

"Line E from the Ohio River to Wheeler Station at Sugar Grove; used exclusively for the transportation of gas out of West Virginia, 63.9 miles in length, 18-inch in size, cost $879,902.96.

Line D from Wheeler Station to Valley Crossing just to connect into the Columbus feed system at Valley Crossing, 12-inch, 33.26 miles long, cost $280,043.91.

Line F from the junction point on Line E neat Chester to Pomeroy, and extending beyond Pomeroy to Gallipolis and into Jackson County, and consisting of part 6-inch and part 4-inch, 61.19 miles long, used in transportation of West Virginia gas exclusively, cost $226,450.11.

Line A from Columbus to Norwood, known as the Cincinnati 18-inch, which was not built exclusively for the transportation of West Virginia gas, but which we estimate as devoted fifty per cent. of its cost to the transportation of West Virginia gas, being 18-inch in size, 54.30 (?) miles long, cost $762,177.56. * * *"

Page 665:

The Northwestern investment for West Virginia gas represents their entire investment, or $6,112,730.48.

The Northwestern has some slight production in Northern Ohio, but that is small and limited, and for all general intents and purposes it is correct to say that the entire investment of the Northwestern is devoted to West Virginia gas.

Pages 665-666:

"Q. And originally those main transportation lines from the Sugar Grove Station through the State of Ohio to the Northwestern were laid for the purpose solely of transporting West Virginia gas to the Toledo country?

A. The 18-inch line of the Ohio Fuel Supply Company extending from Wheeler Station southeasterly to the Ohio River, and connecting with the 18-inch line of the United Fuel Gas Company, was laid, built, and the investment made for the express and only purpose of procuring and transporting gas from West Virginia. The line of the Northwestern—its transmission system—was built and laid exclusively and for the sole and only purpose of obtaining gas from West Virginia.

Q. Then, Mr. Denning, the lines which you have just described, giving the cost thereof and the location, with the exceptions you have noted, both as to the Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, were designed, constructed, and are being maintained for the purpose of handling and marketing West Virginia gas?

A. Yes."

Page 712:

> "The Cincinnati line was built as a part of the plan, relying on obtaining gas from West Virginia, as I said this morning."

Pages 683 to 685:

The Ohio Fuel Supply Company, organized in 1902, was substantially a consolidation of a number of smaller

companies operating in Southern Ohio, including the Mt. Vernon Natural Gas Company, the United Gas Company, the Corning Natural Gas Company, the Roseville and Crooksville Gas Company, the Bremen and Rushville Gas Company and the Great Southern Gas and Oil Company, all of which had been producing and distributing natural gas. After being taken over, the smaller companies were all consolidated into one service, and the Ohio Fuel Supply Company proceeded to extend its lines. About 1903 or 1904, the Ohio Company bought the Federal Gas and Supply Company in Columbus with its fields in the Sugar Grove district and with a 12-inch line extending from Sugar Grove up to Columbus. In 1907 an 18-inch line was constructed from Columbus to Norwood. In 1909 an 18-inch line was constructed from Sugar Grove to the Ohio River to connect with the line of the United Fuel Gas Company bringing gas from West Virginia.

The Ohio Fuel Supply Company originally constructed the entire line into West Virginia and into the West Virginia field and afterwards sold it to the United Fuel Gas Company. In 1910 the Ohio Fuel Supply Company acquired the Ohio Southern Gas Company, embracing the territory or towns in Jackson and Vinton Counties. In 1917 the company bought the property of the Central Contract and Finance Company, which embraced acreage and producing wells in Vinton County, Ohio, and a pipe line extending from Sugar Grove to Sidney. The Company first received gas from West Virginia when the 18-inch line was completed in 1909.

EUGENE P. WHITCOMB.

Pages 781-782:

"Q. Now, Mr. Whitcomb, to what extent has your companies lines been designed and constructed and being maintained for the purpose of receiving and marketing West Virginia gas?

A. The constructing of a 16-inch line north from Sugar Grove, connecting with the intake of Bangs Compressing Station in Knox County, Ohio, was laid exclusively for the transportation of gas to our Central and Northern Divisions. The construction of the 18-inch Sugar Grove-Dayton line, a distance of about 84½ miles to the City of Dayton, with an extension of about 78 miles of 16-inch line to the City of Muncie, Indiana, together with its branch line connections to cities and towns in the State of Ohio and State of Indiana, principally the City of Dayton in Montgomery County, Ohio; the City of Anderson in Madison County, Indiana; New Castle in Henry County, Richmond in Wayne County, Indiana, and Greenville in Darke County, Indiana, was laid particularly for that purpose and for no other.

LOGAN NATURAL GAS & FUEL COMPANY AND AFFILIATED OHIO GAS COMPANIES.

Summary of Investment for Delivery of Gas From West Virginia.

Pipe Lines of Towns of Other Companies:

Line No.	From	To		Physical Property.	Overhead Charges.	Cost of Attaching Business	Total
E	Sugar Grove	Muncie, Indiana	16 and 18"	$1,996,783.89	$439,292.44	$243,607.63	$2,679,683.96
E- 7.	Line E South	Dayton	12"	22,524.66	4,955.43	2,748.01	30 228.10
E- 8.	" " "	"	10"	19,404.91	4,269.08	2,367.40	26,041.39
E- 9.	" "	Richmond	10"	93,885.11	20,654.73	11,453.98	125,998.82
E-10.	" "	New Castle	8"	82,752.99	18,205.65	10,095.87	111,054.51
E-11.	" "	Anderson	10"	137,354.13	30,217.92	16,757.21	184,329.26
E-12.	" "	"	8"	12,043.61	2,649.50	1,469.32	16,162.52
E-13.	" "	Fairmont	12"	192,202.37	42,284.52	23,448.69	257,935.58
E-14.	" E-13.	North of Fairmont	10"	17,699.20	3,893.82	2,159.30	23,752.32
E-17.	" E	Ohio Fuel Company	8"	172.43	39.47	21.89	240.79
E-18.	" E-13.	Private Line	10"	69.79	15.35	8.51	93.65
E- 5.	" E	Mt. Sterling, Ohio	10 and 12"	14,962.54	3,291.76	1,825.43	20,079.73
E-19.	Sugar Grove Sta.	Line E		991.88	218.22	121.01	1,331.11
E-20.	" " "	" "		991.89	218.22	121.01	1,331.12
		Total		$2,591,846.40	$570,206.20	$316,205.26	$3,478,257.86

1727—Pipe Lines to Own Towns:

Line No.	From	To		Physical Property.	Overhead Charges	Cost of Attaching Business	Total
E- 2.	Line E	Amanda, Ohio	2"	47.64	10.48	5.81	63.93
E- 4.	"	Ashville, "	3"	4,391.96	966.23	535.82	5,894.01
E- 3.	"	Circleville, Ohio		51,708.16	11,375.80	6,308.40	69,392.36
C	Sugar Grove	Chillicothe	8"	238,828.31	52,542.23	29,137.05	320,507.59
C- 2.	Line C	Logan	6 and 8"	52,857.14	11,628.57	6,448.57	70,934.28
C- 3.	"	Rockbridge	2 and 3"	548.97	120.77	66.97	736.71
C- 4.	"	Laurelville	2"	1,037.25	228.20	126.55	1,392.00
C- 5.	"	Adelphia	2"	748.95	164.77	91.37	1,005.09
C- 6.	"	Kingston	3"	12,233.80	2,691.44	1,492.52	16,417.76
C- 7.	" C-6	Hallsville	2"	30.07	6.62	3.67	40.36
C- 8.	" C-2	Logan Regulator		28.15	6.18	3.43	37.76
M	Gloucester	Beaumont	6"	62,245.72	13,694.06	7,593.98	83,533.76
M- 2.	Line M	Athens	3"	3,827.82	842.12	466.99	5,136.93
M- 3	"	Chauncey	2"	74.21	16.33	9.06	99.60
A	Sugar Grove	Newark Connection	16"	339,474.41	74,684.37	41,415.88	455,574.66
A- 4.	A-6	Newark, Ohio	8"	5,813.19	1,278.90	709.21	7,801.30
A- 5.	"	" "	6"	5,215.00	1,147.30	636.23	6,998.53
A- 6.	Line A Toward	Newark	10"	33,986.61	7,477.05	4,146.37	45,610.03
		Total		$813,097.36	$178,881.42	$99,197.88	$1,091,176.66
Sugar Grove Compressing Station				$549,071.00	$120,795.62	$66,986.66	736,853.28

Tabulated between pages 784-785.

Page 769:

"THE LOGAN NATURAL GAS & FUEL COMPANY.

OHIO AND INDIANA.

TRANSMISSION SYSTEM PIPE LINES.

4	inch	71.70 miles
$5\frac{3}{16}$	"	8.13 "
$5\frac{5}{8}$	"	1.38 "
6	"	109.05 "
$6\frac{5}{8}$	"	2.57 "
8	"	158.61 "
10	"	148.87 "
12	"	130.41 "
16	"	161.76 "
18	"	84.37 "
Total Transmission Pipe Lines		876.82 "

J. W. McMAHON.

Page 719:

"Q. Tell its starting history. (of the Northwestern Ohio Natural Gas Company)?

A. At that time they produced the gas from northwestern Ohio. They acquired thousands of acres of land in fee and by lease throughout the counties of Wood, Hancock, Seneca and the northwestern counties of Ohio. They drilled thousands of wells and piped the cities and supplied natural gas to the consumers. About 1900, 12 years after they began exploiting for gas, the gas supply of northwestern Ohio was becoming exhausted. The gas was found in the Trenton rock field only in northwestern Ohio and the oil was also found in that same formation, and in drilling for oil, which was the most valuable commodity at that time, they drilled so many thousands of

wells that the gas was permitted to escape and did escape into the air. It created a back pressure upon the oil wells and they let it out. Efforts were made at that time by the passage of laws by the legislature of this State to prohibit the wastage of gas, but those efforts did not seem to prolong the life of the gas field a great deal, and it began to become exhausted very rapidly. At that time the City of Toledo was engaged in the natural gas business as a municipality. They bonded themselves I think for $1,500,000.00, which bonds are still outstanding and not paid, and went into the natural gas business. I believe the city of Fremont did the same, as well as Findlay,—the northwestern cities. But almost before the City of Toledo got to producing gas the field from which they expected to draw was about exhausted, and they went out of business; sold their lines practically for junk, I believe, and discontinued. The Northwestern Ohio Natural Gas Company then had two lines, one a ten-inch line and one a twelve-inch line running from the City of Toledo south to the then known gas fields of Ohio.

Q. In the counties which you have already named?

A. Yes, sir. They were confronted with a possibility of losing their entire investment, or getting gas elsewhere. They then entered into a contract with The Hope Natural Gas Company, whereby they were to lay a line or lines south from Tonkin Station, which was 38 miles from Toledo, to a point known as Sugar Grove, in Fairfield County, Ohio, where they were to connect with or receive gas from The Hope Natural Gas Company, which company, in turn, was to procure that gas from West Virginia."

Page 724:

"Q. And is it a fact that your company's lines extending southward from Tonkin Compressing Station to the Wheeler Compressing Station, a distance of A 160 miles, and being two in number were designed, constructed and have been operated exclusively for the purpose of conveying natural gas to the consumers of the company whom you have described?

A. Yes."

G. F. BATCHELOR.
Of the Natural Gas Company of West Virginia.

Page 744:

"As of December 31, 1919, the company held in Greene County, Pennsylvania, 9,042 acres of operated leases, 5,700 unoperated, total of 14,732 acres; in Washington County, Pennsylvania, 4,172 operated, 19,373 unoperated, total of 23,545; in Belmont County, Ohio, 7,296 operated, 20,279 unoperated, total of 27,575; Monroe County, Ohio, 105 operated, 32 unoperated, total 137 acres; in Marshall County, West Virginia, none operated, unoperated 12,146; in Ohio County, West Virginia, none operated, unoperated 130, making a total acreage in all the places of 20,615 operated, 57,660 unoperated, total of 78,275 acres."

J. K. ANDERSON.

Page 814:

Pennsylvania Exhibit No. 27 offered at page 814, and shown in Book of Exhibits at page 1566:

"Gas leases controlled by natural gas companies in West Virginia for the year ending December 31, 1919."

Wells owned Dec. 31, 1919, in West Va.	8138
Wells in use Dec. 31, 1919, in West Va.	3066
Unoperated acreage in West Virginia	2,017,388
Operated acreage " " "	708,602
Total unoperated and operated acreage in West Va.	2,175,606

Page 822:

Pennsylvania Exhibit No. 31, offered at page 822, and shown in Book of Exhibits at page 1568:

"Statement showing relation of operated and unoperated leaseholds of large interstate natural gas companies and small local intrastate gas companies doing business in the State of West Virginia, based upon reports to the Board of Public Works for the calendar year ending December 31, 1919:"

	Unoperated Acreage	Operated Acreage	Total	Unoperated	Operated
7 large companies	2,169,310	784,810	2,954,120	73.43%	26.57%
20 small intrastate gas companies	10,317	17,302	27,619	37.35%	62.65%

S. S. WYER.

Page 877:

The Fayette County Gas Company connects with the Hope Natural Gas Company, and receives from the Hope Natural Gas Company at the Wade Measuring Station gas which is here taken into Pennsylvania.

Page 969:

"The enforcement of the Act would place a premium on improvident operation, because the ones that would most directly be benefited are the ones that would in

the past not have made provision for the future in the way of carrying reserve acreage or reserve lines or looking for reserve feeders for the future, but have built only for the immediate present, and the enforcement of the Act would require those who have gone into West Virginia on the faith that their property rights would not be disturbed, and have invested large sums, first in the acquisition and second in the carrying of large amounts of reserve territory for future operation to surrender such territory secured originally for interstate purposes solely to intrastate use."

Page 908:

"Q. Have the compressing stations that have been constructed for the South of West Virginia on these various transmission lines been constructed for the purpose of transmitting gas in the State of West Virginia on through these interstate transmission lines?

A. Most compressing stations built in West Virginia have been built for the purpose of transmitting natural gas through the interstate transmission lines to other states."

Page 910:

"Q. Has the capacity of the transmission lines through which the gas is at the present time being transmitted for service in states other than West Virginia been computed and taxed and arranged for the purpose of supplying that service?

A. It has."

H. E. NEASE—DEFENDANT'S WITNESS.

Page 1003:

STATEMENT SHOWING ACREAGE HELD IN WEST VIRGINIA BY SEVEN COMPANIES DECEMBER 31, 1919.

	Undeveloped.	Developed.	Total
Hope Natural Gas Company	690,094	338,776	1,028,870
Pittsburgh and West Virginia Gas Company	209,128	108,198	317,326
United Fuel Gas Company	653,699	62,337	716,036
Reserve Gas Company	4,664	51,556	56,220
Carnegie Natural Gas Company	33,921	43,171	77,092
Columbia Gas and Electric Company	180,933	28,737	209,670
Manufacturers Light and Heat Company	94,281	56,530	150,811
Totals (seven companies)	1,866,720	689,305	2,556,025
Grand total	1,986,614	739,184	2,725,798
Percentage of grand total held by seven companies	93.9%	93.2%	93.8%

See West Virginia Ex. No. 17, showing corresponding figures for years 1910-1919 inclusive, offered p 998, appearing Folios 390-400. Exhibits 17A to 17K inclusive, offered p 998, appearing Folios 390-400, consist of reports showing the figures separated for the seven companies.

Pages 1176 to 1188 et seq., show statements of holdings of acreage of leases and number of wells in the individual companies above named in the different counties.

EDWIN ROBINSON.

Page 1391:

Pennsylvania Exhibit No. 54, offered at page 1391, in Book of Exhibits at page 1608.

Statement showing approximate acreage held by certain companies and individuals operating for oil and gas in West Virginia at approximately the present time.

Developed	Undeveloped	Total
524,007	1,416,659	1,940,666

General summary of acreage held by operators in West Virginia as compared with testimony of Mr. Nease, and testified by Nease as held by 7 companies:

	Developed	Undeveloped	Total
Held by 7 large companies	689,305	1,866,720	2,556,025
Ascertained as held by other operators	524,007	1,416,659	1,940,666
Estimated held by operators not included in above	100,000	3,300,000	400,000
	1,313,312	3,583,379	4,896,691
Percentage held by operarators than the 7 companies without the estimate of those unascertained.	43.2%	43.1%	43.2%
Percentage with the estimate of those unascertained	47.5%	47.9%	47.9%

IV.

THE AMOUNT OF THE INVESTMENT OF THE COMPANIES PRODUCING GAS IN WEST VIRGINIA AND TRANSPORTING IT TO OTHER STATES IN OBTAINING AND CARRYING LEASES, DRILLING WELLS AND LAYING PIPE LINES, &c.

HARRY A. QUAY.

Pages 5-6:

The Manufacturers Light & Heat Company has about 147,000 acres of gas territory under lease and about 457 gas wells in West Virginia.

Pages 24-25:

The Manufacturers Light & Heat Company has expended some thirty millions of dollars or more on various operations in West Virginia, these operations including the taking of territory, making leases, drilling wells, laying lines, building compressing stations, and so on. The investments of the other large companies in West Virginia must have run into tens of millions of dollars.

Pages 81 to 83:

In the year 1919, the Manufacturers Company was operating 461 wells and 48,155 acres in West Virginia, and had under lease 94,280 unoperated acres, having increased to that extent from 278 wells in 1910 and 33,918 acres operated and 60,704 acres unoperated in 1913 in the same State.

T. O. SULLIVAN.

Pages 184-185:

The Hope Natural Gas Company held under lease in West Virginia in 1919 about 1,010,000 acres of land, including operated and unoperated acreage, and 3440 producing gas wells. The operated acreage amounted to 322,777 acres.

Pages 206-207:

The Hope Natural Gas Company has invested an amount exceeding $100,000,000.00 in the gas business in West Virginia. This includes the acquisition of land, drilling of wells, laying of pipe lines, royalties, pumping stations, compressing stations, etc. The investment in capital concrete property used in the construction of the plant, which included wells, acreage, pipe lines, compressor stations, and other paraphernalia and appliances connected with the business, was estimated at approximately $37,000,000.

Pages 232-233:

In 1910 the Hope Natural Gas Company held under lease 151,838 operated acres, 842,987 unoperated acres, total 994,825 acres, and 1,326 gas wells. By 1919 this had increased to 322,777 acres operated, 687,155 acres unoperated, total 1,009,933 acres under lease, and 3,440 gas wells.

Pages 248-249:

Compressing stations are costly affairs, one 5,000 H. P. station costing about $750,000. One of the Hope Company stations—the Hastings Station—must have cost several millions of dollars.

Pages 268-275:

In the course of its operations the Hope Company acquired by purchase, by buying the stock, or by other methods, the Mountain State Gas Company, the Rural Gas Company, the Berea Light, Heat and Power Company, and the Mt. Clair Gas Company.

JOHN B. CORRIN.

Page 324:

The present investment of the Reserve Gas Company in West Virginia is about $7,000,000.00.

Pages 335-336:

The Reserve Gas Company has in West Virginia 56,000 acres of land. Of this acreage, 4,000 acres is unoccupied territory. The Hope Company has about 1,100,000 acres, and of this about 700,000 acres is unoperated. The oil and gas companies operating in West Virginia have paid at least sixty million to seventy-five million dollars in rental money in the last twenty years.

Pages 356 to 358:

The large gas companies, not including those affiliated with the Standard Oil Company of New Jersey, have invested over $100,000,000 in West Virginia in rentals alone, among them the Philadelphia Company, the Carnegie Natural Gas Company, the United Fuel Gas Company, the Manufacturers Light and Heat Company, the West Virginia Central Company, and the Fayette County Gas Company.

H. A. WALLACE.

Pages 359 to 361:

The United Fuel Gas Company invested about $1,000,000 in West Virginia up to 1909 without receiving any revenue therefrom up to that time. The total acreage of the United Fuel Gas Company in West Virginia is 806,785 acres. The Company has 626 gas wells in West Virginia.

Pages 367-368:

By the end of 1909 the United Fuel Gas Company had invested between 23 and 24 million dollars in actual cash in West Virginia. The valuation of the property owned by the company in West Virginia, as shown on the books of the company, is about $50,000,000.00.

Pages 373-374:

The United Fuel Gas Company expends annually in the laying of lines, drilling of wells, maintaining and building compressor stations, and in general to maintain gas lines, from two to three million dollars. This sum will increase as the fields get older.

JOHN B. TONKIN.

Page 425:

The Peoples Natural Gas Company, which was later acquired by the Standard Oil Co of N. J., had expended about $1,800,000 in laying pipe lines. A pipe line built by the Hope Company to Wilsonburg cost about $1,500,000.

Page 427:

The total investment of the Peoples Natural Gas Company, as of December 31, 1919, was $16,442,234.71, representing money sunk in main lines, field lines and city plants. Of this about 600,000 had been invested in gasoline plants and oil wells. The capital stock of the Peoples Natural Gas Company was $11,000,000.

W. W. FREEMAN.

Page 455:

The investment of the Columbia Gas and Electric Company, as of December 31, 1919, in wells, territory, pipe lines, compressor stations, etc. was at least $11,000,000. The company owned, as of the same date, 253 gas wells, 29,000 acres operated, 221,000 acres unoperated.

Page 456:

The investment of the Cincinnati Gas Transportation Company in West Virginia in similar property was approximately two and one-quarter million dollars. The entire investment of the company all the way through to Cincinnati was about seven and one-quarter million dollars.

Pages 463 to 465 to 472 (Cross-examination):

In 1915 the Columbia Gas and Electric Company had under lease 19,424 acres operated, 216,357 acres unoperated. By 1919 these figures had increased to 28,737 acres operated and 180,932 acres unoperated. All figures are for acreage leased in West Virginia. The figure of $11,000,000 previously testified to as representing the investment of the Columbia Gas and Electric Company in West Virginia represents both money invested and

the actual valuation of the Company's property. Valuations of $200 per acre have been put on the operated acreage and $10 per acre on the unoperated acreage. The investment had been ascertained upon a basis of replacement cost as of September 1917.

JAMES H. REED.

Pages 488 to 490:

The Philadelphia Company was running 13 compressing stations in West Virginia and 10 in Pennsylvania. The Company had expended something over $20,000,000 in West Virginia since the beginning of their operations there for leases, rentals, payrolls and taxes, and an equal sum for improvements.

In 1910 the Company had under lease in West Virginia acres operated 47,240; acres unoperated 424,355; total 471,596. By 1919 acreage unoperated had decreased to 209,127; acreage operated had increased as steadily to 108,198; total 317,326.

Gas Wells. In 1911 the Company had 487 gas wells in West Virginia. This number had increased to 1238 in March 1919.

Pages 504 to 505:

The total investment of the Philadelphia Company including that of the Equitable Gas Company, the Allegheny Heating Company, the Monongahela Natural Gas Company, the Pittsburgh and West Virginia Gas Company, the Philadelphia Company of West Virginia, and the Philadelphia Oil Company in Pennsylvania and West Virginia, was $45,000,000 according to the balance sheet for the year ending December 31, 1919. If the

amounts expended upon extensions were included the total would be around $60,000,000.

Page 522:

The Philadelphia Company had acquired from March 31, 1900 to March 31, 1901 over 30,000 acres of leases of productive territory in Lewis and Gilmore counties, West Virginia.

J. E. ANGLE.

Pages 536-537:

The investment of the Fayette County Gas Company in its transporting and distributing systems and field operations, as of December 31, 1919, was $1,567,-449.15.

MARTIN B. DALY.

Pages 581-582:

The East Ohio Gas Company has in its main transportation system approximately 860 miles of pipe line. This does not include the gathering lines in the fields. In the towns and cities, for the distributing systems said company has approximately 3,000 miles, making a total of 3800 (3860) miles. This does not include anything below 2 inches, and if the smaller pipe were added it probably would increase that mileage by 300 miles.

Page 584:

The physical valuation of the plant of the East Ohio Gas Company is approximately $47,000,000. This does not include good will, franchise value or govern-

ment bonds,—includes nothing but physical property. The present capital stock outstanding is about $38,000,000.

Page 603 (Cross-examination):

Stock in the form of stock dividends has been issued to the amount of $4,500,000.

"The Peoples Natural Gas Company.

STATEMENT SHOWING AMOUNT OF INVESTMENT JAN 31st, 1903, to DEC. 31st, 1919.

January 31, 1903	2,866,168.37
December 31, 1903	3,356,291.66
" " 1904	5,542,687.20
" " 1905	5,720,388.09
" " 1906	5,840,844.73
" " 1907	6,166,291.77
" " 1908	6,926,445.78
" " 1909	7,711,793.13
" " 1910	8,895,543.06
" " 1911	9,055,152.74
" " 1912	9,713,904.90
" " 1913	10,736,887.28
" " 1914	11,855,830.50
" " 1915	12,324,018.03
" " 1916	13,409,435.93
" " 1917	14,207,497.76
" " 1918	14,955.003.89
" " 1919	16,442,234.71

L. B. DENNING.

Page 664:

The Ohio Fuel Supply Company has invested approximately $3,505,526.82 in its various lines and transmission systems for the purpose of transporting West Virginia gas to consumers in Ohio.

Page 707:

The original capital investment, or at least the approximate amount thereof, of the Ohio Fuel Supply Company is, as of May, 1920, for physical properties, $24,588,676.99; material in stock, $1,159,729.92. A total would approximately be $28,284,696.00. The figure of $24,588,676.99, as given above, represents simply the cost value of the actual physical property, main lines, transmission lines and distributing property, but said company is interested in other properties through stock ownership which would increase the total valuation of their property to about $34,574,960.99.

J. W. McMAHON.

Page 726:

The capital stock of the Northwestern Ohio Natural Gas Company is $2,750,000.00, and there has been invested as capital account in the construction, extending and building up of the property of said company to its present state, between six and a half and seven million dollars The present value would be greater than the amount here stated.

Page 737 (Cross-examination):

The six million dollars above stated covers physical

property. In addition to this, the said company carries a surplus of less than a million dollars.

EUGENE P. WHITCOMB.

Page 750:

The capitalization of the Union Natural Gas Corporation on May 24, 1902, was $6,000,000. In September, 1902 this was increased to $8,000,000; in June, 1903, this was increased to $9,000,000; and in March, 1913, to $10,000,000, which is the authorized capitalization at the present time. Said corporation has authorized bonds in the amount of $6,000,000. The amount in the treasury at the present time is $1,422,000; cancelled, $178,000; redeemed, $2,822,000, and outstanding as of this date, $1,578,000.

"Production System Pipe Lines

4 inch	148.94	miles
4¾ "	.80	"
4⅞ "	.17	"
5 3/16 "	10.65	"
5⅝ "	.61	"
6 "	121.97	"
6⅝ "	18.52	"
8 "	95.54	"
10 "	38.19	"
12 "	64.22	"
16 "	27.62	"
Total Production System Pipe Lines	527.23	"

Gas Well Data

Year	Productive gas wells drilled & purchased	Unproductive wells drilled	Total wells drilled & purchased	Gas wells abandoned and sold	Total gas well as of Dec. 31
1910	59	38	97	40	501
1911	64	22	97	70	495
1912	86	27	113	33	548
1913	92	28	120	42	598
1914	74	27	101	53	619
1915	119	27	146	37	701
1916	73	22	75	49	725
1917	100	45	145	79	746
1918	109	36	145	76	779
1919	54	46	100	76	757"

Page 775:

"A. The investment in stock of Reserve Gas Company and Connecting Gas Company by Union Natural Gas Corporation during the period from December 31, 1902, to December 31, 1914, both years inclusive, amounted to $3,650,000, of which amount $1,250,000 was paid in cash for stock of Reserve Gas Company and 15,000 shares of the par value of $100 per share of the stock of the Union Natural Gas Corporation."

Page 785:

"Q. Can you give us an estimate, or the exact value, of your investments made by reason of the fact that you have received and are receiving West Virginia gas?

A. The total investment in pipe lines to towns of other companies is $3,478,250.86; in the pipe lines to our own towns—or, rather, the towns in which we own the distributing plants $1,091,176.66; in the Sugar

Grove Compressing Station, $736,853.28; and in our distributing plants which are distributing West Virginia gas, $1,214,966.28; or a total of $6,521,254.08."

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1051 to 1053:

The Ohio Fuel Company and the South Penn Oil Company produce considerable gas which is sold to other companies, but on the list of natural gas utilities operating within State of West Virginia as of December 31, 1919, these companies have not been included because they are not required to make reports to the Board of Public Works. The same applies also to the Owens Bottle Machine Company.

Note: The total of the foregoing investments as shown by the testimony of the witnesses exceeds $350,000,000. Of this amount the same testimony shows over a half or about $200,000,000 is invested in West Virginia.

V.

THE EXPORTATION OF NATURAL GAS FROM WEST VIRGINIA TO OTHER STATES AS CARRIED ON BY THE GAS COMPANIES OPERATING IN THAT STATE, SHOWING THE LINES OF TRANSMISSION, THE MOVEMENT OF GAS THROUGH THE LINES AND THE OPERATION INTERSTATE AND AS ONE SYSTEM OR UNIT.

HARRY A. QUAY.

Pages 71, 70, 74; 87 and 88; 103 to 106; 111 to 114; and 155 to 157; The Manufacturers Light & Heat Company.

T. O. SULLIVAN.

Pages 187; 189 to 193; 254 to 257; 260 and 261 and 308 to 312; Hope Natural Gas Company.

JOHN B. CORRIN.

Pages 317 to 319, and 341 to 343; Reserve Natural Gas Company.

H. A. WALLACE.

Pages 385, and 409 to 410; United Fuel Gas Company.

W. W. FREEMAN.

Pages 455 and 456; Union Gas & Electric Company.

JAMES H. REED.

Page 530; Philadelphia Company .

HARRY A. QUAY.

Pennsylvania Exhibit No 1, offered at page 30, appearing at page 1493, replaced by Pennsylvania No. 39-E, offered at page 876 (Wyer), appearing at page 1585.

This is a map showing the main lines of The Manufacturers Light & Heat Company in Ohio, Pennsylvania and West Virginia. Testimony on page 30 gives the size of the various lines, which run from 6 to 20 inches. The map shows the pipe lines crossing the boundaries between Ohio, Pennsylvania and West Virginia over forty times.

Pages 16 to 18:

The Hope Company delivers gas to the Manufacturers Company at the Sedalia station in Doddridge County, West Virginia in large amounts. Gas from the well of the Manufacturers Company itself is delivered to the same station. The gases commingle and enter the compressor, where they are discharged and enter the same main line or distributing system leading to the various communities served. The same situation exists in the station at Wetzel County, West Virginia and at the Porter Falls station. All these gases with the exception of the Porter Falls gas, join and meet and enter the main discharge line of the Manufacturers Company at or near Ludenville, Marshall County, West Virginia. The gas leaves the Hundred station, passes through the balance of Wetzel County, enters and crosses the Pennsylvania State Line at Greene County, Pennsylvania, passes out of the State of Pennsylvania and again enters the State of West Virginia, and meets with the line coming from the Sedalia station at Ludenville.

The gas from the two stations commingle, then pass northeast through Marshall County, West Virginia, and again cross the state line.

Pages 15 to 16:

The distance from the most southern point of the pipe lines of the Manufacturers Light and Heat Company to the most northern point is approximately 168 miles. The most southern point is Sedalia Station, Doddridge County, West Virginia, and the most northern is in Mercer County, Pennsylvania. The Manufacturers Company receives gas which it either purchases or produces in West Virginia, into its own transmission or main lines in West Virginia and transports that gas from West Virginia into Pennsylvania.

The Manufacturers Company "produces gas in the three states (Pennsylvania, Ohio and West Virginia) in which it operates, buys gas in the three states in which it operates, transports and sells gas in the three states in which it operates."

"Q. Without the intervention of any other Company?"

A. Yes, sir."

In general, gas in the lines of the Company crosses and recrosses both the West Virginia-Pennsylvania and the West Virginia-Ohio State Lines.

Page 114:

There are other companies whose pipe lines cross and recross the Pennsylvania West Virginia State Line, although this condition does not exist to the extent of a single pipe line system crossing and recrossing a state

line 43 times, as is the case with the system of the Manufacturers Company.

Page 131:

The upper end of West Virginia, principally the towns of Chester and Newell, are supplied with gas from lines leaving the State of Pennsylvania and re entering the State of West Virginia, and from lines coming from Ohio and entering the State of West Virginia.

Pages 146-147:

Among the companies whose lines cross and recross the state line of Pennsylvania and West Virginia are the Equitable Gas Company, the Carnegie Natural Gas Company, the United Fuel Gas Company. These companies sell gas to the States of Pennsylvania, West Virginia and Ohio, and West Virginia and Pennsylvania, respectively.

Pages 105 and 106:

As a general rule, once gas is discharged from the various compressing stations of the Manufacturers Company, it is impossible to tell where that gas is going; that is, any particular volume or mass of gas starting out from the compressing station might reach any of a number of destinations in widely divergent places.

Pages 109 and 110:

Although by making a direct manipulation it might be possible to send gas for instance from one of the Company's lines to feed consumers in the town of Chester, West Virginia, it still is by no means the invariable rule that such gas starting from the same point does go to that town.

Page 155:

"Q. Are the lines connecting your system of gas transportation to these respective compressing stations (in Doddridge County, Wetzel County and Marshall County, West Virginia, and Greene County and Washington County, Pennsylvania,) all connected into one system?

A. They are all connected together.

Q. And when these compressing stations are in operation, what is the effect thereof on the entire system, with reference to the influence of each of these stations?

A. The gas is permitted to discharge from the various compressing stations, enters the main lines at that point, and goes to whatever source it moves to.

Q. Do these compressor stations, when in operation, therefore, all of them, affect the gas in the entire system?

A. Any station operating, or not operating, would have its influence on the general system.

Q. The gas throughout the system, if I understand you correctly, passes back and forth according to the point of lowest pressure upon the line?

A. Yes, sir.

Q. And is influenced by the operation of any one or all of these stations?

A. As stated, any station operating or not operating would affect the flow of the gas."

Pages 49 and 50:

"Q. Mr. Quay, are your main transmission lines, or practically all of your transmission lines from West Virginia, connected onto the general transmission system of the company that runs into Pennsylvania, or are they separate main lines which have no connection one with the other?

A. They are connected one with the other.

Q. So as to constitute one general transmission system?

A. One large general system.

Q. What effect would the removal of gas from any portion of that system in West Virginia have upon the transmission of the gas into Pennsylvania? In other words, would it affect it?

A. It would.

Q. Would you be able to tell, or could you tell in any way, or have you any devices upon the lines by which you could tell as to where the effect would be most appreciable in Pennsylvania, if thus removed in West Virginia?

A. If I get the question right,—in fact, I don't get it right.

Q. Well, I will put it in a different form then: Is there any means of ascertaining, where any portion of gas is removed from the system in West Virginia, where it will have its greatest effect in Pennsylvania.

A. There is.

Q. Just tell us about that.

A. To remove,—I presume you mean if taken out and transported to other points in the lines in West Virginia, where it would have its effect in Pennsylvania?

Q. Where, yes,—where it would have its effect in Pennsylvania.

A. It would have its effect in all the lines in Pennsylvania, more particularly at the extreme end.

Q. And the extent of that effect, I presume, naturally would depend upon the quantity thus taken out?

A. It would.

Q. And if a large enough quantity was taken out,—that is, a large quantity, was taken out, could you then tell—and if so, how—where it would have its effect in Pennsylvania?

A. If a large quantity of gas is taken, of course it creates shortages in certain portions of the system, depending entirely upon the quantity taken out.

Q. And where, what points in the system would it chiefly affect—I mean, in Pennsylvania?

A. The farthest point away from the source of supply."

Page 99:

"* * * Ordinarily on our system the gas all comes in together and goes wherever it pleases, unless the line breaks or a compressing station is flooded out, or some break in the line which necessitates the handling of the gas in a different manner."

T. O. SULLIVAN.

Pages 204-205, 297-298:

Gas produced in West Virginia and sent through the lines of the producing comany, to-wit, the Hope Natural Gas Company crosses the State line of Pennsylvania and crosses back into West Virginia, simply following the direction which the pipe lines themselves take. Also gas furnished the Hope Company by the River Gas Company, which gas is produced in Ohio, is fed into the lines of the Hope Company, crosses the State line from Ohio into West Virginia and is commingled with other gas in the general system of lines of the Hope Company. So far as the direction of the flow of the gas is concerned, it depends entirely on the points of lowest pressure, and the witness knew of no appliance which could be installed, other than a compressing station, which would cause gas to flow from one line into another when the pressure on the receiving line was greater than it was on the delivering line.

Pennsylvania Exhibit No. 15, offered at page 186, appearing at page 1509, replaced by Pennsylvania Exhibit No. 48, offered at page 974 (Wyer), appearing at page 1600.

This exhibit is a map of the main lines of the Hope Natural Gas Company, the Reserve Natural Gas Company and the Peoples Natural Gas Company.

Page 189:

Size and length of the various pipe lines appearing on the map above mentioned, their locations, directions and routes. The pipe lines cross the State lines between West Virginia and Pennsylvania and West Virginia and Ohio.

Page 190:

The Hope Natural Gas Company delivers gas through its own lines in West Virginia to the Brave Station of the Peoples Natural Gas Company, which station is in Pennsylvania, a short distance from the State Line, and the lines of the Hope Company extend across that state line. Brave Station is in Greene County, Pennsylvania. There is also some gas delivered by the Hope Company in its own lines at the extreme southwestern corner of Greene County, Pennsylvania. The Hope Company also delivers gas to the East Ohio Company, near Moundsville and near Clarington, Ohio, the gas passing from West Virginia over into Ohio through the pipe lines of the Hope Company.

Pages 253 and 254:

"Q. The figures you have given are illustrative of calculations made which could be extended to various size lines and various pressures and various distances?

A. It could.

Q. I believe you stated that the system of the Hope Company was one complete system?—not separate units separately operated?,

A. It is.

Q. It is operated as whole?

A. It is.

Q. So that the gas received into the system can be, if desired, diverted to any given point or any given transmission line?

A. It can be diverted into any transmission line. It can be diverted into any of the transmission lines connected with the general system throughout the field. After the gas passes through compressing stations, it then enters the lines leading to certain cities or towns, and cannot be diverted, the way the lines are connected, after that occurs."

Page 258:

The various pipe lines of the Hope Company are equipped with gates, or valves, which may be operated to some extent so as to throw supplies of gas in various directions; that is, into certain of the transmission lines of the Company, and to shut off other transmission lines. The gates are generally used in case of breaks on any particular line, when the flow of gas in such line is thereby shut off.

Pages 309 and 310:

"* * * The discharge line from Craig Station connects into the suction at Schultz Station, when

it is provided, so that it can be by-passed around that station The second line and the other lines leading south from Schultz Station are suction lines proper for Schultz Station. These lines are connected together — paralleling each other on the map, are connected together, so that the double line for some distance south of Schultz Station can be used as a discharge line from Graig Station. To give you some idea how the plant is constructed, I might say that it is somewhat similar to a railroad system. Switches are provided for passing trains at certain points, and the same thing is provided in a natural gas system,—connections put in so that the gas can be by-passed from one point to another. Take the case of a railroad, sometimes a double track is built; trains going in one direction go out one track, and in the opposite direction on the other track, but at certain points switches or connections are provided, so that those trains can be switched over in case of emergencies The same thing is true in a natural gas system; certain provision is made for switching the gas through certain lines. But the most efficient way to operate it is the way in which it is designed, just the same as it is with the railroad; the most efficient operation is the way in which the plant is designed; but other provision is made whereby it can be utilized, not so efficiently, but to some advantage in case of emeregncy."

Page 314:

"Q. Now, Mr. Sullivan, these in-take lines, as to which you have been examined as to the number and so forth, consist of lines, in the first instance, that are connecte with each well, do they not? Each well has a line connected to it, to take the gas from the well?

A. It has.

Q. And some of these well lines are run into and connected with each well, do they not? Each well has are connected or run, and thus the gas is transmitted to the compressor station?

A. Yes, sir.

Q. That constitutes the system, does it not?

A. It does. Each well has a line leading from the well. In some instances, if there is only one well, this line might extend entirely to the compressor station, but if there are a number of wells in that locality, they would no doubt be connected into a larger main line that runs centrally through the territory, so as to take the gas from a number of wells. They are all—however, a part of the intake system, taking the gas from the wells to the compressor stations."

JOHN B. CORRIN.

Page 318:

The Connecting Gas Company is a transporting company not a producing company. It owns neither territory nor gas wells. It transmits gas produced by the Reserve Gas Company in West Virginia from the State Line between the states of Ohio and West Virginia to Sugar Grove, Ohio and Wheeler, Ohio.

H. A. WALLACE.

Page 364:

A line connecting with line "A" of the United Fuel Gas Co. near Kenova, West Virginia runs south to Inez, Kentucky and re-enters West Virginia ending at

Kermit, West Virginia; it crosses the State Line or River near Leach, Kentucky and Kenova, West Virginia, and subsequently crosses and recrosses the State Line several times. What is known as Line B 19 of the Reserve Company conducts gas from Wayne County, West Virginia across the river to a point at Wallbridge, Kentucky. No West Virginia consumers are on this line.

Pages 375 to 376:

When gas flows through a measuring station there is no stoppage or cessation in the flow, and the movement of the gas is continuous. As a matter of fact the gas cannot be measured except while in motion, and in the case, therefore, of a measuring station upon a State Line, gas flowing from the first state into the second would at no time suffer any stoppage or halt in its movement.

Pages 374 and 375; 376 and 392:

The Kermit field, a field of gas operating strata situate in Mingo County, West Virginia, and Martin County, Kentucky, has a gas bearing sand extending in one continuous stratum underneath the bed of the river dividing the two States, and the entire strip of sand lying partly in each State feeds gas into the pipe lines of the United Fuel Gas Company. It is impossible to determine whence any definite portion of the gas in the lines of the Company came; that is, whether from Kentucky or from West Virginia.

The Company has purchased gas in Kentucky to the amount of 615,000,000 cubic feet and in Ohio to the amount of over 14,000,000 cubic feet, which is com-

mingled with other gas in the lines of the Company produced or purchased in West Virginia and in Ohio. When gas is fed from any well into the lines of the Company, for instance line A, there is no way of knowing where that gas is going, whether to a consumer in West Virginia or to one in another State, nor is there any way of controlling it. The same holds good with reference to line E, another line of the company, although practically all the gas in that line goes out of the States. This much is possible of determination because there are very few West Virginia consumers on that line. The gas furnished to the United Fuel Company by the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company is fed into the general pipe line system of the United Fuel Company and commingled with the common mass of gas purchased and produced by that Company.

Pennsylvania Exhibit No 22, offered at page 360, appearing at page 1566, replaced by Pennsylvania Exhibit No. 39-D, offered at page 876 (Wyer), appearing at page 1584.

This is a map showing the natural gas property of he United Fuel Gas Company in West Virginia Kentucky and Ohio This map shows the trunk lines of the United Fuel Gas Company and of the Columbia Gas & Electric Company, the compressor stations of the United Fuel Gas Company and the Columbia Gas & Electric Company, the drying plants of the companies and the distributing plant of the United Fuel Gas Company. The pipe lines appear on this map as crossing the boundaries of the respective States mentioned.

Pages 386-387:

The United Fuel Gas Company delivered to domestic consumers outside the State of West Virginia about a million and a half cubic feet of gas, and such gas was delivered in and transported to Ohio and Kentucky towns.

Some nine and a half million cubic feet of gas is delivered by the United Fuel Gas Company to the Ohio Fuel Supply Company after crossing the State Lines of West Virginia and Ohio.

Page 381 (Cross-examination):

"Q. Well, when you put the gas from any specific well into that line, and mingle it with the gas from other wells, you don't know where that gas is going, whether it is going to a consumer in West Virginia or a consumer out of West Virginia?

A. I do not, no sir.

Q. And you have no way to control it—You don't control it after it enters that line, whether it goes to a consumer in West Virginia or a consumer out of West Virginia, do you?

A. I couldn't keep track of that certain gas from a certain well, no, sir—not where it went."

JOHN B. TONKIN.

Page 439:

Gas produced by the Hope Natural Gas Company in West Virginia is transmitted to Pennsylvania through

lines crossing the state boundary to Pittsburgh, Altoona and Greensburg, Pennsylvania.

JAMES H. REED.

Pennsylvania Exhibit No. 23, offered at page 486, appearing at page 1566, replaced by Pennsylvania Exhibit No. 39-F, offered at page 876 (Wyer), appearing at page 1586.

This is a map showing the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia as of January 1, 1920. The map shows the natural gas distributing plants, the compressing stations, the gas fields and direction of gas flow of the Philadelphia Company in the two States named. Two of the gas fields are shown as extending unbroken underneath the line dividing Pennsylvania and West Virginia.

Page 530:

As indicated on Pennsylvania Exhibit No. 23, there is a gathering line of the Philadelphia Company that extends from West Virginia Pennsylvania State Line. Lines operated by the Pittsburgh and West Virginia Gas Company, and by the Equitable Gas Company, connect somewhere near the State Line and form one continuous line of transportation.

Page 531:

Some gas is brought down from Pennsylvania to West Virginia and then back again into Pennsylvania.

J. E. ANGLE.

Page 554:

The lines of the Fayette County Gas Company extend in one continuous line from West Virginia into Pennsylvania.

MARTIN B. DALY.

Page 564:

Ohio Exhibit No. 1, offered at page 564, appearing at page 1695, replaced by Pennsylvania Exhibit No. 47 (Wyer) offered at page 973, appearing at page 1599. (Pennsylvania Exhibit No. 47 is a copy of Ohio Exhibit No. 1, being a map of the main lines of the East Ohio Gas Company differing from the original Exhibit 1 merely in scale).

Pages 564 to 570:

This exhibit shows that the lines of the East Ohio Gas Company extend through numerous counties in Ohio, and the testimony given by Mr. Daly in this connection sets out in detail the line, connections and routes taken by these pipe lines.

Page 565:

Lines of the East Ohio Gas Company connect at the Ohio River with pipe lines coming from West Virginia.

L. B. DENNING.

Ohio Exhibit No. 2, offered at page 651, appearing at page 1695, replaced by Pennsylvania Exhibit No. 49, offered at page 974 (Wyer), appearing at page 1601.

(This exhibit is an exact copy of Ohio Exhibit No. 2, differing from the original exhibit only in scale).

Pages 651 to 658:

This exhibit represents the main trunk lines and transmission lines of the Ohio Fuel Supply Company, together with the various communities to which it supplies gas. On this map are also indicated the lines of the Northwestern Ohio Natural Gas Company.

Page 653:

Gas Brought from West Virginia by the United Fuel Gas Company is taken on the Ohio side of the river and transported to Sugar Grove or Wheeler Station at Sugar Grove where this West Virginia gas is mingled with Ohio gas.

Pages 656 and 657:

"Q. Mr. Denning, I wish you would describe a little more in detail the route of the gas obtained from the United Fuel Gas Company, down at the river, as it goes to Cincinnati, giving its connection to the so-called Cincinnati line or division?

A. The system generally, Mr. Eagleson, is so arranged as to be interchangeable, or rather I should say, I fancy, inter-connecting. The point being to keep gas flowing to the distributing points as nearly uniform as can be done. Gas received from the United Fuel at its delivery point on this side of the river in Ohio, and coming from West Virginia, passes along through line E, the 18-inch line, until it reaches Wheeler Station at Sugar Grove. As I explained before, it is there mingled with the other gas which is brought up from Vinton and Jackson Counties and the other producing territory in

the Sugar Grove field. It then can be thrown in any one of several directions. It can be sent to Zanesville over this line and these intermediate points as shown on the map. It can and is sent to Columbus through the line indicated by red, or through the line indicated by blue. It can in emergency be sent up through the cross line, clear up to Treat Station, so that in the event of an emergency, assuming that Treat station should for some reason or other be put out of business, we might be able to render some service to this section of the country controlled by Treat station, from Wheeler station; or it can and most usually is taken through one or the other of these cross lines running westerly from Wheeler station, connecting with the Cincinnati 18-inch line, as an additional safeguard, for Xenia, Hamilton, London and Cincinnati, and the intermediate towns supplied."

Page 715:

The gas brought by the Ohio Fuel Supply Company through the line connected with that Company's line and running to Sugar Grove becomes commingled there with gas produced by that Company in the State of Ohio in the Jackson and Vinton district.

G. F. BATCELOR.

Pennsylvania Exhibit No. 25, offered at page 746, appearing at page 1566. This is an outline map of the main lines of the Natural Gas Company of West Virginia, both in the Northern and Southern divisions of the system.

Pennsylvania Exhibit No. 26, offered at page 746, appearing at page 1566. Map showing the natural gas property of the Natural Gas Company of West Virginia, Southern division.

EUGENE P. WHITCOMB.

Ohio Exhibit No. 10, offered at page 750, appearing at page 1709.

Pages 750 to 758 and 764 to 772:

A map of the main lines of the Logan Natural Gas & Fuel Company in Indiana and Ohio.

Page 781:

"Q. Is your system of transportation lines so connected or interrelated that in case of a shortage of gas from any field that you may have in one of the three divisions, can you transfer gas from another division to that one, to help out?

A. The transmission—or the main or larger transmission lines pass through all the fields. We can regulate the supply by cramping the gates against the towns nearest the compressing stations and carrying a larger pressure to the points farthest away. We have some lines through which the gas may be closed, and the gas driven in either direction, though the principal main trunk lines running north, the gas flows only in one direction.

Q. Then your pipe line systems in Ohio, as a whole, are one unit, are they?

A. Practically one unit; they are all connected.

Q. And the division of your system into the Northern, Central and Southern is for what primary purpose?

A. More for the Operating Department, as a matter of convenience in classifying data and operations pertaining to the lines, fields and wells."

S. S. WYER.

Pages 876-878:

Pennsylvania Exhibit No. 39-A, offered at page 876 (Wyer), (replacing Pennsylvania Exhibit No. 24), appearing at page 1581; being a map of the Fayette County Gas Company showing how the Fayette County Gas Company gets natural gas from West Virginia. This map shows the geographical location of the pipe lines of the Fayette County Gas Company both in West Virginia and in Pennsylvania, although at the present time the Fayette County Gas Company does not own any pipe line property in West Virginia and the lines shown in West Virginia are the pipe lines of the Hope Natural Gas Company that are used for service to the Fayette County Gas Company across the State line. The Hope Natural Gas Company produces the gas in West Virginia, transmits it to the Wade measuring station and there delivers it to the Fayette County Gas Company, which takes it then into Pennsylvania where it is delivered by said Company to consumers in Uniontown, Connellsville, Scottdale and other towns in Westmoreland and Fayette Counties.

Pages 888 and 889:

The lines of The Manufacturers Light & Heat Company form a continuous net work, crossing and recrossing from the State of West Virginia into the States of Ohio and Pennsylvania. From the manner in which the lines are constructed and operated, in order to determine

whether the gas produced by the Company and transmitted through its lines into any one of the three States comes from any particular one of the States, tests must be made, and in some parts of the system they would show that all of the gas was West Virginia gas. In other parts of the system they might show all the gas to be Pennsylvania gas, and in still other parts of the system the gas would be intermingled, being West Virginia, Pennsylvania and Ohio gas.

Pages 888-889:

Following the lines of said company from West Virginia into Pennsylvania, there is a line coming into Washington County, Pennsylvania, near the Majorsville Compressing Station. At Hundred on the West Virginia side there is a compressing station that drives the gas into West Virginia and the lower end of Greene County, Pennsylvania, and then back again into Marshall County, West Virginia. From Hickory, Pennsylvania there are lines which deliver gas into West Virginia and also into Steubenville, Ohio. On crossing the Western Pennsylvania boundary line the lines of this Company run from the north part of Hancock County and enter Ohio, also reaching Chester, West Virginia as well as East Liverpool and Wellsville, Ohio. From that point gas is taken generally into other counties of West Virginia and Ohio.

Page 891:

The lines to the Carnegie Natural Gas Company cross and recross from West Virginia to Pennsylvania.

Page 892:

The lines of the Eastern Oil Company cross the

dividing line between Maryland and West Virginia in a number of places.

Pennsylvania Exhibit No. 39-B, offered at page 876, appearing at page 1582.

Pages 878 to 882:

This map shows the transmission lines of Hope Natural Gas Company in West Virginia.

Pennsylvania Exhibit No. 39-C, offered at page 876, appearing at page 1583.

Pages 882 and 883:

This is a map of the main lines of the Reserve Gas Company in West Virginia.

Pennsylvania Exhibit No. 39-D, offered at page 876, appearing at page 1584.

Pages 883 and 885:

This map shows the natural gas property of the United Fuel Gas Company in West Virginia, Kentucky and Ohio.

Pennsylvania Exhibit No. 39-E, offered at page 876, appearing at page 1585.

Pages 885 to 890:

This is a map of the main lines of The Manufacturers Light & Heat Company in Ohio, Pennsylvania and West Virginia.

Pennsylvania Exhibit No. 39-F, offered at page 876, appearing at page 1586.

Page 890:

This is a map of the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia.

Pennsylvania Exhibit No. 39-G, offered at page 876, appearing at page 1587.

Pages 890 to 892:

A map of the main lines of the Carnegie Natural Gas Company in Pennsylvania and West Virginia.

Pennsylvania Exhibit No. 39-H, offered at page 876, appearing at page 1588.

Pages 892 and 893:

Map of the main natural gas lines of the Eastern Oil Company in West Virginia and Maryland.

Pages 932 and 934:

Gas feeding from a well into a line, which line in turn carries gas partly to points of consumption in West Virginia and partly to points of consumption in Pennsylvania and Ohio, has no label upon it and there is nothing upon it to distinguish ownership; it is all intermingled. It is generally very difficult, and in many cases impossible, to tell what points such gas will reach ultimately. There is no way of identifying the gas reaching any consumer as coming from any particular well or district. The only thing that can be known is that if gas is fed from a well into a general system, a certain percentage of such gas will ultimately reach consumers on that line, whether in the originating State or in other

States. The flow of gas on a given line can be controlled by controlling the pressure on the line by means of manipulating the gates or valves.

Page 935:

"• • • There are certain local conditions where wells are feeding into lines crossing the state boundary, and where the direction of flow under normal conditions must always be the same, where it would always be an absolute certainty that the gas from those wells would get into a certain line, crossing the state line at a certain definite boundary, and going to a certain definite group of towns; for the property as a whole, however, it would be impossible to tell ordinarily—and that is especially true with a large number of wells in the southern part of the field—whether the gas would go one way or another. It is, of course, relatively very easy to proportion the amount of gas going into Ohio, to the East Ohio Gas Company, or to the Peoples Gas Company, or to the Fayette County Gas Company, by mere change of position of gate valve, but that change in position of gate valve will determine the relative volume as a total that will pass, and will have no bearing and will give no information on identity from either individual wells or even local fields."

CHARLES E. KREBS—DEFENDANT'S WITNESS.

West Virginia Exhibit No. 30-A, offered at page 1115, appearing at Folio 448.

Pages 113 to 1117:

Map showing the location of gas pipe lines and compressor and measuring stations in West Virginia of the Carnegie Natural Gas Company, Eastern Oil Company, Fayette County Gas Company, Hope Natural Gas Company, The Manufacturers Light & Heat Company, Philadelphia Company, Reserve Company and United Fuel Gas Company. This is a composite map showing the same lines, stations, &c., as were shown on several maps introduced by the State of Pennsylvania through Mr. Wyer.

H. E. NEASE—DEFENDANT'S WITNESS.

Page 994:

According to the report submitted by the Hope Natural Gas Company to the Board of Public Works of West Virginia, the business of the Hope Company is confined to the State of West Virginia. This is also true with reference to the report of the Pittsburgh & West Virginia Gas Company and of the Reserve Gas Company.

Pages 1030 and 1031:

The Pittsburgh & West Virginia Gas Company markets a small part of its gas within the State of West Virginia; the greater part of the entire production, however, is marketed to the Equitable Gas Company at the West Virginia State line. The Equitable Gas Company is controlled by the same interests as the Pittsburgh & West Virginia Gas Company. It is customary for the producing company in West Virginia, as in the case of the Pittsburgh & West Virginia Gas Company, to sell its gas at the State line at the cost of production within West Virginia to the producing company.

Page 1061 (Cross-examination):

The Hope Company and the Reserve Company furnish a large amount of gas to other companies that transport that gas into Pennsylvania, Ohio and other States. Therefore, a large portion of the gas produced by the Hope Company is delivered to other companies to whom it sells, which companies transport this gas into Ohio, Pennsylvania and other States.

Note: These maps have not been reproduced here, but are referred to as the most convincing argument of the fact that the operating systems are one unit ignoring State lines.

VI.

THE OPERATION AND EFFECT OF THE WEST VIRGINIA STATUTE WILL BE TO APPROPRIATE TO THE USE OF WEST VIRGINIA CONSUMERS GAS ALREADY IN COURSE OF TRANSMISSION FROM WEST VIRGINIA TO OTHER STATES AND DESTROY THE MARKET FOR THE PRODUCT OF THE GAS COMPANIES, RENDER THEIR PLANTS VALUELESS AND PARALYZE THEIR BUSINESS.

Some of the evidence under this heading is necessarily repetition of evidence under previous and subsequent headings but this has been avoided as much as possible. This evidence under Point VI must be considered with evidence particularly under points VIII and IX as well as other points to obtain a fair comprehension of the above proposition.

HARRY A. QUAY.

(Pages 25 and 26; 26; 38 and 39; 48, and 129 and 130):

(Page 26):

"Q. And what would be the effect on the market value of the property of the investors?

A. I would say that the market value of the property, without gas to serve the patrons, would be very little."

(Page 48):

"* * * Again, if the service of a consumer is interrupted, no matter whether it is an industrial or a domestic consumer, he realizes that he can place no de-

pendence on the service; he was depending on it for heating, and he found he was not getting sufficient gas for that purpose, and was forced to put in a substitute fuel; if he could not secure gas for cooking purposes or lighting his home regularly, satisfactorily to him, he would be compelled to secure other fuel, substitute fuel."

(Pages 53; 99 and 100; 105 and 106, and 111):

If, under the operation of the statute, the companies producing gas in West Virginia were compelled to furnish gas through the West Virginia lines to West Virginia consumers in greater quantities than were furnished without the compulsion of the statute, then there would be a proportionate reduction of pressure along the entire system of lines; and aomng the points where pressure would be reduced, would be points through which gas flowed which had crossed from West Virginia to Pennsylvania and back again into West Virginia, with the result that the companies would be compelled under the statute to furnish to West Virginia consumers gas which had already been transmitted to Pennsylvania and had flowed back through the lines once more to West Virginia.

As a general proposition, it is the pressure in the lines which determine the direction of the flow of gas and not the gates which are placed at intervals along the lines and which to some extent may direct the flow of gas. For the most part these gates are not closed. There is, therefore, no way of determining in advance where gas, starting from any given point, would reach its final destination, or in what State. As an example, the case was cited of some gas which had been sent out from a West Virginia compressing station and which had been contaminated by sulphur, the odor of which

was plainly evident. Complaints were subsequently entered by consumers in widely divergent points in West Virginia and in other States, to-wit, Pennsylvania and Ohio, to the effect that the odor of sulphur had been noticed in the gas.

Although, as a general rule, it is impossible to know beforehand, or to direct, the flow of gas from West Virginia to Pennsylvania, it is known that the gas furnished to consumers upon the lines of the company at the furthest point North in Pennsylvania where the Manufacturers Company supplies gas to consumers, was produced in Pennsylvania.

T. O. SULLIVAN.

(Pages 212 and 213; 214; 215 and 216; 222; 326, and 330):

(Page 214):

"* * * It (curtailment of supply to consumers outside of the State of West Virginia) would also have the effect of making the service that we could render to those companies so unsatisfactory to their consumers that they would necessarily have to adopt some other means of providing heat in their homes. Natural gas service, in order to be at all satisfactory, has to be practically a continuous service. Unless it can be relied upon, the public generally would only use it for such purposes as could be dispensed with easily at any time."

(Page 215 and 216):

"Q. What would be the effect upon the operation of your lines of an order from the Public Service Commission of the State of West Virginia to make connec-

tions with and supply the deficit of other natural gas companies in the State of West Virginia, for which you had made no provision and which previously you were not supplying, during these cold periods I have already referred to? * * *

Q. The statute providing that the Public Service Commission should have the power and the right to compel any gas company in the state engaged in the transportation of gas to make connections with and supply the deficit to any other or all other gas companies in the state which had a deficit at the time?

A. In many instances it would be practically impossible for us to comply with an order of that kind, under the present construction of our pipe line systems. The lines are built with a view to delivering gas to certain communities. The compressing stations are installed for that purpose and with that end in view. A connection of that kind made on many of the suction lines in the field leading to these compressing stations would necessitate shutting down those stations, in order to permit the gas to accumulate in the suction lines and get a sufficient pressure from the natural rock that it would produce such a pressure as to force the gas to the points where it might be needed. It would have the effect of rendering a good portion of our equipment valueless for the purposes for which it was intended."

(Page 216):

"Q. And what effect of disorganization would it have upon your operations, where no provision had been made for this particular demand at those particular times?

A. It would have the effect of creating a very chaotic condition, and of generally demoralizing the business. It would be almost impossible to operate under those conditions. In order to take care of any business, it is necessary to make some provisions, and if those provisions are interfered with, it certainly creates a very chaotic condition; more especially if that interference comes at times when all of the available supply is being utilized. It then creates a condition—I am frank to say I wouldn't know how to cope with it. It would be so dangerous that I would be very much disinclined to comply with any order of that kind, if it came at a time when conditions were serious.

Q. As I understand your answer then, as a practical gas man, you don't know what you could do under those circumstances, to operate the lines?

A. Not if I complied with the order. I should feel very much inclined to disregard the order and take a chance on going to jail, possibly."

(Page 222):

If during cold weather, under compulsion of the statute, gas in the lines of the Hope Company were diverted to industries and other consumption in West Virginia, it would make the supply available for Pennsylvania and Ohio consumers so unsatisfactory that they would be compelled to discontinue its use entirely. Considering the shortages already existing in cold weather, any further curtailment of the supply for Pennsylvania and Ohio would have a very detrimental effect on the service in those States.

JOHN B. CORRIN.

(Pages 326; 328, and 330):

If the gas territory and wells of the Hope and Reserve Companies were exhausted so that the business of supplying natural gas to consumers would have to be given up by the companies, the value of the plants would be "junk value," or less than 25 per cent. of the present value.

If the Reserve Company were compelled from time to time, especially in cold weather, to make connections with and supply other public utilities in West Virginia then those with which it had contracts and for which it had made provisions, it would not be possible to operate the system further because of the uncertainty and undependability of the gas supply furnished to consumers in Pennsylvania and Ohio; they could not be retained as consumers, and under such conditions it would not be practicable to maintain a gas company.
(Page 330):

"A. I can't imagine how it would be possible for us to retain our consumers at all, if they were going to be subject to that interrupted service; but I don't think that people would be annoyed by the interrupted service. Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. And the discomforts that people would undergo, I think they would not be annoyed by it and would put it out of their houses.

H. A. WALLACE.

(Pages 368 and 369, and 370 and 371):

If the United Fuel Gas Company were compelled to obey the provisions of the West Virginia statute and supply the demands of the West Virginia consumers during the winter, it would be absolutely impossible to operate the Company successfully as a gas company under those conditions, for no doubt the Company would lose all its profitable business outside the State of West Virginia for the reason that the consumers would not tolerate the uncertain and insufficient gas supply which would result from an enforced compliance with the statute.

(Pages 368 and 369):

"Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the state?

A. I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the state, and for that reason I do not believe domestic consumers and other people would care to be conencted to our lines, if they could only receive a supply of gas during the summer season, and in the winter time, when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel.* * *"

JOHN B. TONKIN.

Pages 427 and 428; 428 and 429, and 429:

The value of the Peoples Gas Company's plant in the event of a cessation of gas supply to the extent that the plant could no longer be maintained would depend partly upon whether it could be converted into an artificial gas plant. As to the field and main lines, perhaps 15 per cent. of the investment could be salvaged. Unless the city distributing plants could be sold for the purpose of manufacturing artificial gas, their junk value would not pay for taking them out.

Pages 428 and 429:

"Q. Now, then, what would be the effect upon the operation of your company, if, under the provisions of the Act of the Legislature in controversy here, the Hope Company should be compelled to make connections with other companies to supply their deficit, or should be compelled to supply the demands of the consumers in West Virginia with gas before making deliveries to you? What would be the effect?

A. Well, the result would probably be that on extremely cold days there would be very little, if any, gas come north through the lines connecting with the Hope Company. It would create a situation that would leave us practically without gas, and what little gas we would have left would be scattered around to so many places, and we would have to try to do so much with so litle gas, that we wouldn't have any service. It would also create a dangerous situation, where the gas would go out, no doubt, in a number of places. In fact, it would demoralize the operation of the company.

Q. Would that demoralization go to the extent of substantially shutting down your operations?

A. I think that after one winter of that, our customers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through, under those conditions."

JAMES H. REED.

Pages 505 and 506:

In the event that the natural gas supply of the Philadelphia Company failed completely, the wreckage value of the Company's gas lines, plants, distributing system, &c., would be next to nothing. This is due partly to the fact that the expense involved in lifting and taking out pipe lines would be greater than the sum realized from their sale. Moreover, most of the streets under which pipe lines lie having been paved, there would be difficulty in salvaging the system, and, therefore, as to the gathering and transporting systems the whole investment of the Company would be wiped out. As to the distributing systems in the cities, it might be possible to use the systems for artificial gas.

J. E. ANGLE.

Page 555:

If, under the operation of the West Virginia statute, the Hope and Reserve Gas Companies would be compelled during cold days of the winter to make a connection between their lines and Morgantown or those at Fairmont for the purpose of supplying any

deficit in those towns during this period, this would, without doubt, put the Fayette County Gas Company out of business, the Fayette Company being entirely dependent upon the Hope Company for its supply of gas.

MARTIN B. DALY.

Pages 588; 589 and 606:

Page 588:

"Q. Under those circumstances then, if the authorities in West Virginia, pursuant to the Act in question here, were to divert to persons, firms or corporations in West Virginia for the service of the public, or any part of the public, for all purposes, in the State of West Virginia, a substantial amount of the gas that otherwise would come through the Hope Natural Gas Company's lines to your company, what effect, if any, would that have with reference to the disorganizing and breaking down or destroying the operation of your company?

A. The result of such an action, in so far as we are able to anticipate it, would be the wreckage— practical financial wreckage of the company. It would result in depriving many of the communities of gas service of any kind. It would leave our transportation system without any reason or any practical use to which it could be applied. That alone would involve a loss of approximately $20,000,000, less whatever salvage might be obtained from it."

Page 589:

"Q. Now, you spoke of the result of such an act on the part of the authorities of West Virginia upon your physical property values. You may state more in detail, if you desire, what that result would be.

A. Financially the company must use its investment in its transportation system, for the reason that those pipe lines are constructed for the purpose of carrying very large quantities of gas, and if that quantity is not available, the system becomes useless. The pipes are very large and are not in demand for any other purpose, nor can they be used for any other purpose. We have but one pipe line that might be taken up and realize any profit over the cost of taking it up.

Q. What line would that be?

A. That would be the No. 1 line, 10 and 12 inch pipe. The 18 and 20 inch pipe would not be marketable.

Q. That would mean that the main transportation lines of your company from the Ohio River, in Monro and Belmont Counties, northward to the lake, would be rendered to what extent useless?

A. I should say that entire system would be lost."

Page 606: (Cross Examination):

When the supply of gas furnished by the Hope Natural Gas Company to the East Ohio Gas Company is reduced by 25 per cent. the plant of said latter company will become junk, for such a supply will be so inadequate for the demands that the business of said East Ohio Gas Company will be practically at an end for anything except cook stoves or lighting, and the use will not tolerate such an inadequate service.

T. J. JONES.

Page 636:

The Dayton Gas Company depends entirely for its supply upon the Logan Natural Gas & Fuel Company, which Company secures its gas from West Virginia. If the supply of gas furnished the Dayton Gas Company were curtailed, the Company would have to receive a much larger price for its gas or it would go into the hands of a receiver. The earnings of the gas companies depend upon the volume of gas. If the volume is very materially reduced it necessitates either higher rates or means bankruptcy of the companies. If the gas were entirely cut off the companies would be put out of business, lose their investments, or would have to proceed to erect manufacturing plants and produce manufactured gas.

L. B. DENNING.

Pages 672 and 673; 674; 678; 679, and 702:

Pages 672 and 673:

"Q. Now, with reference to those one million people dependent upon your company for natural gas, as you stated, if the authorities in West Virginia, pursuant to the act in question here, were to divert to persons, firms or corporations in West Virginia, for the services of the public, or any part of the public, for all purposes in the State of West Virginia, a substantial amount of the gas that otherwise would come through the United Fuel Company lines to the lines of your company for distribution to those consumers, what effect would that have upon their gas supply in Ohio, and the operation of your company in their service?

A. I understand your question to be what effect the diversion of a substantial amount of the gas received from West Virginia would have upon the operations and property of The Ohio Fuel Supply Company and the people whom it serves. Is that a correct conclusion?

Q. That is correct.

A. A very disastrous and destructive effect upon both, of course more or less dependent upon the quantity of gas diverted. A substantial quantity diverted would have the immediate effect of disorganizing and disarranging the service to the consumers throughout the state, make necessary the entire elimination of service from a considerable number of consumers, a complete rearrangement of lines, compressing stations and operating conditions of the company and undoubtedly deprive a considerable portion of the people served by the company, of gas service, thereby destroying the investment which they have in appliances, and also result in a destruction of a considerable portion of the company's property, by reason of the fact that it would no longer be of any value or use in the company's operations, and would not have any value whatsoever, except what might be possibly obtained from a resale or junk or a salvage value. It would necessitate—I think I have already said—a complete elimination or discontinuance of service to a considerable number of consumers."

Page 674:

The value of natural gas service to the consumer depends upon the continuity of supply. Anything that interferes with that continuity of supply results in a disrupted and unsatisfactory service.

Pages 678 and 679:

"A. With very few exceptions they would be reduced simply to their junk or salvage value, for the reason that they were constructed primarily for the distribution of natural gas without regard, or without thought of ever utilizing them in manufactured gas distributions. You understand that the principles of construction as between a natural gas plant and a manufactured gas plant are entirely different and we would have very little left out of the distributing systems which we own ourselves other than junk or reclaimed value. I believe that some portions of the City of Toledo might be utilized in manufactured gas distribution, but even that is problematical."

Page 702:

When the diminishing supply of gas has failed or been used the gas companies will be put out of business and the consumer will have to turn to some other form of fuel.

J. W. McMAHON.

Pages 725 and 734 and 735:

The Northwestern Ohio Natural Gas Company will be financially ruined under the operation of the West Virginia statute, and its property would have only a junk value.

Pages 734 and 735: (Cross Examination):

If the supply of gas furnished the Northwestern Ohio Natural Gas Company by the Hope Natural Gas Company were diminished 2,000,000 feet a day, it would be dangerous for the company to attempt to operate.

EUGENE P. WHITCOMB.

Pages 782 and 783; 783; 783 and 784 and 787:

If for any reason West Virginia gas should be denied the companies of the Union Natural Gas Corporation, this would ruin and demoralize the service of the entire southern division of said corporation, with the exception of the two and a quarter million of gas available in local fields. There would be absolutely no gas whatsoever passing through the lines west of the Sugar Grove compressing station supplying the cities of Dayton, Muncie, Richmond, New Castle and other cities and towns in Ohio and Indiana. There would be no service whatever, or supply, to deliver to the City of Lancaster, in Fairfield County, Ohio; and the City of Newark, in Licking County, would be substantially out of gas.

Page 783:

"Q. What would be the effect upon your distribution system, and your supply to you company, if, for any reason the supply from West Virginia would become intermittent and irregular, sometimes—to illustrate—coming as it is now under your contract and then again being substantially denied to you?

A. It would probably result in the loss of all of the service under the contracts to which I have referred, by reason of being unable to give them a continuous supply. They would probably discontinue the use of natural gas altogether."

Pages 783 and 784:

Under the operation of the West Virginia statute the companies of the Union Natural Gas Corporation

will receive no gas at the Sugar Grove station. This would demoralize the entire service of the southern division and render the investment, lines, compressing stations and distributing plants of very little value.

Page 787:

"* * * Now, I want to ask you: If, for any reason, you were denied a supply of gas from West Virginia, what would be your financial loss because thereof?

A. It would be approximately the total value of the compressing plants, pipe lines and distributing systems, less whatever might be obtained in the way of junk value, or if sold as second-hand material, providing a purchaser could be obtained."

J. K. ANDERSON.

Pages 820; 830 and 831, and 853 and 854:

Under the operation of the West Virginia statute it would be possible for the interstate companies doing business in West Virginia, in supplying gas to consumers in the States of Ohio and Pennsylvania, to operate at times, but they would be seriously crippled in their operations. Their plants would be practically useless for a large part of the year and they would lose their market in those other States and thereby lose all or a large part of the plant used in serving consumers in the other States in transporting gas from West Virginia to those other States, both through large main lines and possibly some compressing stations.

Page 820:

If for any cause the supply of natural gas furnished to either domestic or industrial consumers becomes inter-

mittent and not continuous it would be impossible for the gas company to retain a market for its gas under such condition, for this would cause great dissatisfaction and result in the use of substitute fuel and destroy the market for gas.

Pages 853 and 854; Cross-examination:

The operation of the West Virginia statute would seriously diminish the supply of gas to consumers in Pennsylvania and Ohio.

NOTE—As bearing upon the demand for gas in West Virginia and some of those who would have to be supplied in accordance with the testimony of witnesses for the defendant upon that subject.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1004-9:

"STATEMENT SHOWING INCORPORATED CITIES AND TOWNS OF WEST VIRGINIA SUPPLIED WITH NATURAL GAS, AND THE POPULATION THEREOF, 1900, 1910 AND 1920.

	Population 1920	Population 1910	Population 1900
Belington, Barbour County	1,766	1,481	430
Junior, Barbour County	593	435	338
Philippi, Barbour County	1,543	1,038	665
Burnsville, Braxton County	1,088	770	.....
Flatwoods, Braxton County	300	234	.....
Gassaway, Braxton County	1,518	1,086	.....
Sutton, Braxton County	1,500	1,121	864
Danville, Boone County	327	.....	.....
Madison, Boone County	604	295	.....
Bethany, Brooke County	400	433	245
Follansbee, Brooke County	3,135	2,031	.....
Wellsburg, Brooke County	4,918	4,189	2,588
Barboursville, Cabell County	974	907	429
Huntington, Cabell County	50,177	31,161	11,923
Milton, Cabell County	1,023	837	582

Grantsville, Calhoun County	450	282	225
West Union, Doddridge County	1,270	779	623
Montgomery, Fayette County	2,130	1,888	1,594
Glenville, Gilmer County	327	336	398
Leopolis, Gilmer County	175	156	.....
Troy, Gilmer County	113	144	148
Bayard, Grant County	1,074	417	540
Chester, Hancock County	3,283	3,184	.....
Hollidays Cove, Hancock County	1,213	.....	.....
New Cumberland, Hancock County	1,816	1,807	2,198
Bridgeport, Harrison County	1,346	577	464
Clarksburg, Harrison County	27,869	9,201	4,050
Lumberport, Harrison County	900	656	.....
Salem, Harrison County	2,920	2,169	746
Shinnston, Harrison County	1,679	1,224	535
Ravenswood, Jackson County	1,284	1,081	1,074
Ripley, Jackson County	580	591	579
Cedar Grove, Kanawha County	918	679	.....
Charleston, Kanawha County	39,608	22,996	11,099
Clendenin, Kanawha County	1,263	815	.....
East Bank, Kanawha County	586	551	468
Eskdale, Kanawha County	1,161	.....	.....
Pratt, Kanawha County	315	306	.....
South Charleston, Kanawha County	3,650	.....	.....
St. Albans, Kanawha County	2,825	1,209	816
Union Mines, Kanawha County	291	.....	.....
Jane Lew, Lewis County	560	327	.....
Weston, Lewis County	5,701	2,213	2,560
Hamlin, Lincoln County	516	.....	.....
Logan, Logan County	2,998	1,640	444
Fairmont, Marion County	17,851	9,711	5,655
Fairview, Marion County	827	782	.....
Farmington, Marion County	679	519	.....
Mannington, Marion County	3,673	2,672	1,681
Monongah, Marion County	2,031	2,084	1,786
Rivesville, Marion County	1,061	190	164
Worthington, Marion County	381	292	.....
Benwood, Marshall County	4,773	4,976	4,511
Cameron, Marshall County	2,404	1,660	964
McMechen, Marshall County	3,356	2,921	1,465
Moundsville, Marshall County	10,669	8,918	5,362
Point Pleasant, Mason County	3,059	2,045	1,934
Elk Garden, Mineral County	422	438	581
Keyser, Mineral County	6,003	3,705	2,536
Piedmont, Mineral County	2,835	2,054	2,115
Kermit, Mingo County	636	.....	.....
Williamson, Mingo County	6,819	3,561	.....
Blacksville, Monongalia County	218	204	180
Morgantown, Monongalia County	12,117	9,150	1,895
Star City, Monongalia County	1,202	318	.....
Triadelphia, Ohio County	299	261	287
Wheeling, Ohio County	54,322	41,641	38,878
St. Marys, Pleasants County	1,648	1,358	825
Kingswood, Preston County	1,417	800	700
Tunnelton, Preston County	703	792	479
Albright, Preston County	262	.....	.....
Terra Alta, Preston County	1,261	1,126	616
Rowlesburg, Preston County	862	936	652

Hurricane, Putnam County	666	422	240
Beverly, Randolph County	212	438	464
Elkins, Randolph County	6,788	5,260	2,016
Huttonsville, Randolph County	265	251	.....
Mill Creek, Randolph County	762	740	.....
Montrose, Randolph County	129	112	.....
Cairo, Ritchie County	662	668	653
Ellenboro, Ritchie County	286	204	.....
Harrisville, Ritchie County	1,036	608	472
Pennsboro, Ritchie County	1,654	930	738
Alvord, Roane County	285	229	.....
Reedy, Roane County	373	313	300
Spencer, Roane County	1,765	1,224	737
Grafton, Taylor County	8,517	7,563	5,650
Davis, Tucker County	2,491	2,615	2,391
Hambleton, Tucker County	488	1,300	.....
Hendricks, Tucker County	622	640	317
Parsons, Tucker County	2,001	1,780	618
St. George, Tucker County	150	245	152
Thomas, Tucker County	2,099	2,354	2,126
Centreville, Tyler County	155	113	156
Friendly, Tyler County	173	217	253
Middlebourne, Tyler County	929	546	403
Padden City, Tyler Co. (part of)	215	.....	.....
Sistersville, Tyler County	3,238	2,684	2,979
Buckhannon, Upshur County	3,785	2,225	1,589
Credo, Wayne County	1,110	1,215	1,279
Fort Gay, Wayne County	617	.....	.....
Kenova, Wayne County	2,162	992	863
Wayne, Wayne County	981	.....	.....
Brooklyn, Wetzel County	724	627	632
Hundred, Wetzel County	710	557	261
Littleton, Wetzel County	660	712	509
New Martinsville, Wetzel County	2,341	2,176	1,089
Paden City, Wetzel Co. (part of)	1,490	.....	.....
Pine Grove, Wetzel County	797	474	.....
Smithfield, Wetzel County	774	765	.....
Elizabeth, Wirt County	681	674	657
Parkersburg, Wood County	20,050	17,842	11,703
Williamstown, Wood County	1,793	1,139	.....
Totals	395,113	265,506	159,435

CHARLES E. KREBS—DEFENDANT'S WITNESS.

Pages 1121 and 1122:

J. S. LAKIN—DEFENDANT'S WITNESS.

Pages 1140-1154; 1155; 1158:

B. F. ROBINSON—DEFENDANT'S WITNESS.

Page 1207.

R. T. CUNNINGHAM—DEFENDANT'S WITNESS.

Pages 1220 and 1221, and 1241:

The people living in the counties of Wetzel, Monongalia and certain other counties mentioned by Mr. Krebs have built their homes and equipped them for the use of natural gas therein as fuel and for illuminating purposes. A number of industries have been built and were so located for the reason that they could utilize natural gas for fuel. This is especially true in the counties of Marshall, Ohio, Wetzel, Marion, Monongalia, Harrison, Doddridge, Tyler, Pleasants etc., Wood. In Clarksburg and Fairmont all the dwelling houses were equipped for natural gas for heating. Some of the office buildings and places of business in Clarksburg were built without taking into consideration the possibility or the necessity of changing fuel at some future time. About 10 per cent. of the dwelling houses in Fairmont, however, were constructed with heating, hot water or steam heating furnaces. Factories and industrial plants in Fairmont were equipped for the use of gas.

The West Virginia University at Morgantown, the Preparatory Branch of the University of West Virginia at Keyser, the buildings at Marshall College in Huntington, the West Liberty Normal School in Ohio County, and various other colleges, schools and hospitals in Gilmer and Kanawha Counties, in the towns of Huntington, Fairmont, Moundsville, Terra Alta and Elkins, were built and equipped for the use of natural gas as a fuel.

The West Virginia University at Morgantown was compelled to change from the use of gas to the use of

coal as a method of heating upon the request on the part of the West Virginia Traction and Electric Company in order that said company might give better service to domestic consumers in Morgantown. The Preparatory Branch of the West Virginia University at Keyser, the West Virginia Trades School at Montgomery, the Glenville Normal School at Glenville and the West Virginia Collegiate Institute in Kanawha County have had an inadequate supply of gas for a period of years varying from one to three. During the cold weather it has been frequently necessary to dismiss school and there has frequently not been enough gas to prepare meals. Because of the inadequate supply of gas, the West Virginia School for Boys in Taylor County was compelled to change the heating plant from gas to coal. Because of an inadequate supply of gas at the West Virginia Industrial Home for Girls in Harrison County it was frequently necessary to put the girls to bed in order to keep them warm.

The Weston State Hospital and the Fairmont State Hospital have had during recent years an inadequate supply of gas. At times it has been necessary to shut down the laundry, to abandon electrical equipment and pumping equipment and to change, in the case of the Fairmont Hospital, from the use of gas as fuel to coal as fuel. During the extremely cold weather, at the Weston State Hospital it has been necessary to put patients to bed in order to keep them warm. The State Tuberculosis Sanitarium at Terra Alta has had a very poor supply of gas for about three years. In January of 1920 the gas supply was so inadequate that the patients would have frozen to death if the superintendent had not erected stoves and built fires, putting the pipes out through the windows as there were no

chimneys. The West Virginia Children's Home at Elkins has had such a poor supply of gas that it has been compelled to make a temporary change from gas to coal.

Wherever gas was supplied to the above mentioned institutions by one of the large interstate companies, the service was uniformly good. Where the service was defective it was from local companies.

B. F. ROBINSON—DEFENDANT'S WITNESS.

Pages 1205, 1206:

Since the time gas commenced to be used as a fuel in Clarksburg the city has grown from a population of about 6,000 in 1900 to about 28,000 at the recent census. Gas was first used in about 1892 or in 1893. The great increase in the population and growth of Clarksburg can be attributed to the use of natural gas. The abundance of natural gas in 1900 and the surplus in this vicinity led to the offering of very low rates of four cents. As there was no market for the gas at that time it was used as an inducement to bring factories and consumers to Clarksburg. Practically all the industries in the vicinity of Clarksburg came in from outside sources. These industries brought at least 10,000 skilled workmen and other people connected with same in Clarksburg where they have located permanently, purchased homes and settled.

R. T. CUNNINGHAM—DEFENDANT'S WITNESS.

Pages 1222, 1223:

The use of gas at Fairmont, West Virginia, has had an appreciable effect in the growth of that city. Because

of the availability of natural gas at low rates many industries requiring gas for fuel settled there, bringing with them skilled help and attracting other labor into the community. These workmen and people connected with the industries have located and built their homes in Fairmont and are dependent on these industries for their support. In general, throughout the Monongahela Valley of West Virginia, the same influence of natural gas in the matter of growth and development of the community may be traced. Some of the principal cities in this valley are Morgantown, Clarksburg, Mannington, Weston, Buckhannon and Grafton.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1178, 1182, 1183, 1184, 1185, 1186, 1187, 1188:

The West Virginia University consumes gas furnished by the West Virginia and Maryland Gas Company, a subsidiary of the Eastern Oil Company group. The West Virginia Collegiate Institute in Kanawha County is supplied with gas by the Charleston-Dunbar Natural Gas Company, which has a connection with the United Fuel Gas Company. The Weston State Hospital is supplied with gas by the Keener's Oil, Natural Gas and Fuel Company, which, until May, 1919, received its gas from the Hope Company. The Spencer State Hospital in Roane County is served with gas by the United Fuel Gas Company. Marshall County, where the West Virginia Penitentiary is located, is served with gas by the Manufacturers Light and Heat Company, and to a small extent by the Pittsburgh and West Virginia Gas Company and the Hope Company. The West Virginia Industrial School for Boys in Taylor County is served by the Hope Company and the Pittsburgh and West Virginia Gas Company. Five of the large interstate com-

panies, to-wit: The Carnegie Natural Gas Company, the Reserve Gas Company, the Pittsburgh and West Virginia Gas Company, the Hope Natural Gas Company and the Manufacturers Light and Heat Company operate in Harrison County where the West Virginia Industrial Home for Girls is located. The State Tuberculosis Sanitarium at Terra Alta, Preston County, is served by the Northern Natural Gas Company, and the West Virginia Children's Home at Elkins in Randolph County is served by constituent companies of the Eastern Oil Company.

JOHN J. CORNWELL—DEFENDANT'S WITNESS.

Governor of West Virginia.

Pages 1193, 1197:

Prior to the enactment of the West Virginia statute in question the Governor of the State had received numerous complaints relative to the inadequacy of service furnished by the companies operating in West Virginia with a demand and a request for relief in respect thereto. These complaints and demands, beginning about 1917, came from manufacturers, gas consumers in Clarksburg, various Boards of Trade, Chambers of Commerce, Rotary Clubs, persons connected with hospitals, etc. Partly as a result of such complaints and requests the Governor laid the situation before the legislature during 1918 by a paragraph in his bi-annual message with a result that the statute in question was passed.

B. F. ROBINSON—DEFENDANT'S WITNESS.

Pages 1205, 1206, 1207, 1210:

Clarksburg, having a population of about 28,000

according to the last census, uses natural gas almost exclusively for domestic fuel and for fuel for industrial purposes. The Clarksburg Light and Heat Company has been compelled to buy gas from independent producers and from the Hope Company in order to supply its deficiency.

R. T. CUNNINGHAM—DEFENDANT'S WITNESS.

Pages 1218-25, 1228-29:

Natural gas has been in common use in Fairmont, West Virginia for domestic and industrial purposes since prior to 1894, but recently some of the larger industries have put producer plants in operation.

Because of the inadequacy of gas service a large number of consumers in Fairmont are considering changing to the use of coal. The first serious shortage of natural gas came there during the Winter of 1916-1917. During this period the industries had no fuel for practically sixty days, schools had to be closed down, churches could not be properly heated, and there was considerable suffering and inconvenience. Glass activities suspended work for a period of from four to eight days, naturally causing considerable unemployment. In the Monongahela Valley many consumers have taken up the use of producer gas or other forms of fuel instead of natural gas. This applies especially to glass industries having continuous, not seasonal operation.

CHARLES M. SNAITH—DEFENDANT'S WITNESS.

Pages 1281, 1282:

The local company supplying the town of Weston has not been able to meet the demands of the domestic consumers of natural gas for a period of two years.

CHARLES A. SHORT—DEFENDANT'S WITNESS.

Pages 1281 1282:

In Shinnston, domestic consumers have suffered from the shortage of natural gas and it has been necessary in the electric light plant there to use coal, and stores, public buildings and school houses have also been affected by the shortage. These conditions are general in Harrison County. Until two years ago natural gas was used in Shinnston for all heating and lighting purposes in some industries.

VANCE L. HORNER—DEFENDANT'S WITNESS.

Pages 1309, 1311 to 1312:

Until the past year Lumberport, W. Va., used natural gas for domestic and industrial purposes. For the last three or four years the Lumberport Gas Company has been unable to supply its consumers of natural gas in outlying districts such as Erie and Hepzibah. If all the companies operating in this vicinity took their gas at only a natural pressure the Lumberport Natural Gas Company and the Shinnston Gas Company would be able to keep on supplying their consumers for four or five years, but if the larger companies, by the use of pumping stations, make a general practice of taking their gas out on a vacuum the wells of these companies will be drained and they will be able to supply their consumers for only about a year longer.

PARKE BOWSER—DEFENDANT'S WITNESS.

Page 1331:

Some communities such as Glenville, which is far

from the source of supply, are using coal for fuel because they have not enough gas to supply them.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1343, 1344:

In section embraced by Doddridge, Harrison, Lewis, Wetzel and other counties in the north central part of West Virginia natural gas was generally used for heating, lighting and manufacturing purposes. Clarksburg has used gas for domestic purposes since 1893 or 1894, and this has been the exclusive fuel until the recent shortages in gas in 1915 and 1916.

During the winter of 1915-1916 there was a severe shortage of gas in and about Clarksburg. A great many industries were closed down, resulting in a loss of about one million dollars a week to the community. This was directly ascribable to the shortage of gas. The shortage was general throughout the State. Similar conditions with regard to industrial shut-down prevailed throughout the Monongahela Valley. This was the first severe shortage.

VII.

THE OPERATION AND EFFECT OF THE WEST VIRGINIA STATUTE WILL BE NOT ONLY TO IMPAIR BUT WILL DESTROY AT TIMES THE CONTRACTS BETWEEN THE GAS COMPANIES AND OTHER COMPANIES AND CONSUMERS, DOMESTIC AND INDUSTRIAL, AND THE STATES OF PENNSYLVANIA AND OHIO AND THE UNITED STATES GOVERNMENT, AND WILL AT ALL TIMES MAKE SAID CONTRACTS UNENFORCEABLE AND MAKE THE OTHER PARTIES THERETO CANCEL THE SAME.

HARRY A. QUAY.

Pages 7 and 8; 118; 119, and 120:

The Manufacturers Light & Heat Company has a contract with the State of Pennsylvania to supply gas to the Boys' Industrial Home, known as Morganza. Said Company has contracts with the United States Government to supply gas to government dams along the Ohio River, and, further, said Company has contracts with the United States Government to supply gas to various post offices in Ohio, Pennsylvania and West Virginia. In addition to these, The Manufacturers Light & Heat Company has contracts to supply gas to various counties, as for example, Allegheny County, Pennsylvania, which gas is used by the county and State for county institutions. The Manufacturers Light & Heat Company also furnishes gas to the Department of the Interior, Bureau of Mines of the United States. State institutions, various municipalities, and in some instances county institutions, in West Virginia and Pennsylvania, are supplied with gas by The Manufacturers Light & Heat Company under contracts.

West Virginia Exhibit No. 1, offered at page 138, appearing at page 1712.

Gas Purchase Agreement between the Hope Natural Gas Company and The Manufacturers Light & Heat Company.

T. O. SULLIVAN.

Page 211:

The Hope Natural Gas Company had a contract with the East Ohio Company, dated March 1, 1910; with the Peoples Natural Gas Company, dated May 1st, 1911; with the Fayette County Gas Company, dated May 1st, 1910; with the Mountain State Gas Company; and the River Gas Company, dated April 1, 1910, which was assumed by the Hope Company on April 1, 1910; the contract with the Northwestern Ohio Natural Gas Company, dated October 16, 1915; the contract with the Reserve Gas Company, dated April 11, 1913.

Page 223:

The Hope Natural Gas Company supplies various municipalities and governmental institutions, both State and Federal, with gas, such as post office buildings, government dams, court houses, hospitals, churches, public schools and institutions of that character by virtue of contracts.

Pennsylvania Exhibit No. 16, offered at page 224, appearing at page 1509.

A contract between the Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated October 16, 1915.

Pennsylvania Exhibit No. 17, offered at page 225, appearing at page 1524

A contract between the Hope Natural Gas Company and the Peoples Natural Gas Company, dated May 1st, 1911.

Pennsylvania Exhibit No. 18, offered at page 225, appearing at page 1535.

A contract between the Reserve Natural Gas Company, the Union Natural Gas Company, the Hope Natural Gas Company, the Connecting Gas Company and T. N. Barnsdall, dated April 11, 1913.

Pennsylvania Exhibit No. 19 offered at page 225, appearing at page 1544.

A contract between the Hope Natural Gas Company and the East Ohio Gas Company, dated March 1, 1910.

Pennsylvania Exhibit No. 20, offered at page 225, appearing at page 1554.

A contract between the Mountain State Gas Company and the River Gas Company, dated April 1, 1910.

Pennsylvania Exhibit No. 21, offered at page 225, appearing at page 1560.

A contract between the Hope Natural Gas Company and the Fayette County Gas Company, dated May 1st, 1910.

West Virginia Exhibit No 2, offered at page 284, appearing at page 1724.

Hope Natural Gas Company and The Light, Fuel & Power Company agreement.

Page 326:

"Q. From your knowledge of the demand for gas in the State of West Virginia at the present time by other public utilities, industrial consumers, domestic consumers, and others in the state of West Virginia, what do you say if their demands and requirements were first fully supplied, as to whether or not you could carry out your contracts and transport the gas produced by you out of the State of West Virginia?

A. We certainly could not live up to our contracts, and in addition, it would practically make a whole lot of our equipment and lines a lot of junk, without value."

H. A. WALLACE.

Page 373:

The United Fuel Gas Company supplies gas to natural gas companies that convey it to Louisville, Cincinnati and Pittsburgh, by virtue of contractual relations existing between said companies and the United Fuel Gas Company.

Pages 388 and 389:

The United Fuel Gas Company furnishes gas to the town of Nitro, West Virginia, a manufacturing town built by the United States Government during the war.

Page 402 (Cross-examination):

The United Fuel Gas Company has contracts with the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, the Central Kentucky Natural Gas Company, the Louisville Gas & Electric Company, the Portsmouth Gas Company, the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company.

West Virginia Exhibit No. 35 offered at page 1199, appearing at page 1738.

Agreement dated July 5th, 1913, between the United Fuel Gas Company and the Louisville Gas & Electric Company.

West Virginia Exhibit No. 36, offered at page 1199, appearing at page 1745.

United Fuel Gas Company and Portsmouth Company agreement.

West Virginia Exhibit No. 37, offered at page 1199, appearing at page 1752.

United Fuel Gas Company and Central Kentucky Company agreement.

West Virginia Exhibit No. 38, offered at page 1199, appearing at page 1761.

United Fuel Gas Company and Ohio Fuel Supply Company agreement.

West Virginia Exhibit No. 39, offered at page 1199, appearing at page 1769.

United Fuel Gas Company and Hope Natural Gas Company agreement.

West Virginia Exhibit No 40, offered at page 1199, appearing at page 1777.

United Fuel Gas Company and Hope Natural Gas Company agreement.

West Virginia Exhibit No. 41, offered at page 1199, appearing at page 1780.

United Fuel Gas Company and Pittsburgh and West Virginia Gas Company agreement.

West Virginia Exhibit No. 42, offered at page 1199, appearing at page 1788.

United Fuel Gas Company and Pittsburgh and West Virginia Gas Company agreement.

West Virginia Exhibit No. 43, offered at page 1199, appearing at page 1291.

Columbia Gas & Electric Company and United Fuel Gas Company agreement.

West Virginia Exhibit No. 44, offered at page 1199, appearing at page 1800.

Columbia Gas & Electric Company and Ohio Fuel Supply Company and United Fuel Gas Company agreement.

W. W. FREEMAN.

Page 451:

The Union Gas & Electric Company, which supplies Cincinnati with natural gas purchases this gas from the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, which latter company secures its gas from the United Fuel Company.

Page 458:

The Union Gas & Electric Company, of Cincinnati, Ohio, supplies gas to public institutions such as court houses, poor houses, hospitals, in Cincinnati, and during the winter months to the city water works plant of Cincinnati and the water works and municipal plants at Norwood.

JAMES H. REED.

Pages 500 and 501:

The Philadelphia Company supplies gas to various Federal and State institutions in Allegheny County, Pennsylvania.

Page 517:

The Pittsburgh & West Virginia Gas Company delivers gas to the Equitable Gas Company at the boundary line between West Virginia and Pennsylvania, as the result of a contract dating from the year 1917.

West Virginia Exhibit No. 3, offered at page 529, appearing at page 1729.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 1.

West Virginia Exhibit No. 4, offered at page 529, appearing at page 1732.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 2.

West Virginia Exhibit No. 5, offered at page 529, appearing at page 1733.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 3.

West Virginia Exhibit No. 6, offered at page 529, appearing at page 1735.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 4.

J. E. ANGLE.

Page 535:

At the time that the Fayette County Gas Company sold its gas lines, territory and wells in West Virginia to the Hope Natural Gas Company it had entered into a contract with the Hope Company for the supplying of gas to the Fayette Company from the Hope. This contract was a written agreement, which has been previously offered in evidence as Pennsylvania Exhibit No. 21,—offered at page 225 (Sullivan), appearing at page 1560. Under this contract the Fayette County Gas Company is furnished from one and three-quarters to two billion cubic feet per year. For exact figures, see table appearing at pages 542 to 551.

Page 562:

Under the contract referred to above the Hope Company agreed to supply the Fayette County Gas Company with all the gas required for domestic consumption.

Page 563:

The Fayette County Gas Company entered into this contract with the Hope Company believing that the Hope Company would be able to supply it with gas in accordance with the provisions of the contract and furnish a supply sufficient for the domestic consumption of said Fayette County Gas Company for a period of 20 years the term of the contract.

MARTIN B. DALY.

Pages 570 to 572:

The East Ohio Gas Company, since its inception in 1898, has been procuring gas delivered to it from West Virginia by the Hope Natural Gas Company in accordance with a contract entered into with said Company. This contract is evidenced by Pennsylvania Exhibit No. 19,—offered at page 225 (Sullivan), appearing at page 1544.

Pages 574 to 577:

The East Ohio Gas Company supplies gas to various subdivisions of the State, such as municipalities, counties and school boards:

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total.
Dennison	..	..	..	..	1	2	3
Kent	..	..	..	..	1	4	5
Ravenna	..	..	..	4	2	5	11
Youngstown	..	1	..	5	21	31	58
Girard	..	..	..	..	2	5	7
Hubbard	..	..	..	..	2	2	4
Struthers	..	..	..	..	2	3	5
Lowellville	..	..	..	..	1	..	1
East Palestine	..	..	..	..	2	1	3
Poland	..	..	..	..	1	..	1
New Middletown	..	..	..	..	..	1	1
Petersburg	..	..	..	..	..	1	1
Warren	..	1	..	2	4	9	16
Niles	..	..	..	..	4	3	7
Wooster	..	1	5	3	6	6	21
Orrville	..	..	..	..	1	3	4
Shreve	..	..	..	..	2	1	3
Loudonville	..	..	..	..	3	3	6
Barberton	..	..	..	..	..	3	3
Wadsworth	..	..	..	..	..	2	2
Doylestown	..	..	..	..	1	2	3
Millersburg	..	..	..	..	..	1	1
Danville	..	..	..	..	..	1	1
Gann (Brinkhaven)	..	..	..	..	..	1	1
	2	9	10	23	290	441	775
Cleveland & Suburbs	..	4	4	2	170	275	455
Akron	..	1	1	3	31	28	64
Cuyahoga Falls	..	..	..	..	3	1	4
Kenmore	..	..	..	..	3	2	5
Canton	..	..	..	2	11	17	30
North Canton	..	..	..	..	..	1	1
Massillon	..	1	..	..	7	10	18
Dover	1	..	..	..	4	6	11
New Philadelphia	1	..	..	2	3	9	15
Uhrichsville	..	..	..	..	1	2	3

Total churches and parsonages entire system	1,331
Total charitable institutions entire system	202
	2,308

Page 590:

The East Ohio Gas Company is under contractual relations with various municipalities in Ohio to supply consumers therein with natural gas for a period of years.

Page 594 (Cross-examination):

By an additional contract with the Hope Natural Gas Company, the East Ohio Gas Company contracted with the Hope Company for an additional supply of gas in order to take care of the increased demand of the East Ohio Gas Company.

Page 596:

Prior to 1910 the contracts between the East Ohio Gas Company and the Hope Natural Gas Company for the sale and delivery of gas at the Ohio River were not in writing, although there was an understanding relative to same. In regard to contracts with municipalities, the East Ohio Gas Company is obliged by ordinance to supply these municipalities with gas to the extent of the ability of the Company.

T. J. JONES.

Pages 632 and 633:

The Pure Oil Company supplies gas to Federal and State buildings, schools and hospitals in the Cities of Columbus, Dayton and Springfield some of which are the Hospital for Feeble Minded, the Hospital for Insane, School for the Blind, School for the Deaf and Dumb, the Ohio State University, and all State institutions in the City of Columbus.

Page 635:

The Dayton Gas Company purchases or secured its entire supply of gas from the Logan Natural Gas & Fuel Company by virtue of a contract between the two companies, and depends entirely for its supply of gas upon the amount of gas that the Logan Natural Gas & Fuel Company can secure from West Virginia.

Page 611 (Cross-examination):

The Pure Oil Company has contracts for gas with the Ohio Fuel Supply Company.

Page 616 (Redirect Examination):

This Company contracted with the Ohio Fuel Supply Company for gas to be furnished Columbus in April of 1914, for Springfield in November, 1914, and for Dayton contracted with the Logan Company for June of 1916.

Page 618 (Recross Examination):

"A. I would be unable to say, as I said, from personal experience, what quantity of gas comes from West Virginia that is distributed in the cities of Columbus and Springfield, also in the city of Dayton, other than our contract specifically states that the gas we receive at Dayton comes from West Virginia through contracts held by the Logan Natural Gas and Fuel Company."

L. B. DENNING.

Page 656:

The Ohio Fuel Supply Company acquires its West Virginia gas by reason of contractual relations with the United Fuel Gas Company.

Page 697 (Cross-examination):

The Ohio Fuel Supply Company is demanding that there shall be a sufficient supply of gas delivered to it from the State of West Virginia for consumers in the State of Ohio because it has contracts for such.

Page 708:

The Ohio Fuel Supply Company has entered into contracts with consumers directly supplied by it, and also into contracts with the communities of Columbus, Springfield and Hamilton. The latter contracts contain provisions to the effect that the consumers who were a party to the contracts first mentioned are to be supplied with gas by the Ohio Company before the communities, and that the latter are to be entitled to only as much gas as might be left in the event of shortage after supplying the others.

J. W. McMAHON.

Page 718:

The entire supply of gas of the Northwestern Ohio Gas Company comes from the Hope Natural Gas Company.

Page 719:

The Northwestern Ohio Gas Company has contracted with the Hope Company for West Virginia gas.

Page 727 (Cross-examination):

The Northwestern Ohio Gas Company began to take gas at the Sugar Grove Station from the Hope Natural Gas Company in 1903 or 1904 under a written

contract. Pennsylvania Exhibit No. 16,—offered at page 224 (Sullivan), appearing at page 1569, shows an agreement between the Hope Natural Gas Company and the Northwestern Ohio Gas Company as of October 16, 1915. This is the contract under which the Northwestern Company is at present securing its gas.

Page 728:

"My statement is that if, owing to the enactment of laws by the state of West Virginia, whereby The Hope Natural Gas Company cannot deliver us the amount of gas, or a lesser amount of gas than they are now delivering us, that it will be detrimental."

Page 730:

"Q. Aside from the existence or operation of this statute, have you had, or do you now have in mind, any idea that the increasing shortage in West Virginia will interfere in any respect with the ability of The Hope Company to deliver gas to The Northwestern Company.

A. Well, I understand that The Hope Company have sufficient territory to give us a fair supply of gas in accordance with their contract if the gas can be delivered in accordance with their contract, but if diverted by law or in any other way, that it would interfere with their ability to furnish us."

EUGENE P. WHITCOMB.

Pages 765 and 766:

The Union Natural Gas Corporation, through subsidiary companies, entered into contracts with the Cen-

tral Indiana Gas Company, Central Contract & Finance Company and the Jantha Light & Heat Company to supply gas to various towns in Indiana and Ohio.

> "All of the contracts to which I have referred and all of the towns supplied on these lines contemplated the use of nothing but West Virginia gas. There was no provision—in fact, the contract stated that they were not entitled to gas produced in the state of Ohio."

Page 768:

> "* * * all contracts on the line from Sugar Grove to Dayton and Indiana contemplate and provide for the delivery of West Virginia gas only, and specifically recite the fact that the Union Natural Gas Corporation has available a large quntity of gas in West Virginia, and that they are not entitled to Ohio gas.* * *"

Page 769:

> "* * * A new contract was made with the Dayton Gas Company (about 1915) which provided, as I stated, for the use of West Virginia gas only, and in 1913, in the early part of the year, contracts were made with the Central Indiana and other distributing companies within that state, which provided for West Virginia gas only; * * *"

Page 772:

The Union Natural Gas Corporation of Ohio has contracted with the Reserve Gas Company for gas. A new contract was entered into between said parties on April 11th, 1913, which is the contract under which these companies are operating at the present time. This

contract is referred to in Pennsylvania Exhibit No. 17,—offered at page 225 (Sullivan), appearing at page 1524. Under this contract the Union Natural Gas Corporation was to receive 12,000,000,000 cubic feet of gas per year. From 1904 to 1919, inclusive, under the contracts referred to, the Reserve Gas Company delivered to the Union Natural Gas Corporation 102,682,712,000 cubic feet of gas.

Pages 773 and 774:

During the years 1914 to 1918 the Union Natural Gas Corporation received from the Reserve Company the full amount of gas to which it was entitled, but it was obliged to take during the summer months an excess of gas. During the year 1919, however, the amount received by the Union Natural Gas Corporation was 2,400,000,000 cubic feet short of the amount to which it was entitled by virtue of the contract.

Page 783:

Any diversion of West Virginia gas from the Union Natural Gas Corporation would result in a shortage of gas to all the consumers supplied by the lines of said Company running west from Sugar Grove, the lines running north to Newark and Lancaster, and lines to Circleville, Chillicothe and Athens, Ohio. If the volume were to cease entirely, practically all of the service of said Company as outlined above would be put out of commission.

Page 784:

If under the operation of the West Virginia statute the Union Natural Gas Corporation were to receive no gas at Sugar Grove, the entire service of the Southern division of said Company would be demoralized.

Page 797 (Cross-examination):

There are a number of contracts made by the Logan Natural Gas & Fuel Company with different distributing companies, to-wit: Central Indiana Gas Company, located at Muncie, Indiana; Dayton Gas Company, at Dayton, Ohio; Richmond Light, Heat & Power Company, of Richmond, Indiana; Interstate Public Service Corporation, at New Castle, Indiana, and the Jantha Light, Heat & Fuel Company, in the Western part of Ohio. These contracts were all made during the year 1913 and provide, in express terms, that the gas delivered by the Logan Natural Gas & Fuel Company is to be West Virginia gas.

SAMUEL S. WYER.

Page 969:

> * * * where the gas, after severance is delivered to the lines in West Virginia where such lines deliver gas to lines in other states, the diversion of gas from those interstate lines in West Virginia would result in the inevitable voiding of contractual relationships and destroy many property rights, because of the inability of such West Virginia interstate lines, on account of such diversion, to meet their contractual obligations at the state lines, where the gas is delivered to lines in the other states. * * *

Note: In this connection the evidence under the VI heading preceding and the VIII following is not here repeated, this evidence showing that under the provisions of the statute of West Virginia these companies could not carry out the contracts referred to under the above heading.

VIII.

THE OPERATION AND EFFECT OF THE WEST VIRGINIA STATUTE WILL BE TO ABSOLUTELY PROHIBIT AT TIMES, DURING PERIODS OF COLD WEATHER, THE TRANSPORTATION OF GAS FROM WEST VIRGINIA INTO PENNSYLVANIA, OHIO OR OTHER STATES AND THUS DRIVE CONSUMERS OFF THE LINE ALTOGETHER AND FOR THE WHOLE YEAR.

SECTION 5.

HARRY A. QUAY.

Pages 43 to 47 and 1244:

If The Manufacturers Light & Heat Company were called upon to supply natural gas to meet the probable requirements of all industrial consumers of West Virginia, it would require between twenty-five and thirty-three million cubic feet per day. This estimate is based upon previous consumption of gas by various West Virginia industrial consumers, a partial list of which is given, and upon information as to what those industrials have informed the Manufacturers Company from time to time as to the amount of gas they would or might desire to use. At present these industrials are being supplied with about one million and a half feet as a minimum, and about 6,000,000 feet as a maximum, per day.

Most of the industrials, realizing the possibility of curtailment of their supply by the Manufacturers Company for the better service of domestic consumers, have

supplied themselves with fuel other than natural gas and installed apparatus for the production of producer gas, and some were using coal for fuel whenever possible.

Page 47:

"A. I would say that if my company was compelled to furnish gas in an amount equal to the possible requirements of all of our customers, connected to our lines in the State of West Virginia—and that would apply to all other companies in the State as well—that it would practically demoralize our business in the States of Pennsylvania and Ohio. It would make the physical operation of the property absolutely problematical; you wouldn't know what your requirements were going to be for a certainty in the State."

After referring to periods of the previous year when the Company was short of gas at various Pennsylvania and Ohio Cities the witness continued:

For that reason, I base my opinion, if we were called upon to supply ten, fifteen, twenty or twenty-five million feet a day in addition to the amounts that we were furnishing, or if that amount of gas was taken out of the distribution end of the States of Pennsylvania and Ohio and used in West Virginia prior to the time that it got into the lines in those two States, it would mean that there would be times there would be practically no gas in a great many lines of the company in the two States of Ohio and Pennsylvania."

Page 48:

"Again, if the service of a consumer is interrupted, no matter whether it is an industrial or a domestic consumer, he realizes that he can place no dependence on

the service; he was depending on it for heating, and he found he was not getting sufficient gas for that purpose, and was forced to put in a substitute fuel; if he could not secure gas for cooking purposes or lighting his home regularly, satisfactorily to him, he would be compelled to secure other fuel, substitute fuel."

Pages 50-51:

"Q. Under the present system of operation of your lines in West Virginia, state what the facts are as to the West Virginia consumers getting, during times of shortages at other points, their proportion of gas from the lines.

A. The domestic consumers in the State of West Virginia have not suffered any shortage.'

Q. You mean those on your lines?

A. On our lines. With the exception of the domestic consumers in the town of New Cumberland, Hancock County, West Virginia. The domestic consumers in Ohio have suffered shortages; the shortage the past winter in the city of Steubenville, for domestic consumers, at Martins Ferry, Bridgeport and Bellaire, Ohio, has been marked. The shortage for domestic consumers on the lines of our company in the city of New Castle has been very severe; there have been at least twenty-four different shortages in that city, some periods of time there being no gas whatsoever in the lines for their use. New Brighton, Beaver Falls, Rochester, various smaller communities in the Beaver Valley have experienced severe shortages. In the district, the domestic consumers in and surrounding Pittsburgh, Bellevue, Avalon, and in that territory have suffered three or

four severe shortages, in some cases there being no gas or not sufficient gas so that any would burn in their homes."

Page 131 (Cross-examination):

"If we were required to furnish amounts of gas which, for instance, our industrial consumers would like to have and would take, in West Virginia, the amount of gas which they would use and would take would be taken to the detriment of consumers further along in the states of Pennsylvania and Ohio and also West Virginia—that is, the domestic consumers. Take, in extreme cold weather, when the domestic consumer is using all the gas that he desires, if I were to permit the use of gas for industrial purposes, there would be a great shortage in the supply of gas to domestic consumers. It is by the discontinuing or curtailing of the amount of gas furnished industrial consumers that we can tide ourselves over during these cold periods, these peak load periods. In other words, we divert and give to the domestic consumer the gas that we have available, in preference to giving it to the industrial consumer. You can readily see, if I was called upon at times even for only a million feet of additional gas to factories, that would mean one million feet less for domestic consumers. There have been times that I have been short, that a million feet, if I had it available, would have prevented that particular shortage. Now, when that gets up to eight or ten million feet, and they take it out, and it is not permitted to be utilized for domestic use, the prospect of shortage becomes very much more acute.

Pages 133; 348 and 349; 586 and 587; 631 and 677:

Harry A. Quay, of the Manufacturers Company; John B. Corrin, of the Reserve, Hope, Connecting and other

companies; Martin B. Daly, of the East Ohio Gas Company; T. J. Jones, of the Natural Gas Properties of the Pure Oil Company; L. B. Denning, of the Ohio Fuel Supply Company; testimony summarized:

Natural gas constitutes the best fuel for domestic consumers in that it is especially adapted for lighting, heating and cooking purposes. It is much more economical than either electricity or coal and much cleaner than the latter. Its use results in a great saving of money and labor towards consumers.

HARRY A. QUAY.

Pages 41 to 43; 51; 52; 121 to 124; 147 to 150; 151 and 152, and 173 to 177:

This evidence may be summarized as follows:

In past years large quantities of gas had been furnished by The Manufacturers Light & Heat Company to various industrial plants in West Virginia, Pennsylvania and Ohio. Follansbee Brothers, for example, at Follansbee, West Virginia, required and obtained about 4,000,000 cubic feet per day at one time. At present, especially in winter, the supply of gas to industrial companies is very much restricted, and very little gas, at least when compared to the amount supplied to domestic consumers is being furnished to industrials. The gas companies have adopted the policy of curtailing in part, and sometimes almost altogether, the supply of gas furnished to industrial consumers. Industrial consumers in West Virginia have at times been furnished gas in preference to those in Pennsylvania and Ohio (p. 51). The gas companies in general operating in West Virginia, including The Manufacturers Light & Heat Company have entered upon a systematic campaign

of discouraging the industrials throughout the three States above mentioned from using natural gas, and every contract made by The Manufacturers Light & Heat Company with an industrial consumer contains a clause reserving the right to temporarily discontinue, in whole or in part, the supply of gas furnished such consumer in the event that the domestic consumers required all the gas which the company had available. In 1915 the Manufacturers Company had withdrawn their industrial schedules altogether. At various times the supply furnished industrial companies in Pennsylvania and Ohio had been entirely discontinued for periods of varying length. Pennsylvania Exhibits 2 to 8, inclusive, consist of letters which were sent out by The Manufacturers Light & Heat Company to industrial companies, advising them that the Company was not in position to furnish them with a full and adequate supply of gas.

But the industrial companies have not been entirely cut off from the natural gas supply by the gas companies, for the reason that at certain periods, as in summer, the companies have more gas than is required by the domestic consumers. Sales would be lessened if industrials were entirely cut off, and, as a consequence, the rate to domestic consumers would have to be raised in order that the Company might continue its operations under favorable financial conditions. For such reasons the companies find it impossible to discontinue entirely the sale of industrial gas.

T. O. SULLIVAN.

Page 217:

"Q. Now, from your recollection of the quantity of gas that was required by these industrial plants in

West Virginia, both from your prior and present experience, what do you say as to those industrial plants, if they could receive all of the gas they desired for all of their operations, having a demand sufficient practically to take most of the gas produced in the state?

A. In cold weather, when the demand of the domestic consumers would be large, if all the industries adopted the use of natural gas to meet all their requirements, then, in my judgment, there would be a demand to take practically all of the gas that the Hope Natural Gas Company produces. This might not apply to all portions of the State of West Virginia, but in the sections in which we are operating, there would be a demand for practically all of the gas that is being produced at those times."

Pages 226 and 227:

"Q. From your knowledge and experience in the natural gas business and the operation of natural gas companies, if those companies engaged in furnishing, or required by law to furnish, natural gas for public use, or for the use of the public, for domestic, industrial or other consumption, within the State of West Virginia, are compelled to furnish a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed, or desired to be consumed, by the public, or any part of the public, within the State of West Virginia, within what length of time, in your opinion, would the demand for natural gas in the State of West Virginia, for domestic, industrial and other purposes, as defined by the Act now in controversy, take substantially all of the gas produced in the State of West Virginia?

A. If the different natural gas companies operating in the State of West Virginia were compelled to furnish all of the gas that might be required for use within the state, in my opinion it would be only a comparatively short time until there would be a sufficient demand to use all of the gas that is produced. I base this opinion upon the desires which have been expressed by different firms and persons using gas within the state, of what their requirements would be, if they could obtain all the gas they needed. I also understand that in certain industries natural gas is very much better adapted for certain purposes than any other fuel that can be secured. And in view of that, it would no doubt cause other manufacturers outside of the State of West Virginia, to locate in the state, on account of the advantages which they would obtain by the use of this fuel. Taking these matters into consideration, I feel satisfied that it would be only a comparatively short time, possibly a year, maybe two years, until there would be a demand developed within the state that would use all of the gas that might be produced."

Pages 222 and 223:

"Q. In the operation of a natural gas company, there is what is usually called, or frequently referred to, the peak load?

A. Yes, sir.

Q. Now, tell us what the peak load is, in your experience as a natural gas man?

A. The peak load is the demand created by the increased quantity of gas required by consumers on cold days and at certain hours of the day. In cold

weather, on an extremely cold day, the demand of the average domestic consumer will be from four to five times greater than it is on the normal day. Then there are certain hours in the day when the demand is very considerably increased above the normal demand; that is, from about 6:30 to 8:30 in the morning, during the time that breakfasts are being prepared. Then again, from about 11:30 to 1:30 in the afternoon, while the mid-day meal is being prepared. And again, from about five o'clock in the evening to seven o'clock, when supper is being prepared. This creates a very increased demand, which probably at times is as high as 15 to 20 times more than the regular average daily load. Of course, the demand in the winter season—the normal demand in the winter season, is considerably larger than the normal demand in the summer season, probably about four times.

Pages 214; 226 and 227, and 309 to 302, summarized:

Under the operation of the West Virginia statute the industrial consumers in West Virginia would demand and consume an amount of natural gas greatly in excess of the amount they at present are consuming or being furnished with by the gas companies. Natural gas is the fuel best adapted for the purpose of those industrial consumers and if under the operation of the statute such industrial consumers could obtain all the gas they desired, various other industrial plants would be tempted to locate in West Virginia, which would account for the consumption of a large additional amount of natural gas. The demand which would be worked up by the industrial consumers in West Virginia under the advantages of the statute would very shortly reach a point where there would be no gas left for exportation to other States. As to the industrial consu-

mers now supplied, or reasonably close to the lines of the Hope Natural Gas Company, it would take between sixty and seventy-five million feet of gas per day to fulfill their demands if the provisions of the statute were enforced.

Pages 214, 215, and 222:

It is estimated that under the operation of the West Virginia statute if the West Virginia consumers could get all the gas they wanted it would amount to from 60,000,000 to 75,000,000 cubic feet per day, and that this would result in making the service to all the other companies—that is, other companies buying, selling and producing gas and buying some of it from the Hope—to which the Hope Company was supplying gas, very unsatisfactory and inadequate for the requirements of the customers of such companies. On cold days, assuming the increase in demand under the operation of the statute, the Hope Company would be able to give practically no service to any of the companies purchasing gas from it outside of the State for the service would be so poor that it would be practically of no value to the consumers of those companies. Owing to the present shortages which exist in Pennsylvania and Ohio, any additional quantity taken out of the lines would have a very detrimental effect on the service in other States.

Pages 221; 288 and 288 to 290, summarized:

It is the general rule of all companies engaged in the natural gas business, as well as of the Hope Natural Gas Company, to give preference to domestic consumers over industrial consumers in the event of a shortage of gas on the line, when there is not sufficient to supply both

and this has been the general rule for many years, despite the fact that since the industrial demand is more uniform and regular over the entire year than the domestic gas companies would prefer to serve the former. But, for the reason that at certain periods during the year the companies have more than sufficient gas to supply the requirements of domestic consumers, it is still necessary to dispose of the surplus to industrial consumers since this obviates the necessity for higher rates to domestic consumers. That is, the companies are enabled to give a lower rate for domestic service by reason of the income and return received from the industrial service.

JOHN B. CORRIN.

Pages 326 and 327:

"Q. What would be the effect upon the practical operation of the lines of the Reserve Natural Gas Company, if it were compelled from time to time, especially on the coldest days or periods of winter, to make connections with and supply other public utilities in the State of West Virginia than those with which it had contracts, and for which it had made provisions?

A. First, it would be very dangerous. I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and have some person or city, or otherwise, take gas off the line before it reached your consumers. In addition, you could not retain any of your consumers yourself, because the service that would be rendered would be uncertain and undependable; and in fact, I don't believe that it would be practicable to maintain a gas company if that condition existed.

Q. From your knowledge of the demand for gas in the State of West Virginia at the present time by other public utilities, industrial consumers, domestic consumers, and others in the State of West Virginia, what do you say if their demands and requirements were first fully supplied, as to whether or not you could carry out your contracts and transport the gas produced by you out of the State of West Virginia?

A. We certainly could not live up to our contracts, and in addition, it would practically make a whole lot of our equipment and lines a lot of junk, without value.

Q. Would the present requirements and demands of domestic, industrial and other consumers in the State of West Virginia, in the coldest periods of the year, be sufficient, practically to take all the gas produced and transported by your company and the other natural gas companies in the state?

A. I don't believe there would be very much left to go through our lines out of the state, if all the demands were met."

Page 327:

The variation between the normal demand and the peak load demand among domestic consumers was about 500 per cent.; that is, the peak load is about six times as great as the normal demand. In the industrial service, however, the variation is not very great.

Pages 328 and 329, summarized:

The Reserve Gas Company did not desire any more permanent industrial consumers than they already have,

and in line with the policy of the other companies, discouraged industrial consumption. However, in order that the business might yield profits, the Reserve Company found itself compelled to sell some gas to industrials in order to get rid of gas at the time when in spite of specific requirements of the domestic consumers there was still surplus gas.

Page 330:

"Q. The population in the States of Ohio and Pennsylvania that is supplied with natural gas and uses it for domestic purposes,—are you familiar with the conditions under which the gas is thus consumed?

A. I believe I am.

Q. And will you tell us now, just as graphically as you can, what the effect would be upon those consumers, if from time to time the operation of your lines was interfered with, as you have described by the supplying of gas to other utilities, or industrial consumers, on cold days, in West Virginia, under the provisions of this Act in controversy here?

A. I can't imagine how it would be possible for us to retain our consumers at all, if they were going to be subject to that interrupted service; but I don't think that people would be annoyed by the interrupted service. Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. And the discomforts that people would undergo, I think they would not be annoyed by it and would put it out of their houses."

H. A. WALLACE.

Pages 368 and 369:

"Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the state?

A. I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the state, and for that reason I do not believe domestic consumers and other people would care to be connected to our lines, if they could only receive a supply of gas during the summer season, and in the winter time, when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel."

Pages 369; 370, and 371, summarized:

Under the operation of the West Virginia statute the demand for gas for industrial purposes in West Virginia would so increase that in the course of a year, or a year and a half, practically all the natural gas produced in West Virginia would be sold in that State for manufacturing purposes. This opinion is based upon the applications for gas which have been received by the United Fuel Gas Company from big industries. Filling the requirements of these applications would take between seventy-five and one hundred millian cubic feet of gas per day, and if these requirements were satisfied there

would be no gas exported from West Virginia for domestic purposes in winter time. The carbon black industries, which are especially wasteful in their use of natural gas, from the nature of the industry and the way in which natural gas is used therein, and which nevertheless can use natural gas profitably, would resume or recommence the use of gas from which they are at present cut off, with the natural effect of further reducing the amount available for exportation from West Virginia. Further, it would be impossible to construct lines, compressing stations and field equipment in such a way that the demands of other consumers than the industrials could be taken care of, assuming that the requirements of the latter must be met first.

JOHN B. TONKIN.

Page 423:

The Peoples Natural Gas Company also discourages the use of gas by industrial consumers. At one time the industrial supply was almost entirely cut off. Domestic consumers are always given the preference over industrials, who are shut off from the supply of gas at the approach of cold weather or when the pressure in the lines of the company begins to decline. The contract of the Peoples Company with industrials contains a clause much to the same effect as that of the Manufacturers Company, to-wit, that in case of shortage the domestic requirements will be met before the industrial.

The Peoples Company, however, still does supply some gas to industrials, for the same reason as given by Mr. Quay and Mr. Sullivan in regard to the policy of their respective companies; that is, that during the periods of warm weather, when the domestic demand

is very light, it is either necessary to dispose of surplus gas to the industries in order to preserve low rates to domestic consumers, or to shut in their wells altogether. Where fields are competitive, that is, where other gas companies operate in the same district, or where certain large industrial concerns obtain gas from their own territory for their operations, it is not feasible to shut in the wells, since the gas from these wells would no doubt be drained by the operations of the competing companies and by the above named industrial companies owning their own wells. Where, however, the fields are not competitive, the gas wells are actually shut in in preference to supplying industrial consumers.

On pages 437 and 438 it was said:

"Q. How does the industrial gas business keep down the price to the domestic consumers?

A. If we were to depend entirely upon the domestic consumer for our revenues, and he doesn't use hardly any in the summer time, we wouldn't have money enough for operating; it would be necessary to charge him several times the price that he is being charged now, the price for that service."

Pages 423 and 424:

The variation between normal demand and the peak load demand in serving domestic consumers is about 1,000 per cent. The greatest peak load occurs during the winter, and occurs every winter, and the peak load is higher during some hours in the day than during others, both summer and winter, when, for instance, all appliances are turned up to heat houses and cook breakfast.

Pages 428 and 429:

"Q. Now, then, what would be the effect upon the operation of your company, if, under the provisions of the Act of Legislature in controversy here, the Hope Company should be compelled to make connections with other companies to supply their deficit, or should be compelled to supply the demands of the consumers in West Virginia with gas before making deliveries to you? What would be the effect?

A. Well, the result would probably be that on extremely cold days there would be very little, if any, gas come north through the lines connecting with the Hope Company. It would create a situation that would leave us practically without gas, and what little gas we would have left would be scattered around to so many places, and we would have to try to do so much with so little gas, that we wouldn't have any service. It would also create a dangerous situation, where the gas would go out, no doubt, in a number of places. In fact, it would demoralize the operation of the company."

Page 429:

"Q. Would that demoralization go to the extent of substantially shutting down your operations?"

A. I think that after one winter of that, our consumers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through, under those conditions."

Page 429:

"Q. From your practical knowledge and information as to the operation of natural gas lines, and your familiarity with the Hope Company, by reason of your official connection therewith, what do you say a o those demands, such as I have described, being such as to demoralize or interfere with the whole operation of the Hope Company's system?

A. Well, I know that during my connection with the Hope Natural Gas Company there were a great many requests of other gas companies and other consumers for a supply of gas, and it is my opinion that the demand on their lines would be so great from companies doing business in West Virginia and from industrial plants there, that there would be no gas left in cold weather to distribute to the Peoples Natural Gas Company."

JOHN B. TONKIN.

Pages 445 to 447:

JOHN B. CORRIN.

Pages 326 and 327:

JAMES H. REED.

Page 526:

Under the operation of the West Virginia statute, even eliminating from consideration the increased industrial consumption in West Virginia there would be enough gas taken out of the lines by increasing the do-

mestic consumption and by making other connections to very seriously cripple the service to Pennsylvania and Ohio consumers on cold days.

W. W. FREEMAN.

Pages 458; 475 and 476, and 477, summarized:

In cold weather the Union Gas & Electric Company cuts off industrial consumers, including those owning power plants, entirely. The curtailment of gas by the Union Company to industrial consumers had somewhat ameliorated the condition of existing shortages, although it had not altogether met it. However, it was not practicable to cut industrials from the lines of the company's consumers altogether because the income received from the sale of gas to industrials during the time of light demand by domestic consumers enabled the Company to give domestic consumers lower rates.

JAMES H. REED.

Pages 525 and 526, summarized:

Because the income received from the sale of natural gas to industrial consumers in warm weather, when there was more than enough gas to supply domestic consumers, enabled the Company to maintain lower rates to the domestic consumers, the Philadelphia Company, despite the limited and insufficient gas supply in general, still continued to serve industrial consumers to some extent.

Pages 561, 562, 578, 579, 603, 634, 680, 681, 722, 781 and 793; summarized:

J. E. Angle, of the Fayette County Gas Company; Martin B. Daly, of the East Ohio Gas Company; T. J. Jones, of the natural gas properties of the Pure Oil Company; L. B. Denning, of the Ohio Fuel Supply Company; J. W. McMahon, of the Northwestern Ohio Natural Gas Company, and Eugene P. Whitcomb, of the Union Natural Gas Corporation, all testified that it is the uniform policy of natural gas companies to prefer domestic consumers to industrial consumers and that industrial consumers are supplied with natural gas only during the summer months when there is a surplus available; and, further, they reserve the right in their contracts to and actually do discontinue to industrial users the supply of gas at any time without notice if, in their judgment, that is necessary. These witnesses further state that the Public Utilities Commission of Ohio in its administrative orders to the natural gas companies of Ohio, directs the gas companies in case of shortage, to cut off all classes of consumers other than domestic consumers, to the end that the domestic consumers may have the first and prior right to gas. Regardless, however, of any administrative orders on the part of the Public Utilities Commission of Ohio, the gas companies, as a matter of uniform practice, limit the service furnished the industrials and at all times give preference to the domestic consumer.

Ohio Exhibits Nos. 3 to 9, inclusive (offered page 681), consist of copies of administrative orders of the Public Utilities Commission of Ohio relative to discontinuing the furnishing of gas to industrial consumers in Ohio during the years 1916 to 1920, inclusive. The exhibits appear on pages 1695-1706 of the record.

MARTIN B. DALY.

Pages 587 and 588:

"Q. Mr. Daly, if, under the provisions of the statute in question in this proceeding, the Hope Natural Gas Company were compelled to divert to new or other persons, firms or corporations in West Virginia, than it now serves, a material amount of gas which it has been and is now furnishing to your company for distribution, what would be the effect thereof on the operation of your company, and especially in the cold day periods of the year?

A. Any act on the West Virginia authorities that would decrease our present supply would naturally affect the domestic user of gas, inasmuch as we are now facing a shortage of 75,000,000 feet per day, so that any additional amount that might be taken away from the Hope Natural Gas Company would affect our supply to that extent. It is our only source of supply, outside of a small production in Ohio, which we have been unable to increase, notwithstanding active operations and diligent work on the part of the company all the time, seeking an adequate supply there."

Pages 588 and 589:

"Under those circumstances then, if the authorities in West Virginia, pursuant to the Act in question here, were to divert to persons, firms or corporations in West Virginia for the service of the public, or any part of the public, for all purposes, in the State of West Virginia, a substantial amount of the gas that otherwise would come through the Hope Natural Company's lines to your company, what effect, if any, would that have with refer-

ence to the disorganizing and breaking down or destroying the operation of your Company?

Q. Confine yourself to the question for the moment, please with regard to the extent of the wreckage on your company's service, and the effect on your customers.

A. The effect on our gas consumers would be that they would be obliged to discontinue natural gas altogether. That must be the ultimate result."

Page 611:

The East Ohio Gas Company, supplying, *inter alia*, the City of Cleveland, suffered a shortage of about 60,000,000 feet during the preceding winter. During the winters of 1917 and 1918, 20,000 homes in Cleveland were cut off from any gas at all because of the Company's inability to furnish gas.

Page 606, (Cross-examination):

When the supply of gas furnished by the Hope Natural Gas Company under its contract with the East Ohio Gas Company is reduced by 25 per cent., the supply will be so inadequate for the demands of the business that it would practically be at an end for anything except cooking or lighting. The user will not tolerate a service so inadequate as the company would be able to give under those conditions.

T. J. JONES.

Page 635:

The only source of supply for the Dayton Gas Company is the gas received from the Logan Natural Gas

and Fuel Company, which Company secures the gas from West Virginia exclusively. The supply at Dayton has been inadequate in the winter time to the extent of 50 per cent. of the requirements, if not more.

Pages 635 and 636:

"Q. What would be the result if the supply of West Virginia was cut off further by reason of the enforcement of the Act in question?

A. The Dayton Gas Company, depending entirely upon its supply from The Logan Natural Gas and Fuel Company, which company secures the gas from West Virginia, and having no other source of supply, if the gas was cut off entirely, would immediately have to turn to other fuel. If the gas was only partially curtailed the consumers would have to be limited undoubtedly to cooking, heating water, some lighting and perhaps a little auxiliary heating.

Q. Well, what would be the effect upon your company in a business way, Mr. Jones?

A. The earnings of The Natural Gas Company depend upon the volume of gas which it can sell at the present prices. Either The Dayton Gas Company would have to receive a much larger price for its gas or they would go into the hands of a receiver."

L. B. DENNING.

Page 672-673:

"A. I understand your question to be what effect the diversion of a substantial amount of the gas received from West Virginia would have upon the opera-

tions and property of The Ohio Fuel Supply Company and the people whom it serves. Is that a correct conclusion?

Q. That is correct.

A. A very disastrous and destructive effect upon both, of course more or less dependent upon the quantity of gas diverted. A substantial quantity diverted would have the immediate effect of disorganizing and disarranging the service to the consumers throughout the state, make necessary the entire elimination of service from a considerable number of consumers, a complete rearrangement of lines, compressing stations and operating conditions of the company and undoubtedly deprive a considerable portion of the people served by the company, of gas service, thereby destroying the investment which they have in appliances, and also, result in a destruction of a considerable portion of the company's property, by reason of the fact that it would no longer be of any value or use in the company's operations, and would not have any value whatsoever, except what might be possibly obtained from a resale or junk or a salvage value. It would necessitate—I think I have already said—a complete elimination or discontinuance of service to a considerable number of consumers."

Page 673:

"A. Last winter during the cold period, the Ohio Fuel Supply Company did not have enough gas from all sources produced or purchased in Ohio, and including the gas delivered to us from West Virginia, to supply cold-weather-demands of its consumers. To divert or discontinue or take away the supply of gas from West Virginia would leave Columbus absolutely with-

out gas; that is, when I say 'absolutely,' I mean without any dependable gas service at all, and to all practical effects absolutely without gas."

Page 674:

"A. The Northwestern Natural Gas Company, as I have said before, is wholly dependent and has been for years, upon the supply of gas produced in West Virginia, and delivered to it by us. Were that flow to be interfered with or to be stopped it would mean total destruction of natural gas service in those communities which it serves."

Pages 674, 675, 677:

If the supply of gas of the Northwestern Natural Gas Company, which is wholly dependent upon gas produced in West Virginia, were to be interfered with or stopped it would mean a total destruction of natural gas service in the communities which this company serves.

It is absolutely essential to natural gas service that there be continuity in that service. The consumer must have the gas coming to him in an even flow at all times for his demands. Any interference with that continuity of service results in disruption and unsatisfactory service to the consumer for the value of gas service to the consumer lies in the continuity of it. The problem of a gas company has always been to supply that instantaneous demand and maintain the continuity of service. To have any considerable or substantial quantity of gas diverted or eliminated from the West Virginia supply means to so disarrange, disorganize and discontinue the service to the consumer as to render it practically worthless to the consumer.

J. W. McMAHON.

Page 721: Summarized:

In 1910 the amount of gas sold for domestic purposes by the Northwestern Ohio Natural Gas Company was just short of 3,000,000,000 cubic feet; for industrial purposes 103,786, 000 cubic feet; total 3,103,695,000 cubic feet. In 1919 the domestic consumption was 5,689,621,000 cubic feet; industrial, 313,948,000; total 6,003,569,000 cubic feet. Similar figures are given for all of the years between 1910 and 1919, showing a rather steady increase from the earlier date to the later.

Pages 724, 725:

If under the operation of the West Virginia statute, the amount of gas that the Hope Company might be able to furnish to subsidiary companies in Ohio were curtailed it would cause great hardship in those communities which these companies serve. If the curtailment in the supply furnished were very extensive it would cause during the winter months almost a total cessation of the supply of gas to consumers and would cause irreparable damage to the people and would be a detriment to their health and dangerous to their property. It is absolutely necessary in the service of gas, if that service is to be dependable and worth while to a consumer, that it flow from a source of supply which is uninterrupted and continuous.

L. B. DENNING.

Pages 711 and 712:

The term "peak load" means the greatest amount of gas which a domestic consumer requires to meet his

needs during extremely cold weather. During cold weather everyone turns on the gas and as a result the demand becomes a peak very much greater and the quantity of gas required is at once increased. This is a seasonable demand, a seasonable peak load which always comes during the winter. It may last for a day or two at a time, or it may last for two or three weeks, depending entirely on weather conditions, which cannot be forecast.

There is also a daily peak load due to the fact that the demand for gas during the day is greatest at the breakfast hour, at noon time and in the evening, when meals are prepared.

EUGENE P. WHITCOMB.

Pages 767 and 768:

"A. We have approximately two and a quarter million feet left in the old Sugar Grove field that would be available for distribution at Sugar Grove. If there was no West Virginia gas delivered at that point, however, there wouldn't be a cubic foot of gas going through this 18-inch line—

Q. Which 18-inch line?

A. The 18-inch line supplying Dayton, the Jantha Light & Heat, and all the service now being supplied in Indiana, also including the City of Lancaster, in Fairfield County, Ohio. Now, as I have stated, there is approximately two and a quarter million feet of gas from the old field, or local field, available to the Logan Natural Gas & Fuel Company, which they are using at the present time.

Q. Where?

A. Distributing to these other towns. I was just about to say that the Logan Company owns its own distributing plant in Chillicothe and at Sugar Grove; and the Circleville plant, owned by the Buckeye Gas Company, being another subsidiary of the Union Natural Gas, is dependent altogether on the Logan Company for its sole supply. In addition to being obliged to discontinue the service altogether from these places mentioned, from the Sugar Grove-Dayton-Indiana lines, the City of Athens, in Athens County, Ohio, is entirely dependent upon West Virginia for its supply; the line being connected to the two 16-inch lines of the Connecting Gas Company, running from the Ohio River to Sugar Grove station. The two and a quarter million cubic feet, to which I have referred as being available in the Sugar Grove field, would be inadequate to supply the service at Circleville, Chillicothe, Sugar Grove and a few other smaller towns in that locality; in fact, there wouldn't be one-fifth of the amount which they require. And in view of the fact that all contracts on the line from Sugar Grove to Dayton and Indiana contemplate and provide for the delivery of West Virginia gas only, and specifically recite the fact that the Union Natural Gas Corporation has available a large quantity of gas in West Virginia, and that they are not entitled to Ohio gas, consequently that two and a quarter million which we have in the local field would not be available for any of that service."

Page 783 (Cross-examination):

"Q. What would be the effect upon your distribution system, and your supply to your company, if, for any reason, the supply from West Virginia would be-

come intermittent and irregular, sometimes—to illustrate—coming as it is now under your contract and then again being substantially denied to you?

A. It would probably result in the loss of all of the service under the contracts to which I have referred, by reason of being unable to give them a continuous supply. They would probably discontinue the use of natural gas altogether."

J. K. ANDERSON.

Page 824:

Pennsylvania Exhibit No. 33—Anderson, offered page 824 of the record, appearing page 1573: "Estimate of Monthly and Yearly Sales of Natural Gas in West Virginia" to domestic and industrial consumers, respectfully.

"Q. Have you made any computation and estimates of the quantity of gas which the industrial plants in West Virginia would take per year, if they could get a full and continuous supply?

A. I have made two such estimates, based upon the reports of the maximum monthly sales in any one month to domestic and industrial consumers of the twelve largest gas utilities doing business in West Virginia, which reports were made to me in writing by letter. The first show the increased demand per annum in excess of the present sales which the industrial consumers would make upon the utilities by reason of the operation of the act in question, amounting to 98,628,380,000 cubic feet; second, showing the increased sales

per annum of gas which would be made to industrial consumers under the operation of said act, amounting to 55,017,359,000 cubic feet."

(Note: For the manner in which this estimate was reached, see above exhibit.)

Pages 825-826:

"Q. From the figures and estimate which you have made with reference to the increased consumption of industrial gas in the State of West Virginia, under the operation of the Act now in controversy, if it goes into effect, state whether or not, in your opinion, that increased consumption would consume substantially all of the gas produced in West Virginia?

A. It will, within a few years.

Q. Within what length of time would you say?

A. I would say within a year and a half from the date of the effectiveness of the act."

Pages 827 and 828:

"Q. What would be the effect upon the operation of the interstate gas companies, or those transporting gas from West Virginia into the other states, of the enforcement of the provisions of the Act now in controversy, with respect to the transportation of gas from West Virginia into other states?

A. The chief effect upon the large utilities would be to disorganize their operations because of changing the direction and amounts of gas from those for which their plants were designed to meet demands which were

unforeseen, and which, being caused by the deficiency in supply of gas produced by small local companies, would come at times of greatest demand upon their own consumers, this great deficiency in supply to the consumers in other states during extreme cold weather would cause great distress and suffering and be attended with danger of possible death from asphyxiation."

Page 839 (Cross-examination):

The peak load refers more especially to the load placed upon the utility by the demands of the consumers during extremely cold waves and wouldn't cover an entire month.

SAMUEL S. WYER.

Pages 894 to 903; 911 and 912:

Pensylvania Exhibit No. 41—page 1593 of record; offered, page 895 of record; title, "Volume Natural Gas and Per Cent of State's Total Production Exported From West Virginia."

	Billion cu. ft. of gas exported:	What per cent. of gas produced in W. Va., was exported:
1906	62	50
1907	65	54
1908	62	55
1909	95	58
1910	120	63
1911	132	64
1912	151	63
1913	154	63
1914	150	63
1915	154	63
1916	194	64
1917	193	64
1918	156	60

173

Pennsylvania Exhibit No. 42—page 1594 of record; offered, page 897 of record; title: "Billion Cubic Feet Natural Gas Consumed per Million Population in West Virginia, Ohio and Pennsylvania."

	Pennsylvania	Ohio	West Virginia
1906	22	17	52
1907	22	18	55
1908	22	19	57½
1909	22	21	60
1910	22	22	63
1911	20	23	64
1912	22	27	75
1913	22	27	74
1914	20	27	71
1915	22	27	70
1916	23	32	76
1917	23	32	81
1918	20	27	75

Pennsylvania Exhibit No. 43—page 1595 of record; offered, page 897 of record; title, "Total Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania."

	Annual volume in thousand cubic feet consumed in Ohio.	Annual volume in thousand cubic feet consumed in Pennsylvania	Annual volume in thousand cubic feet consumed in West Virginia.
1906	230	590	1070
1907	220	550	1000
1908	190	440	860
1909	220	550	1060
1910	230	525	890
1911	195	470	925
1912	195	500	1010
1913	190	440	950
1914	190	400	885
1915	190	400	820
1916	200	430	850
1917	185	420	880
1918	165	370	855

Pennsylvania Exhibit No. 44—page 1596 of record; offered, page 897 of record; title, "Industrial Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania."

	Annual volume in thousand cubic feet per domestic consumer consumed in Ohio	Annual volume in thousand cubic feet per domestic consumer consumed in Pennsylvania	Annual volume in thousand cubic feet per domestic consumer consumed in West Virginia
1906	150	440	925
1907	110	400	825
1908	85	340	685
1909	105	420	890
1910	100	380	730
1911	100	340	770
1912	100	360	835
1913	100	325	800
1914	100	280	720
1915	100	280	665
1916	100	320	700
1917	75	280	720
1918	50	245	685

Pennsylvania Exhibit No. 45—page 1597 of record; offered, page 858 of record; title, "Domestic Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania."

	Annual volume in thousand cubic feet per domestic consumer consumed in Ohio	Annual volume in thousand cubic feet per domestic consumer consumed in Pennsylvania	Annual volume in thousand cubic feet per domestic consumer consumed in West Virginia
1906	110	150	180
1907	115	150	180
1908	100	140	170
1909	115	135	157
1910	125	130	165
1911	100	120	160
1912	105	140	170
1913	95	120	160
1914	100	120	160
1915	100	120	160
1916	100	120	150
1917	120	140	170
1918	110	125	170

Pages 905 and 906:

"Q. What is the number of towns that would be affected outside of West Virginia by diminishing or inhibiting the transmission of gas from West Virginia to those respective towns.

A. About 650.

Q. And what number of consumers would be likewise affected?

A. Over a million.

Q. And what population?

A. Over five million."

Page 909:

"Q. What do you say as to the maintainance of gas pressures in the lines to suit the operating conditions of the lines from West Virginia to the various points of consumption outside of the State, even to the remotest point?

A. The pressures maintained in West Virginia must be such as will properly feed into the transmission scheme as a whole, and must be subordinated to the operating conditions necessary to deliver gas to the various communities en route along the various transmission lines going out of the state."

Pages 909 and 910:

"Q. What would be the effect of making physical connection in West Virginia between those interstate lines and local lines or communities, as is provided for in the statute now under discussion, as to the service on the lines of such interstate companies?

A. The immediate practical effect of making such connections would be to demoralize in all cases, and in many instances destroy entirely, the interstate service for natural gas transmission, in towns outside of West Virginia.

Q. Will you explain this a little more fully, and tell us why this result would follow?

A. For instance, in gas transmission, the gas is not only the commodity that is being transmitted through the line, but it is within itself endowed with an inherent energy for propelling itself along the line by

virtue of its own expansion. That is, the gas flow in these interstate main transmission lines is always by expansion. The gas is never pushed forward like a plug of incompressible fluid, like water or oil, and any disturbance or any removal of gas by diverting part of that gas out of the line, has the effect of not merely lessening the flow, but disturbing the transmission conditions all along the line. This, for instance, is in marked contrast to what can be done with other commodities. For instance, a train of coal cars starting in West Virginia for Toledo, Ohio, the train itself has no physical connection and no dependence on other trains ahead or behind it. Each train goes along as an independent unit, and each car on the train is an independent unit. The shunting off in West Virginia of one or more coal cars from such a train would not in any way affect the other cars en route or the other trains en route. However, the shunting off from an interstate transmission line of a certain amount of natural gas would not only bring about a shrinkage in volume by an amount equal to that so removed, but may so disturb the pressure conditions as to demoralize the transmission conditions all along the line.

Q. What would you say as to the interstate service, such as is now being supplied, being possible when and if such connections are made from time to time, for uncertain quantities at unexpected and unprovided for times, to meet the shortages that might occur in the State of West Virginia, and which these companies engaged in interstate transmission of gas would be called upon to supply under the terms of the Act in controversy?

A. If the diversion were done to any extent at all, it would result in demoralizing all such service and ultimately destroying it entirely."

Page 911:

"Q. Would it be possible as a practical operating operation to rearrange these transmission lines or reconstruct the same, so as to provide for the contingencies possible under the operation of the Act in controversy, say in West Virginia?

A. It would not, for the very simple reason that the enforcement of this Act would merely kill all interstate shipments of natural gas out of the State of West Virginia.

Q. If there should be supplied to all the industrial, domestic and other consumers in the State of West Virginia an adequate supply of natural gas before the same were transmitted outside of the State, what would be the effect as to the quantity of gas, if any, that would be left for transmission outside of the state?

A. There wouldn't be any left to transmit."

Page 914:

"Q. If you can't give us any figures, can you give us an estimate of what would be the effect upon the public, such as domestic consumers and their families, in the other states than West Virginia, of the enforcement of this statute, referring to those who are now using natural gas as fuel?

A. It would deprive all such consumers of natural gas service."

Pages 914 and 915:

"Q. if the companies engaged in the business of

supply gas from West Virginia to the communities in other states, as has been described, should not adopt the policy of cutting off all such service under the operation of this act, and of notifying the consumers to discontinue all such consumption, and continued their business as now, taking their chances under the operation of this Act, what would be the effect, in your opinion, as a natural gas expert and with your knowledge of the situation, upon the health and life and comfort of those domestic consumers who are using natural gas in other states, transported from West Virginia?

A. I do not believe that in the operation of the Act any one of those interstate lines would attempt to use natural gas, for the simple reason that there wouldn't be any, so the effect on health would be that they would have to get other fuel for heating and cooking, and something else for lighting. As far as convenience is concerned, there is nothing they could get that would be in the same class with the natural gas of which they had been deprived. That is, to state it this way, the operation of this law in West Virginia for most of these towns depending on these interstate lines, there would not be left any twilight zone for discussion. The gas would all stay in West Virginia."

Pages 969 and 970 (Cross-examination):

" * * In answering the questions on direct examination, in regard to the effect of the enforcement of the West Virginia Act, with which we are concerned in this case, did you have in mind that under the operation of that statute, every person in West Virginia who desired to consume natural gas for domestic or industrial purposes, would be entitled to, and would, in fact,

demand and consume all of the natural gas which he desired as long as there was any natural gas produced in the state?

A. The enforcement of the act in question would immediately bring about a condition where, in the immediate future, the demand solely within the State of West Virginia for natural gas would be greater than the available supply, and there would be no gas left for interstate transportation through the main lines now going out of the state."

Pages 970 and 971:

"Q. Have you figured or formed any estimate in figures of the amount of increased demand from the Hope Natural Gas Company under this statute for domestic uses or industrial uses and by reason of physical connection of local Gas Companies?

A. The increased demand for domestic gas in West Virginia would be negligible. Practically all of the gas would be used in industries; that is, the gas that now goes out of the state, if you were to hold that within the state, there would be very little difference in the amount of that that would go to the domestic consumer. You are now using very much above the average per domestic consumer and practically all the gas that now goes to export would be used by industries within the State."

H. E. NEASE—WITNESS FOR DEFENDANT.

Page 993:

There has been a considerable decrease in the amount of gas used in the manufacture of carbon black within the last two years.

CHARLES E. KREBS—WITNESS FOR DEFENDANT.

Pages 1099 to 1101; 1104 and 1105; 1113; 1130 and 1131 and 1137:

The gas used in making carbon black was generally located at some isolated field or place, that is, some distance away from a market where it could be consumed. The gas used is usually very light pressure gas, of much lower pressure than could be transported through pipes of its own accord. Most of the industries engaged in the manufacture of carbon black produce the gas for that purpose from their own wells. Carbon black is manufactured in West Virginia, Oklahoma, Louisiana and Pennsylvania. It is used for printers' ink, automobile tires, black and gray paints, ships, structural iron, carbon paper, typewriter ribbons, phonograph records, etc. There are from forty to forty-three million pounds of carbon black manufactured in the United States annually, about three-fourths of which quantity is manufactured in West Virginia for foreign consumption.

F. C. DEVERICKS—WITNESS FOR DEFENDANT.

Pages 1327 and 1328, and 1348 to 1350:

Most of the carbon black factories in West Virginia have been, or are being, dismantled. Gas producers have come to look upon the use of natural gas in the carbon black industry as wasteful, and consider the gas more valuable for use by domestic consumers and have ceased supplying carbon black industries.

R. T. CUNNINGHAM—WITNESS FOR DEFENDANT.

Pages 1226, and 1229 and 1230:

Owing to the success enjoyed by various gas companies in West Virginia in obtaining high rates, the West Virginia industrial consumers will be automatically prevented from going on a "gas spree" or "debauch," even under the operation of the West Virginia statute. The increase in rates already has had this effect in the reduction of the consumption by both domestic and industrial consumers in West Virginia, as have had the various shortages which have occurred,—because of which some industries have gone over to the use of other fuels. In the City of Fairmont and vicinity, it is estimated that the gas which will be used in that district in the future will not exceed the amount of gas used in the year 1916, assuming that the Owens Company would continue to use its producer throughout the year.

F. C. DEVERICKS—WITNESS FOR DEFENDANT.

Pages 1345 and 1346:

The price of industrial gas is 40 cents a thousand feet in Clarksburg at the present time, which is considered almost prohibitive for manufacturing purposes, and the high rate has considerably curtailed its use. In view of this fact and of the further fact that a number of industries have gone over to the use of other fuel, it is estimated that the future consumption of gas by industries in the Clarksburg district will be considerably less than it was in 1914 and 1915 (during and after which years the shortages in gas developed).

IX.

THE EFFECT OF THE OPERATION OF THE WEST VIRGINIA STATUTE WILL BE A DISCRIMINATION IN FAVOR OF THE CITIZENS OF WEST VIRGINIA AND AGAINST THE CITIZENS OF PENNSYLVANIA AND OHIO AND OTHER STATES WHO ARE DEPENDENT UPON THE GAS EXPORTED TO THEM FOR FUEL FOR HEAT AND LIGHT BY THE COMPANIES PRODUCING GAS IN WEST VIRGINIA, AND SUCH RESIDENTS OF PENNSYLVANIA AND OHIO AND OTHER STATES, BOTH DOMESTIC AND INDUSTRIAL CONSUMERS, WILL SUFFER PECUNIARY LOSS AND THE LIVES, HEALTH, SAFETY, COMFORT AND CONVENIENCE OF DOMESTIC CONSUMERS WILL BE AFFECTED.

T. O. SULLIVAN—Page 205:

JOHN B. CORRIN—Pages 349 and 350:

H. A. WALLACE—Page 400:

JOHN B. TONKIN—Page 420:

W. W. FREEMAN—Pages 478 and 479:

JAMES H. REED—Pages 497 to 500:

The testimony of these witnesses may be summarized as follows:

Many communities in Pennsylvania, Ohio and other States are dependent on natural gas for fuel and light, although some are served with electricity. The Hope

and Reserve Companies supply large towns ranging in population from 10,000 up to 60,000, and even cities as large as Pittsburgh, with natural gas. There are a number of such towns and cities upon the lines of the above mentioned companies. In a number of the larger cities, however, such as Pittsburgh, Greensburg and Altoona, there are plenty of houses using electricity (pages 440 and 441). Cincinnati use natural gas for lighting purposes to a considerable extent.

J. E. ANGLE—Pages 534 and 552:

MARTIN B. DALY—Pages 572 and 573; 574, and 577:

T. J. JONES—Pages 635; 636, and 643:

L.B. DENNING—Pages 654; 656; 672 to 674, and 677:

J. W. McMAHON—Pages 718, and 721:

EUGENE P. WHITCOMB—Pages 752 and 753; 766 and 767; 769, and 787:

J. K. ANDERSON—Pages 819 and 820; 821, and 823:

SAMUEL S. WYER—Pages 907; 908; 951 and 952:

SUMMARY OF TESTIMONY OF ABOVE WITNESSES:

The Fayette County Gas Company supplies gas to various towns and cities in Westmoreland and Fay-

ette Counties, Pennsylvania, and the source of this gas at present is the Hope Company operating in West Virginia and the gas supplied by it to the Fayette Company is West Virginia gas.

In various cities of Ohio there are about 475,000 people dependent on the natural gas supplied them by the Pure Oil Company, which secures its supply of gas from West Virginia. This figure of 475,000 includes the entire population of the towns of Columbus, Springfield and the suburbs. The Dayton Gas Company purchases or secures its entire supply of gas from the Logan Natural Gas & Fuel Company, and as the Logan Company secures its gas from West Virginia the Dayton Company is entirely dependent for its supply of gas upon that which is secured from West Virginia. The City of Dayton, Ohio, is dependent for its entire supply of gas upon West Virginia.

The domestic consumers of the Ohio Fuel Supply Company are dependent upon natural gas for cooking, water heating and lighting. The two general sources of supply of gas for the Ohio Fuel Supply Company are Ohio and West Virginia. The Northwestern Natural Gas Company is wholly dependent, and has been for years, upon the supply of gas produced from West Virginia, and if that flow were interfered with or stopped the communities which this Company serves would have no natural gas service.

The Northwestern Ohio Natural Gas Company supplies about 250,000 people in various cities and towns with natural gas.

The Natural Gas Company of West Virginia serves 324 domestic consumers in Pennsylvania.

The Union Natural Gas Corporation and its subsidiary companies supply many consumers in Ohio with natural gas. The City of Lancaster, in Fairfield County, Ohio, is wholly dependent on West Virginia gas. The Union Natural Gas Corporation and its subsidiary companies have contracts with the Dayton Company and the Central Indiana Company providing for the delivery to these companies of West Virginia gas exclusively. The Logan Natural Gas & Fuel Company supplies, both directly and indirectly 364,949 consumers with West Virginia gas.

There are a great number of domestic and industrial consumers in both Pennsylvania and Ohio who are dependent upon West Virginia gas. About 40 per cent. of the total consumption of natural gas by domestic and industrial consumers in Pennsylvania is supplied by gas imported from the State of West Virginia.

There are 650 municipalities in Ohio, Pennsylvania, Kentucky, Indiana and Maryland that depend entirely on West Virginia for their supply of natural gas and have no other gas supply.

MR. WALLACE, of the United Fuel & Gas Company; pages 371 and 372:

MR. TONKIN, of the Peoples Company, pages 417, 421, 422, 423, 428, 431, 433, 434, 438, 439, 441 to 443:

MR. FREEMAN, of the Union Light, Heat & Power Company; pages 475, 479 to 481.

JUDGE REED, of the Philadelphia Company; pages 506 to 508, 522 to 525:

J. E. ANGEL, of the Fayette County Gas Company; page 558:

MARTIN B. DALY, of the East Ohio Gas Company; pages 571 to 574, 597:

T. J. JONES, of the Natural Gas Properties of Pure Oil Co.; pages 639 to 640:

L. B. DENNING, of the Ohio Fuel Supply Company; pages 697 to 698; 702 to 705:

J. W. McMAHON, of the Northwestern Ohio Natural Gas Company; pages 727 to 728:

EUGENE P. WHITCOMB, of the Union Natural Gas Corporation; pages 764, 795 to 796, 800, 805:

J. K. ANDERSON, Consulting Engineer, Clarksburg, W. Va; pages 822, 834 to 835, 854, 855, 856, 858:

The above references to testimony may be summarized as follows:

All the companies above mentioned are experiencing the same difficulty in obtaining a sufficient gas supply. Moreover, the supply is constantly decreasing as the fields decline. The production of the Peoples Company fell off 15% in 1918-1919 despite the expenditure of over a million dollars in drilling additional wells and the company has been put to the use of compressing stations to get gas from the McKeesport field. A regular decline of 15% each year is looked for from now on. Shortages in winter have been severe. The discovery of new gas territory seems to be exceedingly im-

probable. One method used in the attempt by the companies to counteract the shortage of gas has been the preaching of economy to consumers. Whether the West Virginia statute be enforced or not, a condition of the most complete exhaustion of gas or at least the limitation of gas service to cooking stoves, hot water heating appliances and so on, is looked for. There is every prospect that the decline in gas supply will continue until the state of practically complete exhaustion is reached.

All the above refers to conditions in the three States of Ohio, Pennsylvania and West Virginia. The possible solution of the decline in natural gas lies in the restriction of natural gas to domestic consumers, the increase in price for gas supplied to domestic consumers, and contracted area service by natural gas companies.

MR. QUAY, Manufacturers Heat & Light Company; pages 22 to 23, 29:

MR. SULLIVAN, Hope and Reserve Natural Gas Companies; pages 210, 211, 279 to 280, 296:

MR. CORRIN, of the Reserve and other Gas Companies; pages 327, 328, 334 to 335, 336:

MR. WALLACE, United Fuel Gas Company; page 372:

MR. TONKIN, Peoples Natural Gas Company; pages 420, 439:

Mr. FREEMAN, Union Gas and Electric Company;

page 454:

JUDGE REED, Philadelphia Company; pages 522 to 525:

J. E. ANGEL, Fayette County Gas Company; page 558:

MR. DENNING, of the Ohio Fuel Supply Company; pages 671, 673:

MR. WHITCOMB, Union Natural Gas Corporation; page 767:

MR. J. K. ANDERSON, Consulting Engineer, Clarksburg, W. Va.; pages 821, 856, 859:

MR. S. S. WYER, Consulting Engineer, Columbus, Ohio; page 947:

The above references to testimony may be summarized as follows:

With the exception of the unlooked for discovery of the large McKeesport field in Pennsylvania there have been no notable discoveries of new gas territory in either Pennsylvania or Ohio for the last five years, nor is there any prospect that in the future new gas territory will be found in those two States. The companies make constant efforts to find new gas territory but meet with very little encouragement or success. Harrison and Gilmer Counties in West Virginia are practically completely drilled up. There is a possibility of finding additional gas territory in West Virginia but none in Indiana,

Pennsylvania or Ohio. The cities of Columbus and Lancaster, in Ohio, are wholly dependent on West Virginia gas.

Summing up the situation it seems that there are no known fields still unoperated in any section tributary to Pennsylvania and Ohio other than in West Virginia.

HARRY A. QUAY.

Page 29:

"Q. Are there any known gas fields outside of those now occupied and in use, within any reasonable distance from the territory supplied by your company and other companies in this district, that are available, from which to obtain a gas supply?

A. None that I know of.

Q. Are there any fields tributary to the cities and towns now being supplied by the companies which you have named, which are not now being developed and occupied by the various gas producing companies?

A. I know of no such fields. The territory adjacent to practically all of the large centers where natural gas is being supplied has been drilled and tested to a very considerable extent; so that it does not seem to us that any large fields are likely to be discovered in proximity to those centers of population."

JOHN B. CORRIN.

Pages 327 and 328:

"Q. Now, what are the facts as to the knowledge of new fields or not, new gas fields?—Whether or not there are any available for supplying the consumption of natural gas in the present territory supplied with natural gas?

A. Well, I know that not only our own companies, the companies with which I am identified, the Hope and the Reserve, but all other companies, are using extreme efforts to find new fields, and have been for the last five or ten years, especially the last five years—they have used every effort and I don't know of any new field in the last five years that has been discovered that amounts to anything, outside of this McKeesport field,—by any of the companies that amount to anything. • • • "

J. K. ANDERSON.

Page 821:

"Q. Now, do you know of any other fields than West Virginia fields of natural gas which are tributary to Pennsylvania, outside of what is produced in Pennsylvania itself, from which a supply of natural gas for consumers could be obtained?

A. I do not."

MR. QUAY: pages 15, 48, 55, 132, 133:

MR. SULLIVAN: pages 214, 221, 222, 295:

MR. CORRIN: pages 326, 330, 344:

MR. WALLACE; pages 368, 369, 370, 371:

MR. TONKIN; pages 429, 434 to 435, 440:

The testimony of the above witnesses may be summarized as follows:

Under the operation of the West Virginia statute, resulting as it would in cutting off the supply of gas on consumers in Pennsylvania and Ohio, the health and safety of those domestic consumers will be greatly affected. Such consumers would suffer seriously from the deprivation of the fuel which at present affords them heating, cooking and lighting facilities. Injury to their health would follow, especially in the winter months, because homes could not be properly heated to offset the effects of cold weather and because of the lack of facilities for cooking meals. Danger would ensue from the fact that an intermittent gas supply creates the possibility of explosions and fires in that, upon a decrease of gas pressure, fires and lights are extinguished but the valves are left open, and when the gas pressure is increased sufficiently to create a flow of gas to these homes the gas coming through the open valves in full force creates a possibility of asphyxiation or explosion in the houses.

HARRY A. QUAY.

Pages 47, 48:

"Q. If this Bill should go into effect and be enforced in the State of West Virginia, from your knowledge of the conditions in West Virginia, the operation of your lines, and the demands that would be made thereon from time to time by others in accordance with the

provisions of this Statute, what would be its effect, or the effect of such enforcement of the Act upon the operations of your company, with respect to transporting gas from West Virginia into other States?

"A. * * * It would create, from an operating standpoint, a very, very dangerous situation. I know of no condition in the industry which bothers, or is more dangerous to, life and property than a shortage existing in your system. Consumers, when a shortage occurs, naturally desiring to keep warm and to utilize the gas, open, for instance, their valves wide, in order to obtain as much gas as possible; and sometimes they leave the home and go to purchase something, or go to theatres, they leave the house for various reasons, leaving the gas regulated perhaps with the valves wide open; there is a lull or decrease in the demand placed upon the company, and your pressure begins to pick up, the flame in the stove becomes stronger, more full,—in many instances, when the pressure regains normal, the flame is coming out over the consumer's stove, creating a blaze which sets his home afire. At other times people might go to bed, permitting the heating stove to burn in their home; perhaps the pressure declines and the flame becomes extinguished; the pressure naturally increases at night after people have gone to bed, because a great many people have a habit of restricting the amount that is used from the midnight hours; the pressure accumulates, and the gas comes back into the consumer's home, into his room, and asphyxiates him. There is no situation so critical, I consider, as an insufficient supply of gas which is liable to go completely out and then come back on at unknown times."

Page 133:

Natural gas is peculiarly adapted for the purposes of cooking, lighting and hot water heating. Coal or electricity is not so convenient a fuel as a substitute for the reason that gas is cheaper and involves a great deal less labor. The same objections apply to gasoline and oil and to artificial gas. The use of natural gas for heating the homes is not so essential as the use of natural gas for the other purposes above mentioned, and due to the shortage in gas and the decline in the supply, the time may come when the amount of natural gas used for heating purposes will perhaps be restricted.

T. O. SULLIVAN.

Page 214:

"Natural gas service, in order to be at all satisfactory, has to be practically a continuous service. * * * * * if the service is intermittent and unreliable it creates a very dangerous condition. The fact that gas would have to be discontinued on short notice, and then might be turned back into the lines again on short notice, would create a very dangerous and unsatisfactory condition * * * *"

Pages 221, 222:

"Q. * * * I wish you would state a little more fully what you mean by dangers to life and health and so forth of the domestic consumers on your line who are dependent upon gas transported from your lines and delivered to these other companies for the supply of domestic consumers, in the event of your being compelled upon orders of the Public Service Commission or otherwise, to give preference to industrial consumers and others in the State of West virginia? * * *

"A. The danger is caused by the decline in the pressure, which will occur if any large quatities of gas were diverted from places where it was being used. It many times will occur that people are away from home, and they leave certain fires or lights burning in their homes. If the pressure drops to a pressure that some of those fires or lights became extinguished, and then came back on slightly again, there would be an escape of gas into the buildings, which would cause explosions, or might cause loss of life to people who were in the buildings. If this were to occur at night—people frequently retire leaving certain fires and lights burning—and if anything should occur during the night whereby those fires and lights were extinguished and the gas escaped into the rooms, it would be very dangerous and might ignite and cause explosions that would do almost unlimited damage. It would be impossible to estimate what a condition of that kind might bring about."

Page 295 (Cross-examination):

"Q. With reference to the fact of a shortage in the gas supply upon domestic consumers in the States of Pennsylvania and Ohio, have you any reason to think that the inconvenience and suffering occasioned to the consumers in those States would be any different from the inconvenience and suffering caused to consumers in West Virginia by a like shortage?

"A. I have not, if the same conditions existed in West Virginia."

JOHN B. CORRIN.

Page 326:

"Q. What would be the effect upon the practical operation of the lines of the Reserve Natural Gas Company, if it were compelled from time to time, especially on the coldest days or periods of winter, to make connections with and supply other public utilities in the State of West Virginia than those with which it had contracts, and for which it had made provisions?

"A. First, it would be very dangerous. I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and have some person or city, or otherwise, take gas off of the line before it reached your consumers. * * *"

Page 330:

"* * * Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. * * *"

Page 344 (Cross-examination):

"Q. In your testimony touching the danger to the consumers, where the gas supply is furnished irregularly and interruptedly, you do not mean to confine those dangers to the consumers in Ohio and Pennsylvania, do you?

"A. Oh, no, no.

"Q. There would be equally as much danger to any consumer in West Virginia, who received the same character of service?

"A. Depending on where they were located; but there is more danger in Ohio and Pennsylvania, because there are so many more consumers.

"Q. It is a matter then of percentage?

"A. And location."

H. A. WALLACE.

Pages 368, 369:

"Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the State?

"A. * * * It would be absolutely dangerous, as I understand the method supposed to take care of this measure; in as far as you would be called upon at most any hour for a large supply of gas, it would necessarily take the gas away from the lines leading into the other States; providing that happened at night or at times the people were away from home, the gas would go out, no doubt, in their homes, if these parties were shut off in the meantime; and before they returned or got up, the pressure would be increased in their lines, and the gas would flow through and come into their

houses, and it would not be lit, and there would be danger of asphyxiating the people, and also of blowing up their houses and killing any number of people. * * *"

Page 371:

"* * * and it would be very dangerous to endeavor to heat or cook with it, especially to heat with it, on account of the supply being possibly taken away from them during the night time when they were asleep, and coming on again and allowing the gas to flow into the residence when there would be no light to ignite it; and under those conditions, of course there is great danger of asphyxiating a large number of people, providing there was some little light in the house that had not gone completely out, the gas would ignite and explode and blow up the building. Or, providing somebody came into the house and lit a match, not being familiar with what might occur in the gas business the same thing would happen—blow up the building and possibly kill numerous people, and it would be a very dangerous and hazardous business."

JOHN B. TONKIN.

Page 429:

"Q. From your practical knowledge and information as to the operation of natural gas lines, and your familiarity with the Hope Company, by reason of your official connection therewith, what do you say as to those demands, such as I have described, being such as to demoralize or interfere with the whole operation of the Hope Company's system?

"A. Well, there is a very great danger when the gas goes out in a house, to the safety of the consumer and

the safety of his property; because if he is asleep or happens to be away, or something of that kind—particularly if there is one light that happened not to go out, the gas would come back on and fill the house with gas, and an explosion would be bound to occur. There is always that danger; that is one danger,—of the gas going out and then coming back on again before the valves are shut off.

"Q. Well, would the cessasion of the supply such as has been described, result in such an intermittent supply of gas as to produce those conditions?

"A. There is no doubt about it in my mind."

Page 435 (Cross-examination):

"The conditions are the same in one State as another, in case of a shortage." (In regard to effect on health and life of domestic consumers).

MR. QUAY; pages 21, 22, 56, 67, 68, 133:

MR. SULLIVAN; pages 205, 206, 220, 295, 296:

MR. CORRIN; pages 330, 331, 334:

MR. WALLACE; pages 372, 373, 400, 402:

MR. TONKIN; pages 422, 434, 435, 440, 441:

MR. JONES; pages 633, 634:

MR. DENNING; pages 677, 678:

MR. McMAHON; pages 723, 724:

MR. ANDERSON; pages 819, 820, 829, 855:

MR. WYER; pages 907, 913, 914, 915, 964:

The testimony of the witnesses above referred to may be summarized as follows:

Most of the homes in Pennsylvania and Ohio housing consumers at present using natural gas as a fuel for heat and light were constructed with a view thereto; that is, the heating, cooking, and sometimes lighting appliances are adapted for the use of natural gas and natural gas only as fuel. Other fuel cannot be used in those appliances and the homes do not contain arrangements for using any other fuel.

If, then, as a result of the operation of the statute, natural gas cannot be obtained by such consumers for use as a fuel for the above purposes, other fuels, which are more expensive to the consumer, will have to be used with the result that it will be necesary to install other appliances. This will further involve the reconstruction of those houses in the installation of cook stoves and heating furnaces and the enlargement of old flues and chimneys or installing new ones. The average cost of such reconstruction or installation to each domestic consumer in Pennsylvania and Ohio will be from $200 to $300, and the aggregate loss thereby occasioned may be determined by the simple process of multiplying such average cost by the number of consumers dependent on West Virginia gas whose houses were so constructed.

HARRY A. QUAY.

Pages 21 to 22:

"Q. Where dwelling houses have been constructed with the burning of natural gas as a fuel in view, and with natural gas appliances installed therein, what are the facts as to whether or not, to introduce other fuel, it is necessary to reconstruct such houses?

"A. I know of many that it would be necessary to reconstruct. I mean by that that some of the houses are built without flues or chimneys. To burn coal or wood it would be necessary that flues be constructed and certain changes made in the homes.

"Q. And in those houses which have been constructed with the intention of using natural gas as fuel, where there are flues and chimneys, what are the facts as to the sizes of those flues and chimneys for other fuel?

"A. I know of quite a few that the flue inside the chimney is restricted to such small size that coal cannot be burned successfully,—that is, the smoke comes out into the rooms. It would be necessary for them either to tear those down or reconstruct in some manner, and make a larger flue or drafts for the burning of coal or other fuel.

"Q. From your experence and knowledge of the business and observation in those towns or cities, in which natural gas was used as a fuel, and in which there have been large construction of houses during the last few years, especially five or ten years ago, were those houses built solely with reference to the burning of gas? Or were they planned and built with reference to the use of other fuel as well—What was the custom?

"A. A great many of them were built for the sole purpose of burning gas. Now, that situation perhaps has changed in the last two or three years. Previous to that time the supply of gas was very good, but for the last three or four years, our company, as well as other companies in this vicinity, has been unable at all times to supply the full requirements of their consumers, and shortages have occasionally occurred. This has brought attention to the fact that natural gas is not going to exist forever and that they might be called upon at some time to substitute other fuel in the immediate future.

"Q. And that is what has brought about then the change in the methods of construction to which you have referred?

"A. Yes, sir."

(Cross Examination).

In the event of gas shortage or deprivation of gas supply in West Virginia, there would be as much and similar necessity for reconstructing houses at present adapted to the use of natural gas as there would be under similar circumstances in Ohio and Pennsylvania.

JOHN B. CORRIN.

Page 330:

"And in addition, I do know there are thousands of houses in this vicinity and other vicinities, that would have to be, as far as the flues are concerned, reconstructed before they could put other fuel in."

H. A. WALLACE.

Page 372:

"Q. Take the consumers upon your lines in West Virginia and Ohio and Kentucky; what are the facts as to special appliances being necessary to be installed for the purpose of burning natural gas instead of other fuel?

"A. They have to have, all domestic consumers, special appliances for using natural gas."

Page 402: (Cross Examination):

The necessity for reconstruction of houses in West Virginia under conditions of gas shortage in that State would be similar to that in Pennsylvania and Ohio under the same conditions.

J. K. ANDERSON.

Pages 819, 820:

"Q. When natural gas is used as a fuel in dwelling houses, and also industrial plants, is it necessary to construct the houses and plants specially adapted to the use of gas as compared with other fuel?

"A. To burn gas economically, it is necessary to have your house equipped with proper service and house piping between the floors and walls of dwellings, and to use efficient appliances, also to construct suitable flues to carry off the products of combustion.

"The natural gas appliances cannot be used for burning any other fuel. Many houses are equipped with

flues which are sufficient to carry off the burned gases, but are insufficient to carry off the increased volume of smoke and burned gases from coal.

"It would be necessary to largely reconstruct a great number of those houses at heavy expense, to equip them to use other fuel. Often it would be necessary to increase the size of flues with which the house was originally equipped, and frequently to build a large flue of sufficient capacity to take care of the products of combustion from large coal-heating furnaces, which are extensively used in heating residences."

T. J. JONES.

Pages 644, 645: (Cross Examination):

Many of the houses which at the present time are equipped for the use of natural gas were built prior to the furnishing of natural gas as fuel and were built for the purpose of using coal, and many of the houses that have been since built have put in furnaces for the use of coal and some of which have been used or equipped for the purpose of using gas as a fuel by putting gas burners on them and many of them were using coal and have been using coal from the beginning.

L. B. DENNING.

Page 677 to 678:

" * * * The effect of that (to have any considerable quantity of West Virginia gas diverted) upon the consumer direct is that he must turn to some other form of fuel, either gaseous or solid, to supply that need. If he turns to a gaseous fuel the only remedy he has, and the only thing he can have is a manufactured gas.

He will not get the service from the manufactured gas that he gets from natural gas for the reason that the B. T. U. content of the artificial gas is rarely more than one-half of the B. T. U. content of natural gas. If he turns to solid fuel he then has the complete elimination of his present fixtures and appliances, the readjustment of household conditions, and with the further added inconvenience of the dirt and annoyance and the necessity of cleaning out ashes * * *.

If he turns to the manufactured gas he can, to a limited extent, use the fixtures and appliances for cooking that he has now with some modification and adjustment at some expense."

S. S. WYER.

Page 964: (Cross Examination):

As to the necessity for reconstruction or conversion of homes at present constructed for the use of natural gas as fuel, in the event that it becomes necessary to use other fuel the same conditions would obtain in West Virginia as in Ohio and Pennsylvania.

HARRY A. QUAY.

Page 56:

"I would say that I consider it would cost those consumers on an average of at least $200 per consumer, to substitute other fuel for the purpose of cooking, heating and lighting their homes. In making that estimate, I took into consideration the fact that last fall I put in substitute heating appliances, in my home, which cost me two hundred and approximately seventy-

five dollars for my heater and the accessories; wiring my home for electric lights, the total expense was approximately $250. I secured prices on coal cook stoves; one cannot purchase at these times a very elaborate cook stove—coal cook stove—short of $40 or $50. * * * Realizing that perhaps the expense incurred by me in our place was much higher than it would be in the average, I threw off a couple or three hundred dollars and figured that $200 would perhaps be much lower than it would cost the average customer."

T. O. SULLIVAN.

Page 222:

"Q. What would you say would be a fair estimate of the average cost to the present domestic consumers in the States of Pennsylvania and Ohio, now using natural gas, to change their appliances to other fuel, where those appliances could be changed without reconstruction of the houses? What would be a fair average, or have you made any figures upon that subject?

"A. I have atempted to make figures upon it, but it is rather a difficult thing to do, to arrive at an average, of course. It is a very easy matter to estimate what the cost would be of changing any particular house, * * * but as far as I have been able to figure it out, an average price would probably—would be between two and three hundred dollars per house. That might be more or might be a little less. I don't think it would be any less; my judgment would be that it would be more, if anything."

Pages 295, 296: (Cross Examination):

The cost of reconstruction of houses in West Virginia for the purpose of changing them so that fuel other than natural gas could be used would be about the same per house as the cost per house in Pennsylvania.

JOHN B. CORRIN.

Pages 330 to 331, 334:

The cost of reconstruction of houses in order to make possible the use of fuel other than natural gas where such houses were originally constructed with a view towards using natural gas would, basing the estimate upon the cost of reconstructing witness' own home of ten rooms, be from $400 to $500, and (p. 344. Cross Examination) the cost would be about the same for a West Virginia house.

L. B. DENNING.

Page 678:

" * * * He cannot, however, except in a very limited way, use the heating appliances that he has, so he must necessarily not only sustain what I may call a loss in the way of better conditions in the household but also a substantial financial loss in the way of being compelled to junk and abandon appliances and fixtures which are already in the house and already in use and which have been in use for a good many years. The actual money outlay or loss sustained by the individual consumer would be purely a matter of conjecture, depending upon the individual conditions. I would estimate, due to the change in fixtures, a loss of from $50 to $75 per consumer as a minimum; due to

the change in house conditions I fancy would be much more than that, although I am not prepared to give any figure as to that."

S. S. WYER.

Page 907:

"The enforcement of the Act in controversy would mean a loss of at least $100 on the average to each consumer affected, and this would mean an aggregate loss of at least $112,000,000."

Page 914:

"It would be a very great inconvenience. It would represent a very distinct financial loss. Of course, it would be very difficult to fix that by any definite arithmetical amount, because natural gas at any prices that it has been sold for in the past is cheaper by far than any other service or competing commodity that could be purchased for performing any similar function in the house. One dollar natural gas would be only 40 per cent. as expensive in actual cost to the consumer as manufactured gas at current prices, and for the larger communities it would be necessary to go to manufactured gas. For the smaller communities—and they of course are in the majority as far as numbers are concerned—it would not be feasible to operate artificial gas plants, and they would have to go without any gas service at all, and for any other commodity they could purchase at present market prices, the cost would be very much greater and would represent a distinct and great financial loss, in addition to the very important one of the great inconvenience of natural gas for domestic purposes."

MR. QUAY: pages 15, 21, 58, 59, 56:

Mr. DALY: page 586:

MR. DENNING: page 677:

MR. McMAHON: page 724:

MR. ANDERSON: pages 820, 830, 853:

MR. WYER: page 964:

Summary of above testimony:

Industrial plants in Pennsylvania and Ohio, as in the case of the homes of domestic consumers in those States, were constructed with a view toward fitting them to the use of natural gas as a fuel. These gas appliances are unfit for the use of other fuel, and in the event of the necessity of the use thereof, the appliances will have to be reconstructed. The industrial consumers in Pennsylvania and Ohio can use no other fuel so effectively as natural gas, and the deprivation of the supply of natural gas under the operation of the West Virginia statute will result in a serious financial loss to such customers.

HARRY A. QUAY.

Page 15:

" • • • It (natural gas) is used by industrial consumers for various uses,—we have steel plants, glass factories, potteries, machine shops, founderies—various industries who receive gas from our lines."

Page 21:

"A. When the price of natural gas was very cheap, it was used in a great many crude appliances, but as the price advanced, the industrial user has been forced to adopt appliances especially constructed for the use of natural gas, so that he might burn it economically."

(Cross Examination..:

Pages 58 to 59:

Natural gas is used in industrial plants in West Virginia in about the same way and for the same purposes as in Pennsylania.

Page 820:

"A. In case of industrial plants, where it is desired to change from natural gas to the use of coal, oil, or other substitute fuel, it is generally necessary to reconstruct some of the subjects, in order to make the change in fuel, or else to build and construct artificial gas plants with which to supply artificial gas in the same appliances and burners. This is perhaps a heavier expense than to make a change to some of the other classes of fuel."

Page 56:

A great many of the industrial consumers of the Manufacturers Light and Heat Company will have to reconstruct their plants in order to use fuel other than natural gas, their appliances at present having been constructed especially for the use of natural gas. For

use by industrial companies, this gas has many advantages over other commodities as a fuel as to its heating value and to the manner in which this heat can be applied and in which the gas can be used.

L. B. DENNING.

Page 677:

"A. Natural gas is the best and most economic and most convenient fuel for all general purposes that has ever been discovered. Its B. T. U. content of heat efficincy is generally from 100 to 150 per cent more than that of any manufactured gas or any solid fuel."

HARRY A. QUAY.

Pages 20 and 21, 28 and 29:

The gas companies producing gas in West Virginia supply large communities in Pennsylvania with gas. Since up to the last few years gas has been plentiful, every effort has been made to extend the business, the number of consumers and the amount of gas sold. Taking as a basis for computation the number of natural gas meters in use in Pennsylvania, it would appear that some 2,000,000 people in that State use gas for fuel and light. Although industrial consumers on the lines of the Manufacturers Company are no longer entirely dependent upon natural gas, for the reason that they have equipped themselves with substitute fuel, domestic consumers, to the extent of thousands, have no other way of heating their homes or cooking than by natural gas.

Among the number of entire communities supplied with natural gas there are various large communities. The East Ohio Gas Company, supplying gas in Ohio, the Peoples Natural Gas Company, of Pennsylvania, the Fayette Natural Gas Company and The Manufacturers Light & Heat Company, receive practically all their gas for domestic purposes from outside the State, substantially wholly from the State of West Virginia. The same is true of the Carnegie Natural Gas Company and the Philadelphia Company.

Page 28:

The East Ohio Gas Company, supplying gas in Ohio; the Peoples Natural Gas Company, the Fayette Natural Gas Company and The Manufacturers Light & Heat Company, supplying gas to domestic consumers in Pennsylvania, receive practically their entire supply of gas so furnished from West Virginia. The Carnegie Natural Gas Company and the Philadelphia Company, supplying gas to both Ohio and Pennsylvania, receive it from the same source.

Pages 8 and 9:

Gas supplied by The Manufacturers Light & Heat Company, 1919:

Number of Consumers:

In West Virginia	In Pennsylvania	In Ohio	Miscellaneous
11,000	75,000	26,000	4,500

Total, 116,500.

Gas sold in West Virginia in cubic feet, 5,400,000,000; Pennsylvania, 15,800,000,000; Ohio, 6,300,000,000.

(NOTE: Includes domestic, industrial and miscellaneous sales.)

Gas supplied to domestic consumers: West Virginia, 1,084,000,000 cubic feet; Pennsylvania, 7,966,000,000 cubic feet; Ohio 2,600,000,000 cubic feet.

Gas supplied by the Manufacturers Company for industrial purposes: West Virginia, 3,300,000,000 cubic feet; Pennsylvania, 5,700,000,000 cubic feet; Ohio, 3,700,000,000 cubic feet.

Miscellaneous: West Virginia, 1,000,000,000 cubic feet; Pennsylvania, 1,600,000,000 cubic feet; Ohio, 100,000,000 cubic feet.

Pages 141 to 143:

Figures showing the number of domestic consumers, the number of industrial consumers and the number of miscellaneous consumers supplied by The Manufacturers Light & Heat Company with natural gas for the years 1910 to 1919, inclusive, in the three States of Pennsylvania, Ohio and West Virginia.

Pages 29, 52 131, 133, 134, 149, 150, 151, 162, 167:

Not only are the present fields of gas inadequate to supply the large companies operating in West Virginia with gas sufficient to satisfy the requirements of all their consumers, but those gas fields are also on the decline; that is, the supply of gas obtainable from them is steadily decreasing. The Manufacturers Light and Heat Company has not sufficient gas to fill the demands of its customers. In cold weather when the industrial consumers are shut off there is still not sufficient gas

for the domestic consumers of the Manufacturers Company in the States of Pennsylvania and Ohio. Further, all the known gas fields tributary to the gas territory held under lease by the Manufacturers Company are occupied and in use—that is, fully drilled up and fully operated. Due to this condition the Manufacturers Company cancelled all contracts for the sale of industrial gas, with the exception of United States government contracts, as of March 5, 1920. One reason for the purchase of gas in such large quantities from the State of West Virginia by Pennsylvania and Ohio consumers is the decline in the Pennsylvania and Ohio gas fields. As a matter of fact the production of gas from the fields in all three states—Pennsylvania, Ohio and West Virginia—is fast declining, steady and constant demands being made upon the gas underneath the fields, the amount of which is definite and limited and not inexhaustible. The decline in the production of gas in West Virginia fields has been less than that in Pennsylvania and Ohio, but is perfectly discernible. The time is approaching when there will be insufficient gas to meet the requirements of even domestic consumers in the three States mentioned. Little or no new territory is available. The companies producing gas in West Virginia have in prospect the necessity of abandoning those plants when the supply of gas becomes altogether exhausted though it will be attempted to postpone that period by curtailing the consumption of gas and by the adoption by consumers of other fuel when the gas supply becomes so low as to be unsatisfactory. The alternative to discarding the large gas plants is the production of manufactured gas, which is merely a possibility.

T. O. SULLIVAN.

Pages 211, 279, 280, 283, 296, 297:

At the present time the companies have not sufficient natural gas or means of obtaining natural gas to satisfy the demands therefor made upon them by the consumers. The Winter months witness great shortages of natural gas invariably. The prospect is that these shortages will increase since, at least in the witness' knowledge, there is no way in which the gas companies can obtain sufficient gas to adequately supply consumers in Winter. Discovery of new gas territory is hardly to be hoped for, and further, the present gas fields are becoming depleted and are being steadily exhausted. The rate of decline depends upon two factors:

(a) the rate at which the gas is taken out, and

(b) the size of the hole from which the gas is extracted.

JOHN B. CORRIN.

Pages 329 and 344:

In the witness's estimate, ¾ of the gas used by domestic consumers in Pennsylvania and Ohio comes from West Virginia. The proportion of gas used in Pennsylvania and Ohio for industrial purposes which comes from West Virginia is somewhat less, however, than 75 per cent. These conditions have existed for about four years and exist at the present time; if anything the percentage of gas obtained by consumers in Ohio and Pennsylvania from West Virginia is increasing.

Pages 327, 328, 346, 348, 349:

Prior to the war the Reserve Gas Company and the Hope Natural Gas Company suffered no shortages, but since then the supply has been insufficient to meet the demand. All gas fields and all sands of all gas companies are declining, the present fields being capable of producing but an insufficient supply to satisfy the demands of consumers. In spite of the efforts of the companies to get more gas, not only on the surface but by deeper drilling, no success having been met, the probability for the coming year would be 30% increase in the shortages. Some companies are at present using suction on their wells to increase the production of gas and eventually all the other companies will have to adopt the same methods.

Page 349:

"* * * There is just a limited amount of gas left and we have to all realize that. We can use it up in two or three years, or we can extend it over a period of ten or fifteen years, and it is just up to the people what they are going to do with it."

H. A. WALLACE.

Page 400:

The Union Gas & Electric Company, of Cincinnati, supplying domestic consumers in Cincinnati with gas, receives its supply from the Columbia Gas & Electric Company, which, in turn, obtains its gas from West Virginia and Ohio.

JAMES H. REED.

Pages 497 to 500:

"Q. Have you the list of the cities and towns supplied by your company in the State of Pennsylvania, in Allegheny County, Armstrong County, Greene County, Washington County and Westmoreland County; also the cities and towns in the State of West Virginia, supplied; and also the gas supplied from trunk lines to customers whose post office addresses are given?

A. I have.

Q. Will you read that into the record, please?

A. (Reading):

Cities and Towns in the State of Pennsylvania Supplied

ALLEGHENY COUNTY

Aiken Station
Barking Station
Boquet
Brackenridge
Bruceton
Cheswick
Crafton
Creighton
East Bellevue
Edgewood
Emsworth
Ewingville
Glendale
Greentree
Allison Park
Bellevue
Bower Hill
Braddock
Carnegie
Clinton Terrace
Crafton Heights
Dormont
East McKeesport
Ellisdale
Etna
Fite Station
Glassmere
Harmarville
Aspinwall
Birdville
Boyce Station
Bridgeville
Carrick
Coal Valley
Crafton Terrace
Duquesne
East Pittsburgh
Elrama
Ewing Station
Floreffe
Glenfield
Hawkins
Hays Borough
Hoboken
Homeville
Knoxville
Lincoln Place
Milltown
Mt. Lebanon
McKees Rocks
New Texas
Option
Pittsburgh
Rankin
Rosslyn
Sandy Creek
Swissvale
Turtle Creek
Wall
West Homestead
Westwood
Williamsburg
Woodville
Fairhaven
Rodfield
Spring Garden Boro
Heidelberg
Homestead
Hulton
Large
Lockton Station
Millvale
Mt. Oliver
Munhall
North Braddock
Perrysville
Port Perry
Redman's Mills
Ross Station
Sharpsburg
Tarentum
Verona
Walton Station
West View
Whitaker
Willock
Broughton
Gill Hall
Snowden
Hite
Homestead Park
Ingram
Leesdale
Logans Ferry
Montrose
McKeesport
New England
Oakmont
Pitcairn
Port Vue
Rosevale
St. Clair Borough
Springdale
Thornburg
Versailles
West Elizabeth
West Red Raven
Wilkinsburg
Wilmerding
Epton
Miller's Road
Surgeon's Hall

ARMSTRONG COUNTY

Atwood
Cockran's Mills
Freeport
Neale
Shay
Blanket Hill
Elderton
Kelly Station
Rockville
Stonehouse
Clinton
Ford City
Mossgrove
Sagamore
Whitesburg

GREENE COUNTY

Ashtree
Clarksville
Dunn Station
Gump
Holbrook
Jollytown
Nettle Hill
Pine Bank
Spraggs
Woodruff
Brave
Deep Valley
Fordyce
Harveys
Hoover's Run
Kirby
New Freeport
Rogersville
Sycamore
Brocks
Delphine
Garrison
Hero
Jefferson
Ned
Oak Forest
Sand Rock
Waynesburg

WASHINGTON COUNTY

Amity
Canonsburg
Coal Centre
Elrama
Greenlee Station
Pleasant View
Baidland
Courtney
Dunkirk
Finleyville
Hackett
Mingo
Beallsville
Cecil
Donora
Ellsworth
Khedive
Scenery Hill
Centerville
Charleroi
East Bethlehem
Fredericktown
Ivanhoe
Vanceville
Bentleyville
Claysville
Eldora
Gastonville
Monongahela
Speers
Coal Bluff
Deemston
Eighty-four
Ginger Hill
Kammeron
Venetia

WESTMORELAND COUNTY

Meadow Brook
Vandergrift
Murrysville
Parnassus
Trafford

CITIES AND TOWNS IN THE STATE OF WEST VIRGINIA SUPPLIED:

Blueville
Boothsville
Burton
Colfax
Daybrook
Enterprise
Fetterman
Flemington
Grafton
Gypsy
Haywood
Hutchison
Lumberport
Pruntytown
Rosebud
Rosemont
Shinnston
Thornton
Worthington

Gas is also supplied from trunk lines to customers, whose post office addresses are as follows:

Addison
Anthem
Artisan
Bridgeport
Bristol
Broomfield
Brown
Camden
Clarksburg
Dola
Everson
Fairmont
Fairview
Farmington
Freemansburg
Glover Gap
Hundred
Jane Lew
Kodal
Littleton
Logansport
Lost Creek
Mannington
Metz
Middleton
Moorsville
Monongah
Pleasant Valley
Prospect
Roanoke
Ross
Salem
Sedalia
Simpson
Smithfield
Tevebaugh
Uniontown
Viropa
Wales
Watson
Weston
West Union

Q. Those trunk line consumers, to whom you refer, are in West Virginia, are they not?

A. Yes, sir."

J. E. ANGLE.

Pages 538 and 539:

This is a table showing the number of domestic consumers and number of industrial consumers served in the towns of Uniontown, Scottdale, Connellsville and Mt. Pleasant, Pennsylvania, by the Fayette County Gas Company; the cubic feet of gas supplied to municipalities and public buildings by the Company, and the number of people in the above named towns dependent upon that gas, estimating 4½ persons per consumer, for the years 1910 to 1919, inclusive. The table shows the domestic consumers in the four towns named to average about 10,500 each year; other consumers, about 95; municipalities and public buildings, about 75,000, and the number of people dependent, 45,000 to 55,000.

MARTIN B. DALY.

Pages 572 and 573:

"Q. Can you give us a list of at least the principal municipalities and cities that you supply gas to?

"A. Yes, sir; I think I have that here:

Towns served as of December 31, 1919.	No. of consumers.
Clevland	208,294
Akron	32,655
Kenmore	1,866
Cuyahoga Falls	1,890
Canton	18,685
North Canton	370
Massillon	4,915

Dover	1,971
New Philadelphia	2,704
Uhrichsville and Dennison	2,861
Kent	1,623
Ravenno	1,872
Youngstown	25,687
Warren	5,925
Niles	2,381
Girard	1,268
Hubbard	596
Struthers	1,302
Lowellville	297
East Palestine	1,363
Poland	171
New Middletown	65
Petersburg	94
Wooster	2,540
Orrville	1,114
Shreve	373
Loudonville	3,643
Barberton	3,272
Wadsworth	1,101
Dovlestown	270
Millersburg	351
Danville	194
Buckeye City	116
Gann (Brinkhaven)	125

Q. Now those towns are scattered over your system from Southeastern Ohio in Monroe County to Cleveland on Lake Erie, and from Danville in Knox County to Millersville in Monroe County, are they, Mr. Daly?

A. Yes, and extend further down through the Southeastern corner of Monroe County to East Palestine

and North in Trumbull County to the City of Warren; East to the City of Urbana in Portage County also. The beginning, however, of the distribution does not take place until after the lines enter Tuscarora County, Uhrichsville and Dennison being the furthest South.

Q. In that list do you have the cities of Cleveland, Canton, Akron, indirectly Alliance, Youngstown and Warren?

A. Yes, all of those."

Page 588:

Because of the inability of the Hope Natural Gas Company to fulfill its contracts with the East Ohio Gas Company during the winter time there have been serious shortages of gas in the vicinity supplied by this company, so serious that for a number of days extending over a period of nearly three weeks there were many people who could not obtain sufficient gas to cook their meals.

Page 612:

"Q. When the supply of gas which the company may have for distribution gets below a certain point what is your opinion as to whether or not there is very great danger involved in its consumption?

A. There is no doubt but that the condition you describe would bring about a hazard in the use of gas which might result in loss of life and property by reason of explosions and asphyxiation. Fires could not be left burning over night with any degree of certainty or safety and it would render the service not only unsatisfactory but dangerous."

T. J. JONES.

Pages 631 and 632, summarized:

The witness is manager of the Natural Gas Properties of the Pure Oil Company, under which exist a number of subsidiary companies. The subsidiary companies are the Columbus Gas & Fuel Company, Federal Gas & Fuel Company, Springfield Gas Company and the Dayton Gas Company. From 1916 to 1920, inclusive, the Federal Gas & Fuel Company had from 13,000 to 16,000 consumers annually; the Dayton Gas Company from 28,000 to 36,000 consumers annually; the Springfield Gas Company from 11,000 to 14,000 consumers annually, and the Columbus Gas & Fuel Company from 44,000 to 46,000 consumers annually.

Page 740:

Figures furnished by T. J. Jones.

Consumption for the year ending March 31, 1920, of gas furnished by the Columbus Gas & Fuel Company, the Federal Gas & Fuel Company, the Dayton Gas Company and the Springfield Gas Company:

Domestic, 13,310,970,000 cubic feet; industrial, 1,790,396,009 cubic feet; total, 15,101,366,000 cubic feet.

The number of domestic consumers of the combined companies was 111,695; of industrials, 941; total, 112-633.

The proportion used by the industrial consumers was, therefore, 11.85 per cent.

Pages 636 and 637:

"Q. And if your supply of gas from West Virginia was curtailed by reason of the putting into force of the act in question here what would be the result of that on your company as a company and your consumers and those dependent upon your company?

A. The service as I have stated would be very unsatisfactory and very hazardous. The consumers would be limited to gas for cooking and lighting and heating hot water. It would be necessary for them to provide other means for taking care of their comforts in the way of heating. * * *"

L. B. DENNING.

Pages 667 and 668:

"A. That list is a tabulated statement of the towns which we supply direct by the Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, but does not include the names of the municipalities which are not supplied direct by us.

By The Ohio Fuel Supply Company:

St. Clairsville
E. Richland
New Lexington
Junction City
Belmont
Bethesda
Morristown
Barnesville
Somerton
Miltonsburg
Quaker City
Spencer
Cambridge
Byesville
Pleasant City
Derwent
Buffalo
Senecaville
Coldwell
Sarahsville
Claysville
Rix Mills
Belle Valley
Coal Ridge
Mt. Vernon
Fredericktown
Academia
Gambier
Howard
Millwood
Bangs
Brandon
Martinsburg
Croton
Appleton
Johnstown
Alexandria
Lock
Perrysville
Hayesville
Mifflin
Zanesville
South Zanesville
Hanover
East Fultonham
Dresden
Hooker
London
Xenia
Wilberforce
Miamisburg
Germantown
Monroe
Sharonville
South Charleston
Rockbridge (Field)
Tremont City
Lawrenceville
Buckeye Lake
Colfax
Pleasantville
South Pleasantville
Pickerington
Lancaster
White Cottage
Old Washington
Crafton
Sedalia
Rushville
W. Rushville
Bremen
Shawnee
New Straitsville
Corning
Hemlock
Ludington
Drakes
Bukingham
Millerstown
Rendville
Glouster
Trimble
Jacksonville
Logan
Haydenville
Enterprise
Nelson Valley
Carbon Hill
Midway
McArthur
Hamden
Wellston
Coalton
Glenroy
Jackson
Allensville
Gallipolis
Middleport
Pomeroy
Chester
Gahanna
New Albany
Canal Winchester
Waterloo
Crooksville
Roseville
Beem City
Fultonham
Frazeusburg
Carroll
Sugar Grove
West Jefferson
Cedarville
Somerset
Franklin
West Carrollton
Bethany
Urbana
Mt. Sterling
Murray City
North Hampton
Groveport
Camp Grounds
Horns Mills
Baltimore
Thurston
Basil
Nashport
Trinway
Lore City
New Carlisle
Beattytown
Piqua
Sidney
Troy
Tippacanoe City
Covington

By The Northwestern Ohio Natural Gas Company:

Toledo North Baltimore Bowling Green
Maumee Perrysburg

By Point Pleasant Natural Gas Company:

Point Pleasant, West Virginia."

Page 661 to 664:

Tabulation of figures showing gas sales by the Ohio Fuel Supply Company for the years 1910 to 1920, inclusive, and showing the number of domestic consumers, the number of public buildings supplied and the amount supplied to each company every year; the amount of gas sold by the Northwestern Ohio Natural Gas Company to domestic consumers and the number of domestic consumers; the amount of gas sold by the Ohio Fuel Supply Company to industrial consumers and to other consumers and the number of such consumers, respectively. Likewise for the Northwestern Ohio Natural Gas Company. The amount of gas sold to all consumers and the number of such consumers by the Ohio Fuel Supply Company; also the amount of gas sold at wholesale to municipalities and utilities. The amount of gas sold to all consumers by the Northwestern Ohio Natural Gas Company, and the number of such consumers. All these figures are given for the respective years 1910 to 1920, inclusive.

The number of domestic consumers of the Ohio Fuel Supply Company increased from 53,908 in 1910 to 63,060 in 1920, and the amount of gas sold fluctuated from almost 6,000,000,000 cubic feet in 1910 to less than 4,000,000,000 cubic feet in 1920. In 1910 there were 259 public buildings which were on the lines of

the company's consumers; these increased to 415 in 1920, and the amount of gas furnished such consumers decreased from 582,165,000 cubic feet in 1910 to 180,356,000 cubic feet in 1920.

The Northwestern Ohio Natural Gas Company enjoyed an increase in the number of consumers from 34,579 in 1910 to 54,119 in 1920, and the gas sold increased from about 3,000,000,000 cubic feet in 1910 to 5,620,150,000 cubic feet in 1919. Similar fluctuations are shown in the other figures referred to. For actual figures see tables on pages referred to.

G. F. BATCHELOR.

Page 745:

This table shows sales of gas by the Natural Gas Company of West Virginia to domestic consumers in varying amounts close to the 2,000,000,000 cubic feet mark for the years 1910 to 1919, inclusive, and to industrial consumers in amounts increasing from 708,987,000 in 1910 to about 2,000,000,000 in 1919. Total of gas furnished domestic and industrial consumers for the same years increased from 2,700,000,000 in 1910 to over 3,000,000,000 in the years 1917 and 1918 and 2,923,345,000 in 1918.

EUGENE I. WHITCOMB.

Page 794:

Tabulation showing number of domestic consumers of the Logan Natural Gas & Fuel Company and the amount of gas furnished such consumers for the years 1910 to 1919, inclusive, and the ratio which the amount of gas thus furnished bears to the total amount of gas

sold by the Company. Similar figures are shown relative to the gas for other consumption, including commercial and industrial.

Pages 758 to 761:

The Logan Natural Gas & Fuel Company supplies domestic, industrial and other consumers in various towns in Indiana and Ohio with natural gas. The figures for the year ending December 31st, 1919, are as follows:

Population in towns served, 339,340; domestic consumers, 85,832; commercial, industrial and miscellaneous, 1,628; total consumers, 87,460.

Cities and towns served through other companies in Ohio:

Population, 246,817; total number consumers served, 52,020.

Cities and towns served through other companies in Indiana:

Population, 89,589; total number of consumers served 16,232.

Grand total population served by the Logan and other companies in Indiana and Ohio, 675,946; total consumers served, 155,712.

Only the totals of all figures have been given here.

The tables in the record show the population of, and domestic and industrial consumers served in, each town.

J. K. ANDERSON.

Page 821:

"About forty per cent. of the total consumption of natural gas by the domestic and industrial consumers in Pennsylvania is supplied by gas imported from the State of West Virginia, and therefore at least forty per cent. of such consumers are wholly or partly dependent upon West Virginia for their fuel supply."

Page 823:

"Q. Now give us the average annual consumption per domestic consumer for the year 1918, for the different states?

A. The average annual consumption per domestic consumer for the year 1918, for the different states, is as follows:

West Virginia	164.89	thousand	cubic	feet.
Pennsylvania	124.34	"	"	"
Ohio	110.65	"	"	"
Kentucky	87.21	"	"	"
Indiana	78.25	"	"	"
22 other states	91.80	"	"	"

Pennsylvania Exhibit No. 32, offered at page 823 of the record, appears on page 1569 of the record.

In addition this exhibit embraces a compilation taken from the reports to the Board of Public Works and to the Public Service Commission, of West Virginia, for the years 1909 to 1919, inclusive, showing the average yearly consumption per domestic consumer in West Virginia in thousand cubic feet, and also showing

the number of domestic consumers, the volume in M cubic feet and the average per domestic consumer of 13 companies and 54 other utilities doing business in West Virginia, and the average price per domestic M feet of gas for the year 1918 of said companies and utilities.

Page 819:

"Q. Mr. Anderson, give us the number of industrial and domestic consumers, and the amount of natural gas consumed by them, in the State of Pennsylvania, as shown by this exhibit, Pennsylvania Exhibit No. 30, which has been already introduced, for the year 1918.

A. The report of the United States Geological Survey for the year 1918 shows 481,275 consumers; or on a basis of five people to each consumer, 2,406,375 people using 59,839,731,000 cubic feet of gas. It shows 4,486 industrial consumers, using 117,300,074,000 cubic feet of gas. The total consumption in said State for both classes is given as 177,139,804,000 cubic feet.

Q. Now, have you the same information as to the number of domestic and industrial consumers and the amount of gas consumed by them, in the State of Ohio?

A. I have; it is shown on the reverse side of that sheet—on Pennsylvania Exhibit No. 30.

Q. Give it to us.

A. A report of the United States Geological Survery for the year 1918 shows 885,876 domestic consumers, or, on a basis of five people to each consumer, 4,429,380

people using 98,023,666,000 cubic feet of gas. It shows 4,010 industrial consumers, using 45,561,594,000 cubic feet of gas."

Page 827, 828:

The direct result of the enforcement of the West Virginia statute would be a deficiency in the supply of gas available for transportation to other States. This would come at the time of greatest demand and this deficiency in supply to consumers during the extremely cold weather would cause great distress and suffering and be attended with dangers of possible death from asphyxiation."

Page 829:

"Q. What effect would the enforcement of the provisions of the Act in controversy here have upon the consumers in Pennsylvania who obtain through their respective companies their supplies of natural gas from West Virginia?

A. It would certainly endanger the comfort for a considerable time during the Winter season of over two million people in the State of Pennsylvania by reason of shortages of gas which would take place. Their peak load coming at the same time as the peak load demand of domestic consumers of the various natural gas utilities in West Virginia making a natural shortage at the extremities of the distribution system much greater than it would be in the State of West Virginia itself. This might possibly endanger their lives by reason of the low pressure which would prevail in so many homes and attendant danger of possible fire and explosion."

Page 841: (Cross Examination):

The effect of a gas shortage on either domestic or industrial consumers in either Pennsylvania or Ohio would not be any different or greater than the shortage of domestic or industrial gas on consumers in West Virginia; that is, that West Virginia consumers, if they did not have enough gas in the winter time, would be subjected to the discomforts of coal and would be compelled to substitute other appliances or alterations in their dewelling houses or industrial plants in order to use other fuel, and their inconvenience and expenses would be the same as in Ohio and Pennsylvania.

SAMUEL S. WYER.

Pages 907 and 908:

"Q. Can you give us, from investigations which you have made, the percentage of all the gas used in Maryland, Pennsylvania, Ohio, Indiana and Kentucky, that is furnished from West Virginia, or supplied from West Virginia?

A. Maryland, 100 per cent; Pennsylvania, 35 per cent; Ohio, 50 per cent; Indiana, 80 per cent; Kentucky, 90 per cent.

Q. How many municipalities in Ohio, Pennsylvania, Kentucky, Indiana and Maryland, respectively, depend entirely on West Virginia for their natural gas service, having no other gas supply?

A. About 650 towns in the five states.

Q. How many in each?

A. Ohio, 300; Pennsylvania, 300; Kentucky, 25; Indiana, 15; Maryland, 14.

Page 908:

"Q. Will you give us now the number of domestic consumers, respectively, in Pennsylvania, Kentucky, Indiana, Maryland and Ohio, who are dependent entirely on West Virginia for their natural gas service, and the number of people?

A. Pennsylvania, 300,000 consumers, one and a half million population; Kentucky, 75,000 consumers, 375,000 population; Indiana, 15,000 consumers, 75,000 population; Maryland, 10,000 consumers, 50,000 population; Ohio 725,000 consumers, 3,625,000 population.

Q. How have you arrived at the population?

A. Estimated five people for each domestic consumer."

Pennsylvania Exhibit No. 46. Offered, page 904 by Mr. Wyer, appearing on page 1598. This exhibit consists of a map showing the principal towns outside of the State of West Virginia depending upon that State for their natural gas service.

Pages 914 to 915:

"Q. If the companies engaged in the business of supplying gas from West Virginia to the communities in

other States as has been described should not adopt the policy of cutting off all such service under the operation of this Act and by notifying the consumers to discontinue all such consumption and continue their business as now taking their chances under the operation of this Act, what would be the effect in your opinion as a natural gas expert and with your knowledge of the situation, upon the health and life and comfort of those domestic consumers who are using natural gas in other States transported from West Virginia?

A. I do not believe that in the operation of the Act any one of those Interstate lines would attempt to use natural gas for the simple reason that there would not be any so the effect on health would be that they would have to get other fuel for heating and cooking and something else for lighting. As far as convenience is concerned there is nothing that they could get that would be in the same class with the natural gas of which they had been deprived. * * *"

CHARLES E. KREBS—DEFENDANT'S WITNESS.

Pages 1102, 1103, 1105, 1106, 1107, 1109, 1010, 1011, 1021.

West Virginia Exhibit 22 to 29, inclusive, offered by defendant's witness Krebs at pages 1002, 1003, 1005, 1006, 1007, 1009, 1010, 1011, 1021, and shown in the record, folio pages 440 to 447, inclusive and 450, consist of charts and diagrams showing the consumption of natural gas for industrial purposes, for domestic purposes and for all purposes, respectively, in the States of Pennsylvania, Ohio, Indiana and Kentucky.

Exhibit No. 32 is a diagram of the production and consumption of natural gas of West Virginia.

All charts and diagrams are for the years 1914 to 1918, inclusive.

Pages 1102 and 1103:

West Virginia Exhibit No. 22, introduced, page 1102, appearing folio 440; title, "Production and Consumption of Natural Gas in the State of Pennsylvania during 1914, 1915, 1916, 1917 & 1918."

X.

THE STATES OF PENNSYLVANIA AND OHIO, IN THEIR SOVEREIGN CAPACITY, IN AND THROUGH THEIR HOSPITALS, INSANE ASYLUMS, PUBLIC SCHOOLS, PENAL INSTITUTIONS AND CHARITABLE INSTITUTIONS ARE CONSUMERS OF NATURAL GAS AND HAVE CONTRACTS FOR THE SUPPLY THEREOF AND ARE DEPENDENT UPON THE USE OF NATURAL GAS EXPORTED FROM WEST VIRGINIA FOR HEAT AND LIGHT AND WILL BE SERIOUSLY AFFECTED BY THE OPERATION OF THE WEST VIRGINIA STATUTE AS TO THE LIFE, HEALTH, SAFETY, COMFORT AND CONVENIENCE OF WARDS AND DEPENDENTS IN SUCH INSTITUTIONS AND WILL FURTHER BE SUBJECTED TO GREAT PECUNIARY LOSS.

HARRY A. QUAY.

Pages 7 and 8:

"A. We sell to practically every municipality in which we serve the public. We have contracts with the State of West Virginia. We also have a contract with the State of Pennsylvania for supplying gas to the Boys' Industrial Home, known as Morganza. The sales last year to them ran something close to 90,000,000 cubic feet. I recollect the highest amount we had, which I think was January, 1919, was something like 15,000,000 feet, or a little over 15,000,000 feet that month. We have in that list 17 contracts, I believe, with the United States Government for supplying gas to Government dams along the Ohio River. And we have a great many con-

tracts with the United States Government for supplying gas to various post-offices in the various towns that we serve in the three States. In addition to that, there are some eight or ten contracts covering gas sold to counties, for instance, like Allegheny County here—for their use.

Q. And what do they use it for, in a general way —the county?

A. Well, mostly in their institutions. They have some gas engines; for laundry purposes, cooking and lighting, and so forth, general purposes.

Q. In State institutions, or County institutions?

A. Yes, sir."

Page 120 (Cross-examination):

The Manufacturers Light & Heat Company supplies State, municipal and county institutions with gas in both West Virginia and Ohio, under contracts.

T. O. SULLIVAN.

Page 223:

The Hope Company supplies various municipalities and Governmental institutions, including water works, government dams, court houses, hospitals, churches and public schools, with gas.

JOHN B. CORRIN.

Page 349:

"You spoke of using gas for lighting purposes; is that done very largely in the better class houses?

A. Well, that depends on what you mean by the better class houses; but there is a lot of gas used for lighting purposes in a great many of these smaller towns, used for street lighting."

H. A. WALLACE.

Page 378:

United Fuel Gas Company statement of gas sold in West Virginia to churches, schools and public buildings for the years 1910 to 1919, inclusive:

	"Number churches, schools, public buildings.	Amount gas sold.
1910	169	267,375,000
1811	55	109,284,000
1912	33	55,373,000
1913	51	55,999,000
1914	69	150,173,000
1915	58	148,303,000
1916	52	231,134,000
1917	52	238,854,000
1918	52	238,710,000
1919	39	137,275,000"

JOHN B. TONKIN.

Pages 422 and 423:

"Q. Do you supply any municipal subdivisions, such as poor houses or poor farms or public buildings in any of these towns and cities, in which your company supplies gas?

A. We do. We supply the court houses and jails and city buildings, public schools, hospitals, hose houses.

Q. All the general public buildings then of the state and municipalities?

A. We do."

W. W. FREEMAN.

Page 458:

"Q. Did you supply any public institutions, such as court houses, poor houses and hospitals?

A. Yes, sir; we have quite a number of those institutions; in addition to which, when gas is available—which it is in all except the cold winter months— the city works in Cincinnati is operated on gas under their boilers, and the water works and municipal plant in Norwood. Also, the Cincinnati General Hospital, which is a very large public institution."

JAMES H. REED.

Pages 500 and 501:

Public buildings supplied with gas by the Philadelphia Company in Allegheny County, Pa.

"PUBLIC BUILDINGS SUPPLIED.

CITY OF PITTSBURGH.

UNITED STATES GOVERNMENT:

United States Bureau of Standards.
United States Public Health Hospital, No. 39.
United States Marine Hospital.
United States Post office and 13 sub-stations.

ALLEGHENY COUNTY:

City-County Building:

CITY (PITTSBURGH):

Public Safety Buildings	2
City Market Houses	3
Electric Light Plant (N. S.)	
City Play Grounds	10
City Comfort Stations	4
City Asphalt Plants	2
Hospitals (3 city)	11
Water Pumping Stations	4
Water Department (Misc.)	23
Fire Engine Companies	43
Police Stations	11
Miscellaneous City Buildings	22
Lamps for Street Lighting	90
Public School Buildings	93

STATE:

Western State Penitentiary.....

Charitable Homes.....34

Q. And also give us the supplies for the fire departments, public schools, hospitals, post offices, and water pumping stations of the Cities of McKeesport, Braddock, East Pittsburgh, Carnegie, Homestead, McKees Rocks, Sharpsburg, Crafton, Verona, Tarentum, Chrtiers Township, Bridgeville, Scott Township, and Stowe Township, in Pennsylvania?

	Fire Departments.	Public Schools	Hospitals.	Post Offices.	Water Pump Stns.
McKeesport	4	15	1	1	2
Braddock	2	8	1	1	1
East Pittsburgh	2	2	....	1	1
Carnegie	2	4	....	1	....
Homestead	2	4	1	1	....
McKees Rocks	4	5	1	1	....
Sharpsburg	9	8	....	2	4
Crafton	2	2	....	1	....
Verona	2	2	....	1	1
Tarentum	4	6	1	2	....
Chartiers Township	1	3	....	....	....
Scott Township	1	2	....	....	....
Stowe Township	2	2	....	....	1"

J. E. ANGLE.

Pages 538 and 539:

Municipalities and public buildings have been supplied with gas by the Fayette County Gas Company in Westmoreland and Fayette Counties, Pennsylvania, from 1910 to 1919, inclusive.

The following were supplied for 1918-1919:

1918

	M. Cu. Ft.
Uniontown	39,016
Connellsville	12,596
Scottdale	3,525
Mt. Pleasant	1,875
Total	57,012

1919

Uniontown	36,714
Connellsville	14,284
Scottdale	2,937
Mt. Pleasant	1,930
Total	55,865

MARTIN B. DALY.

Pages 574 to 577:

"Q. Do you supply gas to subdivisions of the state, such as municipalities, counties, school boards, and so forth?

A. Yes, sir.

Q. Can you give us approximately a list of your meter connections for subdivisions of the state, such as municipalities, counties, and school boards, as of December 31, 1919?

A. Yes.

Q. Please do so.

A. (Reading):

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total
Dennison	..	..	..	..	1	2	3
Kent	..	..	..	..	1	4	5
Ravenna	..	..	..	4	2	5	11
Youngstown	..	1	..	5	21	31	58
Girard	..	..	..	..	2	5	7
Hubbard	..	..	..	..	2	2	4
Struthers	..	..	..	..	2	3	5
Lowellville	..	..	..	..	1	..	1
East Palestine	..	..	..	..	2	1	3
Poland	..	..	..	..	1	..	1
New Middletown	..	..	..	..	..	1	1
Petersburg	..	..	..	..	..	1	1
Warren	..	1	..	2	4	9	16
Niles	..	..	..	..	4	3	7
Wooster	..	1	5	3	6	6	21
Orrville	..	..	..	..	1	3	4
Shreve	..	..	..	..	2	1	3
Loudonville	..	..	..	..	3	3	6
Barberton	..	..	..	..	..	3	3
Wadsworth	..	..	..	..	..	2	2
Doylestown	..	..	..	..	1	2	3
Millersburg	..	..	..	..	..	1	1
Danville	..	..	..	..	..	1	1
Gann (Brinkhaven)	..	..	..	..	..	1	1
	2	9	10	23	290	441	775

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total.
Cleveland & Suburbs	..	4	4	2	170	275	455
Akron	..	1	1	3	31	28	64
Cuyahoga Falls	..	..	..	..	3	1	4
Kenmore	..	..	..	..	3	2	5
Canton	..	..	..	2	11	17	30
North Canton	..	..	..	..	..	1	1
Massillon	..	1	..	..	7	10	18
Dover	1	..	..	..	4	6	11
New Philadelphia	1	..	..	2	3	9	15
Uhrichsville	..	..	..	..	1	2	3

Total churches and parsonages entire system	1,331
Total charitable institutions entire system...	202
	2,308

T. J. JONES.

Page 632:

"Q. Now Mr. Jones, you may state what if any amount of your gas is distributed to public buildings and for public purposes.

A. Yes, sir, there is.

Q. And where?

A. In the three cities, (Columbus, Dayton and Springfield), we supply gas to the United States Government, to State buildings, County buildings, City buildings, Schools and Hospitals."

L. B. DENNING.

Pages 661 to 664:

Public buildings supplied with gas by the Ohio Fuel Supply Company in Ohio for the years 1910 to 1920, inclusive:

GAS SALES.

	Public Buildings	
	Cons.	M cu. ft.
1910	259	582,165
1911	316	750,379
1912	340	1,019,261
1913	399	794,368
1914	205	557,972
1915	184	426.020
1916	152	376,398
1917	153	322,245
1918	275	297,632
1919	351	271,870
**1920	415	180,356
		5,578,666

**Figures for 1920 are for first 5 months only.

GAS SALES.

Wholesale—Municipalities—Utilities.

	M. cu. ft.
1910	137,854
1911	228,149
1912	273,537
1913	323,557
1914	397,492
1915	418.018
1916	495,132
1917	660.066
1918	853,158
1919	963,766
**1920	496,459
	5,247,188

**Figures for 1920 are for first 5 months only.

Number of Municipalities, Churches, Schools, State Institutions and Public Buildings Furnished Gas During the Year 1919 by The Ohio Fuel Supply Company.

Municipalities	135
Churches	130
Schools	57
State Institutions	43
Public Buildings	170"

J. W. McMAHON.

Page 723:

"Q. To what extent, Mr. McMahon,—give such detail as you may be able to give with reference to your furnishing gas to municipalities, for municipal purposes; public buildings, churches, school houses and so forth?

A. We furnish gas for cooking and hot water, and we did furnish gas for heating to the State Insane Asylum at Toledo until about six years ago when we were obliged to discontinue it. But we now furnish gas for hot water and cooking for the State Insane Asylum in Toledo which has a total of inmates and attendants of between 1,500 and 2,000 people. The Northwestern Company supplies gas to the post office in Bowling Green, to the sub-stations in Toledo, all of the hospitals, orphan asylums, houses for the aged and the charitable institutions of Toledo, and the small towns are supplied with natural gas by our company for cooking and hot water; nearly all the school houses in the municipalities and in the city of Toledo are supplied with gas for cooking, and some of the smaller ones for heating. All of the parochial residences, and that

applies to the churches where they have cooking utensils, with the exception of six or seven out-lying churches that are beyond our lines, are supplied with natural gas. The libraries, to a greater or less degree, are supplied with natural gas; the waterworks for operating their filtration plant in the City of Toledo, and their high pressure stations for fire protection are supplied with gas, and all but one or two of the fire department houses. The entire economic condition, so far as fuel,—cooking is concerned of the city of 243,000 population,—and that applies equally to Bowling Green, North Baltimore, Perrysburg and Maumee, depends upon our supplying natural gas to those consumers."

Page 736 (Cross-examination):

"Q. You had something to say about the supply of gas by your company to hospitals, schools, asylums and institutions of that kind; I assume that that gas is supplied under schedules filed with your Public Utilities Commission under similar circumstances to your supply of domestic gas?

A. Yes, sir.

Q. That is there is no more of a special contract with those institutions than there is with your domestic consumers?

A. With one exception.

Q. What is that?

A. The City of Toledo for their waterworks.

Q. How long has that contract been in existence?

A. About five or six years."

EUGENE P. WHITCOMB.

Pages 761 to 763:

"THE LOGAN NATURAL GAS & FUEL COMPANY.

GAS DELIVERED FOR PUBLIC USE—1919.

	City purposes. M cu. ft.	Public schools & colleges. M cu. ft.	Hospitals. M cu. ft.	State, federal and co. bldgs. M cu. ft.	County homes. M cu. ft
Amanda	679	102	..	..	..
Amherst	401	1,578	1,370	..	..
Ashland	2,056	2,901	2,248	..	504
Ash-Lorain Field	..	790	1,945	..	..
Ashville	55	27	..	—	..
Athens	1,099	10,401	5,816	1,239	1,196
Bellevue	..	708	..	..	..
Belleville	341	391	..	..	..
Berlin Heights	185	1,221	..	44	..
Bucyrus	2,613	1,571	1,158	..	2,288
Butler	79	108	..	..	..
Cardington	156	16	..	..	..
Carey	..	558	..	..	..
Centerburg	259	811	..	..	..
Chillicothe	745	3,118	971	..	..
Circleville	280	224	786	5,137	..
Clyde	..	114	..	..	..
Crestline	..	..	..	..	..
Dover	45	..	..	..	..
Elyria	4,712	315	2,372	2,514	904
Findlay	..	..	..	..	..
Fostoria	525	1,967	..	..	..
Fremont	318	4,880	923	999	..
French Creek	..	..	..	..	..
Galion	..	1,847	773	..	..
Homer	..	..	..	..	..
Kingston	2,143	209	..	..	..
Lexington	..	5	..	..	..

	City purposes. M cu. ft.	Public schools & colleges. M cu. ft.	Hospitals. M cu. ft.	State, federal and co. bldgs. M cu. ft.	County homes. M cu. ft.
Litchfield	..	..	..	..	..
Logan	..	..	..	510	..
Lorain	4,645	2,297	2,044	217	..
Mansfield	2,623	1,097	6,660	490	6,186
Marion	11,233	2,003	..	11,016	..
Milan	209	119	..	118	156
Monroeville	103	269	..	62	..
Mt. Gilead	..	311	..	603	..
Newark	4,964	1 316	1,003	2,291	..
New Riegel	396	107	..	..	..
Norwalk	1,318	921	783	1,588	2,831
Polk	500	203	..	..	..
Rockbridge	..	..	..	..	1,119
Shelby	1,145	674	..	..	..
Spencer	..	..	..	..	..
Stoutsville	..	76	..	..	..
Sugar Grove	569	42	..	..	..
Sycamore	2,068	..	..	..	..
Thornville	737	..	..	..	..
Tiffin	526	9,846	..	661	..
Tiro	488	23	..	..	..
Upper Sandusky	3,982	116	..	2,433	..
Wellington	6,367	..	..	..	..
Westerville	..	1,155	..	..	..
Williard	..	105	..	..	..
	58,564	54,542	28,852	29,922	15,184

THE LOGAN NATURAL GAS & FUEL COMPANY.

PRINCIPAL STATE, COUNTY, AND MUNICIPAL CONSUMERS OF GAS DURING YEAR 1919.

Ashland Colleges, Ashland, Ohio	1,390	M	Cubic	Feet
Samaritan Hospital, Ashland, Ohio	2,448	"	"	"
Amherst Hospital, Amherst, Ohio	1,370	"	"	"
State Hospital, Athens, Ohio	5,816	"	"	"
Ohio University, Athens, Ohio	10,088	"	"	"
County Infirmary, Bucyrus, Ohio	2,288	"	"	"
Court House, Jail, Bucyrus, Ohio	2,613	"	"	"
County Bldgs., Circleville, Ohio	5,137	"	"	"
City Hall, Elyria, Ohio	4,692	"	"	"
Memorial Building, Elyria, Ohio	2,372	"	"	"
County Court House, Elyria, Ohio	1,026	"	"	"
County Jail, Elyria, Ohio	1,485	"	"	"
Police Station and Hose Houses, Lorain, Ohio	4,539	"	"	"
St. Joseph Hospital, Lorain, Ohio	2,044	"	"	"
Ohio State Reformatory, Mansfield, Ohio	6,186	"	"	"
Memorial Building, Mansfield, Ohio	1,504	"	"	"
Mansfield Genl. Hospital, Mansfield, Ohio	6,660	"	"	"
City Fire Engines & Library, Mansfield, Ohio	1,119	M	Cubic	Feet
Garbage Plant, Marion, Ohio	4,945	"	"	"
City Buildings, Marion, Ohio	1,848	"	"	"
County Buildings, Marion, Ohio	10,974	"	"	"
Infirmary, Norwalk, Ohio	2,140	"	"	"
Court House, Norwalk, Ohio	1,512	"	"	"
City Buildings, Norwalk, Ohio	1,275	"	"	"
City Buildings, Newark, Ohio	4,964	"	"	"
Sanitarium, Newark, Ohio	1,003	"	"	"
Court House & Jail, Newark, Ohio	2,291	"	"	"
Schools & Colleges, Tiffin, Ohio	9,847	"	"	"
St. Lighting, Upper Sandusky, Ohio	3,983	"	"	"
Wyandot County Bldgs., Upper Sandusky, Ohio	2,433	"	"	"
Board of Public Affairs, Sycamore, Ohio	2,068	"	"	"
Board of Public Affairs, Welington, Ohio	6,367	"	"	"
Total	118,427	"	"	"

Page 806:

"Q. Your Company has been furnishing gas to both of those state institutions at Athens, namely, the Ohio University and the Hospital for Epileptics or insane or whatever it may be, has it not?

A. It has."

XI.

GAS COMPANIES IN WEST VIRGINIA ARE PUBLIC SERVICE CORPORATIONS OPERATING UNDER FRANCHISES AND EXERCISING THE RIGHT OF EMINENT DOMAIN.

HARRY A. QUAY.

Pages 70 and 71:

"Q. Then the fact remains that, while you are uncertain as to the places at which you have or have not municipal franchises in West Virginia, you are operating, and have been operating for a number of years in the past, under some sort of municipal—

A. Power.

Q. Permission or power or tolerance or acquiescence—is that correct?

A. That is correct."

T. O. SULLIVAN.

Pages 246 to 248:

The pipe lines of the Hope Company are laid over lands over which the Company has a right of way. The company does not own the fee of such lands. Such rights of way for the purpose of laying, maintaining and operating pipe lines, and, in some instances, telephone and telegraph lines, are usually secured from the owner of the property by agreement and for compensation. Sometimes condemnation proceedings are resorted to in case of inability to deal with the owners of the land. The

lines also cross public highways in West Virginia in a number of places and are sometimes laid along such highways. In such cases permits or franchises are secured from the proper officials; in incorporated towns from the town officials. As a specific example, the instance was cited of the City of Clarksburg, from which the Hope Natural Gas Company held a franchise for its pipe line for the purpose of distributing and supplying natural gas to consumers in that city.

H. A. WALLACE.

Pages 381 and 382 (Cross-examination):

The United Fuel Gas Company has acquired rights of way in West Virginia by both purchase and condemnation proceedings. It also possesses a franchise in the City of Huntington, under which it is permitted the use of certain streets and alleys to lay lines connected up with consumers to distribute gas. Similarly in the City of Charleston, West Virginia (p. 386).

JAMES H. REED.

Pages 519 and 520 (Cross-examination):

The principal transmission lines of the Philadelphia Company go across the public roads and in some instances along them in the State of West Virginia. So far as the witness knows the rights to lay and operate these lines are exercised under permission or authority granted by the property State and county authorities in West Virginia. Some of the rights of way were acquired by condemnation proceedings. The Company also holds franchises in the State.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1016 and 1017:

The great interstate gas companies have rights of way for their pipe lines across and along the roads in West Virginia, which rights were granted by the County Courts, and similar franchises permitting them to erect telephone and telegraph lines of their own along the public roads; where the companies serve natural gas in various incorporated towns and villages in the State, they furnish the supply of this gas under franchises.

J. S. LAKIN—DEFENDANT'S WITNESS.

Pages 1174 and 1175:

The Hope Natural Gas Company holds eight franchises transferred to it by deeds by the Mountain State Gas Company to furnish gas, which have been granted by the municipalities of Parkersburg, St. Marys and Sistersville, of Wood and Pleasants Counties, West Virginia.

CHARLES A. SHORT—DEFENDANT'S WITNESS.

Page 1276:

The Pittsburgh and West Virginia Gas Company, supplying gas to Shinnston, West Virginia, holds a gas franchise, as does also the Home Petroleum Company, supplying gas to the same town.

F. C. DEVERICKS—DEFENDANTS' WITNESS.

Pages 1363 and 1364:

Offered in evidence:

Certified copies of franchises granted by the County Court of Harrison County for the use of the public roads of the county to the Reserve Gas Company. Hope Natural Gas Company and Hutton Gas Company, respectively, through the years 1905 to 1907.

W. C. ALLMAN—DEFENDANT'S WITNESS.

Page 1215:

During the period of six years immediately preceding January 1, 1921, while the witness was Clerk of the Circuit Court of Lewis County, West Virginia, there were a number of proceedings by way of condemnations for pipe lines brought principally by the West Virginia Central Gas Company, the Hope Gas Company, the Reserve Gas Company and the Pittsburgh and West Virginia Gas Company or Philadelphia Company of West Virginia.

Copies of the court records of proceedings for these condemnations were offered in evidence and marked West Virginia Exhibit No. 45.

I. WADE COFFMAN—DEFENDANT'S WITNESS.

Pages 1216 and 1217:

During the period of witness' service as Clerk of the Circuit Court of Harrison County, various condemna-

tion proceedings for pipe lines for the transportation of natural gas were brought by gas companies, including the Hope Natural Gas Company, the Carnegie Natural Gas Company, the Fairmont & Grafton Gas Company, the Philadelphia Company of West Virginia and the Pittsburgh & West Virginia Gas Company.

Certified copies of the court records relative to the above were offered in evidence and marked West Virginia Exhibit No. 50.

West Virginia Exhibits Nos. 46 to 49, inclusive, consist also of certified copies of court records showing condemnation proceedings by the various companies in West Virginia courts for rights of way.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Page 1363:

Offered in evidence:

Certified copy of the proceedings has in the condemnation proceedings of Wheeling Natural Gas Company against Enos D. Tennant and others, marked West Virginia Exhibit No. 51.

West Virginia Exhibit No. 52,— offered at page 1364, appearing at page 1917, showing grants of franchises by communities in West Virginia to gas companies operating in that State.

H. E. NEASE—DEFENDANT'S WITNESS.

Page 988:

West Virginia Exhibits Nos. 9 to 15, inclusive, offered at page 988, appearing at Folios 270 to 378, inclusive.

These exhibits consist of reports respectively made by the Hope Natural Gas Company, the Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and The Manufacturers Light & Heat Company to the Board of Public Works of the State of West Virginia.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1364 and 1365:

West Virginia Exhibits Nos. 53 to 59, inclusive, offered at pages 1364 and 1365, appearing at pages 1922, 1929, 1934, 1938, 1940 and 1942, respectively.

These exhibits consist of copies of rate applications made by the Hope Natural Gas Company, United Fuel Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company and The Manufacturers Light & Heat Company, respectively.

XII.

THE RELATION OF THE HOPE NATURAL GAS COMPANY, PITTSBURGH AND WEST VIRGINIA GAS COMPANY, UNITED FUEL GAS COMPANY, COLUMBIA GAS AND ELECTRIC COMPANY AND THE MANUFACTURERS LIGHT & HEAT COMPANY TO OTHER PRODUCERS OF GAS AND GAS COMPANIES OPERATING IN WEST VIRGINIA AND THE RESPECTIVE HOLDINGS OF WELLS, LEASES, PRODUCTION, THE AMOUNT OF GAS EXPORTED BY SAID COMPANIES, MILES OF PIPE LINES OWNED, &C.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 995 and 996:

"Q. Are you able to give us the figures as to what percentage of the total net supply for public service of West Virginia Gas is controlled by these seven companies?

A. I am.

Q. Are your figures in that regard based upon the information and knowledge you have testified about previously?

A. They are.

Q. Will you give us in the record the total net supply for public service of all gas produced in West Virginia and then the net supply for the seven companies; then the percentage of the total net supply which

is controlled by the seven companies for the years 1911 to 1919, inclusive?

Answer—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and the Total thereof of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company Combined for the Seven Companies.

1911-1919.

	Total net supply for public service.	Net supply of the seven companies.	Percentage of the net supply of the seven companies to the total net supply.
	M cu. ft.	*M cu. ft.*	
1919	183,687,047	164,426,341	89.5%
1918	227,649,823	201,685,702	88.6%
1917	245,620,686	223,517,777	91.0%
1916	259,414,200	200,892,583	85.1%
1915	207,777,882	179,694,495	82.1%
1914	200,762,645	166,625,730	83.0%
1913	209,131,295	167,897,746	80.3%
1912	203,112,738	172,050,962	84.7%
1911	173,132,353	147,431,246	85.1%

Pages 996 and 997:

"Q. Are you able to give us a statement which will show the amount of gas produced in West Virginia which is used by the West Virginia consumers, and the percentage thereof with reference to the total net supply of such gas?

A. I have such a statement.

Q. Please put it in the record.

Answer—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and Total thereof Furnished to West Virginia Consumers.

1911-1919.

	Total net supply for public service. *M cu. ft.*	Sales to West Va. consumers *M cu. ft.*	Percentage of the total net supply sold to West Va. consumers
1919	183,687,047	46,654,098	25.4%
1918	227,649,823	52,985,173	23.3%
1917	245,620,686	48,942,388	19.9%
1916	259,414,200	59,409,460	22.9%
1915	207,777,882	53,147,718	25.6%
1914	200,762,645	50,600,709	25.2%
1913	209,131,295	53,629,419	25.6%
1912	203,112,738	51,968,488	25.6%
1911	173,132,353	40,265,294	23.3%

Q. The column on that statement just given, and under the heading "Total net supply for public service" is the total net public supply for the state, is it not?

A. It is of all gas produced within the state.

Q. Now, under the next heading, "Sales to West Va. consumers," have you embraced all of the consumers in West Virginia?

A. That is consumption that was used in public service or delivered to the public.

Q. And the third heading is the percentage which the amount so used in West Virginia bears to the total public supply?

A. Yes."

Page 997.

"Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manuacturers Light and Heat Company and the Total Thereof Furnished by the said Seven Companies to West Virginia Consumers:

1911-1919.

	Total net supply of the seven companies.	Sales to West Virginia consumers.	Percentage of total supply of seven companies sold to West Virginia consumers.
	M cu. ft.	*M cu. ft.*	
1919	164,426,341	29,360,811	17.9%
1918	201,685,702	30,120,273	14.9%
1917	223,517,777	26,889,876	12.0%
1916	220,892,583	24,526,859	11.1%
1915	170,694,495	18,860,867	11.0%
1914	166,625,730	20,612,599	12.4%
1913	167,897,746	22,297,677	13.3%
1912	172,050,962	21,101,443	12.3%
1911	147,431,246	17,200,747	11.7%"

Pages 1011 and 1012:

Statement Showing Counties in West Virginia Operated within and Municipalities Served by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company and the Population of Such Counties and Municipalities as of December 31, 1919.

Counties.	Population, 1920.	Number of companies operating within	No. of Municipalities served. & population thereof.	
			No. served.	Population
Barbour	18,028	2	....	.....
Boone	15,319	1	....	.....
Braxton	23,973	33	....	.....
Brooks	16,527	2	4	8,667
Cabell	65,746	2	2	51,151
Calhoun	10,268	3	....	.....
Clay	11,486	2	....	.....
Doddridge	11,976	5	....	.....
Fayette	60,377	1	....	.....
Gilmer	10,668	4	....	.....

***Statement Showing Counties in West Virginia Operated within and Municipalities Served.*— Continued:**

Counties.	Population, 1920.	Number of companies operating within	No. of Municipalities served. & population thereof.	
			No. served.	Population
Hancock	19,975	1	3	6,312
Harrison	74,793	5	....	.....
Jackson	18,658	1	2	1,864
Kanawha	119,650	3	4	45,107
Lewis	20,455	4	....	.....
Lincoln	10,378	2	....	.....
Logan	41,006	2	1	2,998
Mason	21,459	1	....	.....
Marion	54,571	4	3	4,881
Marshall	33,681	4	3	18,798
Mingo	26,364	2	2	7,455
Monongalia	33,608	4	1	218
Niccolas	20,717	1	....	.....
Ohio	61,006	1	....	.....
Pleasants	7,379	3	1	1,648

Statement Showing Counties in West Virginia Operated within and Municipalities Served.—Continued:

	Population, 1920	Number of companies operating within	No. of municipalities served & population thereof.	
			No. served	Population.
Putnam	17,531	2	1	666
Raliegh	42,482	2	....	.....
Ritchie	16,506	4	....	.....
Roane	20,129	1	3	2,423
Taylor	18,742	2	1	8,517
Tyler	14,186	4	4	4,555
Upshur	17,851	2	....	.....
2236				
Webster	11,562	1	....	.....
Wetzel	23,069	4	7	7,496
Wirt	77,536	1	....	.....
Wood	42,306	2	2	21,843
Wayne	26,012	2	5	4,870
Totals	1,065,980	....	49	199,469

Page 1015:

West Virginia Exhibit No. 18, offered at page 1015 by witness Nease, appearing at Folios 402 to 412.

Statement showing number of consumers in West Virginia furnished natural gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas & Electric Company, and The Manufacturers Light & Heat Company, combined for the seven companies.

NOTE: This includes 18-A to 18-J, which give the consumers for each of said companies separately.

The Exhibit setting forth the figures for the combined companies shows that they furnished a total of 34,400 consumers in West Virginia in 1910, and that this number increased gradually to 58,841 in 1919. Domestic and industrial consumers and local utilities are included.

Page 1018:

West Virginia Exhibit No. 19, offered at page 1018, appearing at Folios 414 to 423.

Statement showing distribution of the net supply of West Virginia natural gas combined for the seven companies.

NOTE: This includes 19-A to 19-I, which show figures for each company separately.

The figures for 1911 and 1919 are as follows:

	Total furnished to West Virginia consumers	Transported, or sold for transportation to other states
1919	29,360,811,000 cu. ft.	135,065,530,000 cu. ft.
1911	17,200,747,000 cu. ft.	130,230,499,000 cu. ft.

Pages 1037 and 1038:

The Manufacturers Light & Heat Company produces gas, has pipe lines or serves consumers in the following West Virginia counties: Doddridge, Harrison, Marion, Monongalia. Tyler, Wetzel, Marshall, Ohio, Brooke and Hancock; the Reserve Gas Company in Harrison, Lewis, Ritchie, Wood, Pleasants and Doddridge.

The Pittsburgh and West Virginia Gas Company has such service in the counties of Braxton, Doddridge, Gilmer, Harrison, Lewis, Marion, Monongalia, Ritchie, Taylor, Tyler and Wetzel.

The Carnegie Natural Gas Company produces, has pipe lines or serves consumers in Braxton, Doddridge, Gilmer, Harrison, Lewis, Taylor, Tyler, Marion, Monongalia Ritchie and Wetzel.

The Hope Natural Gas Company in Barbour, Braxton, Calhoun, Doddridge, Gilmer, Harrison, Lewis, Marion, Marshall, Monongalia, Pleasants, Ritchie, Rome, Tyler, Upshur, Wetzel and Wirt; also Wood and Taylor.

The Columbia Gas and Electric Company covers the counties of Cabell, Lincoln, Putnam and Wayne.

The United Fuel Gas Company in Boone, Cabell, Calhoun, Clay, Gilmer, Jackson, Kanawha, Lincoln, Logan, Mingo, Putnam, Poane and Wayne.

Pages 1062 and 1063:

The large interstate gas companies supply much free gas to consumers in West Virginia, for obtaining rights of way, &c. This free gas is not included in West Virginia Exhibit No. 16.

CHARLES E. KREBS—DEFENDANT'S WITNESS.

Pages 1101 and 1102:

The amount of gas shipped out of the State of West Virginia for the years 1914 to 1918, inclusive: for the year 1914, 141,341,928 M. cubic feet were shipped out of West Virginia, that being 59.77 of the total production; for the year 1915 there were shipped out of West Virginia 149,027,454 M. cubic feet, or 61.08 per cent. of the total production; for the year 1916 there were shipped out of West Virginia 194,214,899 M. cubic feet of gas or 64.90 per cent. of the total production; for the year 1917 there were shipped out of West Virginia 193,128,909 M. cubic feet, or 62.58 per cent. of the total production, and for the year 1918 there were shipped out of West Virginia 157,487,473 M. cubic feet, or 59.12 per cent. of the total production of gas in the State.

J. K. ANDERSON.

Pages 815-817:

Pennsylvania Exhibit No. 28, offered at page 815, appearing at page 1566.

Showing natural gas production statistics for the year 1919 in West Virginia, being also a record of gas production and purchases. This table shows the gas produced by natural gas utilities and the gas purchased from other than utilities, together with the totals, first, in all States, and, secondly, in West Virginia.

Pennsylvania Exhibit No. 29, offered at page 817, appearing at page 1567.

This is a chart showing the production and consumption of natural gas in the State of West Virginia for the years 1904 to 1920. This chart shows that the production of natural gas rapidly increased from 1908 to 1917, since which time it has steadily declined, and that the consumption from 1908 to 1917 gradually increased, from which time it has slightly declined.

H. E. NEASE.

Pages 994 and 995:

West Virginia Exhibit No. 16, offered at page 995, appearing at Folios 379 to 388, showing the supply of natural gas produced and acquired within West Virginia by the great interstate gas companies.

Exhibit No. 16 is a combined report. Exhibits Nos. 16-A to 16-I, inclusive, are separate reports on the same subject for the years 1911 to 1918, inclusive.

CHARLES E. KREBS.

Pages 1092 and 1093:

The quantities of gas produced in the State of West Virginia for the years 1914 to 1918, inclusive, are as follows, according to the reports of the United States Geological Survey:

269

For the year 1914, 236,489,175 M cubic feet;
For the year 1915, 244,004,159 M " " ;
For the year 1916, 299,318,907 M " " ;
For the year 1917, 308,617,101 M " " ;
For the year 1918, 265,160,917 M " " ;

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1165 to 1168:

Monthly reports of gas production of the Hope Natural Gas Company for July, 1919, showing cities and towns served in West Virginia; active domestic and industrial consumers in those towns; total of meters in use, and volume in Cubic feet of gas sold. Showing gas sold to various utilities; showing industrial and domestic consumers served and the volume of cubic feet of gas furnished through the field and main lines of the Company. The total gas sales for the month amounted to 3,426,445,000 cubic feet to the consumers above named. The total gas purchased in and out of West Virginia for that period was 1,329,097,000 cubic feet.

EDWIN ROBINSON.

Page 1382:

Pennsylvania Exhibit No. 51, offered at page 1382 by witness Robinson, appearing at page 1605.

This is a statement showing the production and consumption of natural gas within West Virginia, importations to and exportations from the State, for the year ending December 31, 1919.

	Production within West Virginia.	Importations to West Virginia from other States	Total of columns 1 and 2	Consumption within West Virginia	Exported from West Virginia to other States.
Total 1919	219,886,837	3,822,162	223,708,999	83,769,937	139,939,062
Total 1918	280,289,044			105,624,394	174,664,650

Page 1382:

Pennsylvania Exhibit No. 52, offered at page 1382 by witness Robinson, appearing at pages 180a-181 (following page 1605):

Statement showing classification of consumption of natural gas within the State of West Virginia for the year ended December 31, 1919.

	Number of domestic consumers.	Domestic sales (M cu. ft.)	Number of industrial consumers.	Industrial* sales (M cu. ft.)	Consumption by carbon black factories (M cu. ft.)	Total (M cu. ft.)
Totals 1919	130,780	18,699,309	1,911	44,306,839	20,763,790	83,769,937
Totals 1918	125,341	19,618,873	1,542	52,005,521	34,000,000	105,624,394

*Includes Free Gas, Drilling Wells, etc., Sales.

Page 1383:

Pennsylvania Exhibit No. 53, offered at page 1383 by witness Robinson, appearing at page 1606:

"*Ebert's Statement on West Virginia Natural Gas Production, Importation, Sales, and Exportation for Year* 1920:

Pa. Exhibit No. 53. 3-21-1921. J.R.S.

Inspection Department, Gas Utilities.

Summary of the Natural Gas Production, Importation, Sales, and Exportation for the Fiscal Year Ending June 30, 1920.

I.	Sold in cities and towns in W. Va.	51,525,765 Mcf.		
J.	Sold in field and main lines in W. Va.	35,883,029 "		
K.	Total sales in W. Va.	87,408,794 "	87,408,794	Mcf.
L.	Sold to W. Va. utilities		48,806,800	"
M.	Exported from W. Va.		142,519,562	"
N.	Line loss, etc.		66,357	"
O.	Credit total		278,801,513	"
C.	Purchased from W. Va. producers	34,932,777 Mcf. from	1,074-2/12 wells*	
E.	Purchased from W. Va. utilities	49,012,245 "		
F.	Imported to W. Va.	5,435,663 "		
G.	Error in reporting	326 "		
	Total purchases and imports	89,381,011 "	89,381,011	Mcf.
B.	Produced by utilities from 7,709-5/12 wells*		189,420,502	"
H.	Debit total		278,801,513	"

In item F, 755,666,000 cubic feet of the 5,435,663,000 was 'forced importation' through a main trunk line, from the McKeesport, Pa., gas field, while the latter was in its prime. While the utility exports gas to Pennsylvania regularly and imports none from Pennsylvania, it was compelled to take the quantity named above during one month.

Charles B. Ebert,
Acting Chief Inspector.

*Monthly average of wells.

Page 1378:

Pennsylvania Exhibit No. 50, offered at page 1378, by witness Robinson, appearing pages 1603, 1604 and 1605:

Natural Gas Statistics—State of West Virginia.

The total production of natural gas within the State of West Virginia, for the year ended December 31, 1919, was approximately 220 billion cubic feet. Approximately 80 billion cubic feet of the State's production (or the equivalent thereof) and 4 billion cubic feet of imported gas was consumed within West Virginia and approximately 140 billion cubic feet piped to other States.

The production of natural gas within West Virginia for the years 1908 to 1919, both years inclusive, was as follows:

Year	Cubic Feet.
1908	112,181,278,000
1909	166,435,092,000
1910	190,705,869,000
1911	206,890,576,000
1912	239,006,682,000
1913	245,453,985,000
1914	236,489,175,000
1915	244,004,159,000
1916	299,318,907,000
1917	289,898,967,000
1918	280,289,044,000
1919	219,886,837,000

The statement following shows the quantity of natural gas exported from the State.

Year	Exported from State (cubic feet)	Percentage of State's total production
1908	61,644,618,000	55%
1909	96,074,387,000	58%
1910	120,508,811,000	63%
1911	132,867,059,000	64%
1912	151,144,250,000	63%
1913	155,501,876,000	63%
1914	150,161,936,000	63%
1915	154,630,164,000	63%
1916	200,004,740,000	67%
1917	196,679,263,000	68%
1918	174,664,650,000	62%
1919	139,939,062,000	64%

Industrial Consumers.

Year	Gas Consumed (cubic feet)	Percentage of State's total production
1909	60,453,682,000	36.4%
1910	59,023,550,000	31.1%
1911	62,711,802,000	30.5%
1912	74,574,273,000	31.4%
1913	76,990,310,000	31.7%
1914	72,062,030,000	31.0%
1915	74,153,788,000	30.7%
1916	83,767,519,000	27.9%
1917	76,816,465,000	26.5%
1918	86,005,521,000	31.1%
1919	65,015,951,000	27.5%

Large quantities of natural gas are used within the State in the manufacture of carbon black. The average yearly consumption for the last ten years for this purpose was approximately 23 billion cubic feet per year. During the year 1919, approximately 21 billion cubic feet was used for this purpose. The figures for "Industrial Consumption" include this gas.

Prepared by H. E. Nease, Statistician, Public Service Commission of West Virginia.

HARRY A. QUAY.

Page 160:

The Hope Natural Gas Company has no stock in The Manufacturers Light and Heat Company.

JOHN B. CORRIN.

Page 356:

"Q. Can you give us the names of some of the larger companies that are operating in the State of West Virginia—I mean gas companies—with which the Standard interests are in no way affiliated?

A. The Philadelphia Company or otherwise the Pittsburgh and West Virginia; The Carnegie Natural Gas Company; The United Fuel Gas Company; The Manufacturers Light and Heat Company; The West Virginia Central; The Fayette County Gas Company, and numerous smaller companies."

H. A. WALLACE.

Pages 378-379:

"The United Fuel Gas Company * * * is not owned or controlled by the Standard or any affiliated companies

belonging to the Standard in any way. * * * The capital stock of the United Fuel Gas Company is owned by the Columbia Gas & Electric Company and the Ohio Fuel Supply Company."

W. W. FREEMAN.

Page 469:

"* * * There is no financial connecting whatever between the Ohio Fuel Supply Company and the Columbia Gas and Electric Company."

JAMES H. REED.

Page 508:

"* * * The Philadelphia Company * * * stock is very much scattered and, to my knowledge, no person connected with any of the Standard Oil interests has any interest."

J. E. ANGLE.

Pages 553-554:

"Q. Do you know whether or not the Fayette County Gas Company is in any way connected or affiliated with any of the so-called Standard companies?

A. Not that I know of."

T. J. JONES.

Page 638:

"Q. And who is the owner of the Columbus Gas and Fuel Company and the Federal Gas and Fuel Company?

A. The Pure Oil Company."

L. B. DENNING.

Page 658:

"The Ohio Fuel Supply Company owns all of the stock of the Northwestern Ohio Natural Gas Company."

Page 682:

"* * * So far as operation or management or dictation or control of company policy is concerned the group of men commonly designated as 'Standard Oil' nor any of the Standard Oil companies have anything whatever to say as to the management and control or dictation of policy of the Ohio Fuel Supply Company."

JOHN B. CORRIN.

F. B. ROBINSON.

Pages 353-1205:

The Standard Oil Company of New Jersey owns about 51% of the stock of the Clarksburg Light and Heat Company.

JOHN B. CORRIN.

JOHN B. TONKIN.

Pages 321, 424:

The Standard Oil Company of New Jersey owns the stock of and controls the River Gas Company and the Peoples Natural Gas Company; the Hope Natural Gas Company and the Union Gas Corporation own all

the stock of the Reserve Natural Gas Co. and Connecting Gas Companies in the proportion of about 51% and 49% respectively.

HARRY A. QUAY.

Page 1508-Pa. Exhibit No. 14.

The number of Stockholders in the Manufacturers Light and Heat Company total 4,170.

H. E. NEASE.

Pages 998 and 999:

Some of the larger oil companies produce gas to a limited extent, and such companies as the South Penn Oil Company, which is closely allied with the Hope Natural Gas Company and the Reserve Gas Company, market their gas to the Hope Natural Gas Company and the United Fuel Company. The Ohio Fuel Oil Company is a large gas producing company and in its earlier years it was closely allied to the United Fuel Gas Company. The Carter Oil Company is allied to the Hope and Reserve Companies, these being Standard Oil Companies. These affiliated oil companies market their gas to the kindred gas companies. The Ohio Fuel Oil Company sells practically all the gas that it produces to the United Fuel Gas Company. The South Penn sells practically all of the gas that it produces (or did until recently) to the Fayette County Gas Company, which is closely allied with the Hope Company.

Page 1019:

The records of the Public Service Commission of the State of West Virginia show that 212 independent producers market their gas to the large interstate companies.

Page 1021:

Some of the large interstate gas companies exchange gas. For example, the Reserve Gas Company handled through its lines some gas for the Hope Gas Company and there is now an arrangement between the Pittsburgh and West Virginia Gas Company and the Eastern Oil Company group, by which the Pittsburgh and West Virginia exchanges some gas in the territory where the Eastern Oil Company group companies are operating for some isolated production that the Eastern Oil Company group has from one well in Gilmer County. They are now building a pipe line to that well of the Eastern Oil Company in Gilmer County.

Statement Showing Productive Gas Wells within West Virginia.

1910-1918.

Dec. 31—	Total all producers	Hope Nat. Gas Co., Pgh. & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Co., Car. Nat. Gas Co., Col. Gas & El. Co., Mfg. L. & H. Co.	Percentage of total owned by the seven companies.
1918	9,687	7,086	73.2%
1917	9,329	6,763	72.5%
1916	8,542	6,161	72.1%
1915	7,718	5,458	70.7%
1914	7,194	5,037	70.0%
1913	6,534	4,578	70.1%
1912	5,604	3,897	69.6%
1911	4,790	3,354	70.0%
1910	4,052	2,890	71.3%

Page 1030:

The Pittsburgh and West Virginia Company has taken over the properties of the Fairmont Natural Gas Company and the properties of the Philadelphia Company of West Virginia. The Pittsburgh and West Virginia Company is the changed name of the old Fairmont and Grafton Gas Company, a local West Virginia corporation, the control of which passed into the hands of the Pittsburgh and West Virginia Company in 1913.

Page 1031:

The United Fuel Gas Company acquired the properties of the United States Natural Gas Company:

> "The United Fuel Gas Company has acquired no other—the property of no other natural gas utility companies. The United States Natural Gas Company, however, the company which it acquired, as I have stated, was made up of numerous smaller natural gas companies, including the Triple State Natural Gas Company, The Kanawha Natural Gas, Light & Fuel Company, The Charleston Natural Gas Company and some of the properties of the Kanawha Gas Company. The United Fuel Gas Company was reorganized along about the time it took over the properties of the United States Natural Gas Company and its stock very greatly increased. At this time it also took over from the Hope Natural Gas Company a great block of leases, south of the little Kanawha River.
>
> I think that about covers the development of the company."

Pages 1032 and 1033:

The Standard Oil Company of New Jersey was at one time interested in the United Fuel Gas Company, and the majority of the stock up until 1910 was held by the Standard Oil Company of New Jersey. The United Fuel Gas Company has transferred considerable gas territory to the Hope Company. There is an agreement between the United Fuel Gas Company and the Hope Natural Gas Company, or the interests controlling these two companies, with reference to the territory north of the Kanawha River and the territory south of the Kanawha River.

Pages 1081 and 1082:

The Standard Oil Company has been dissolved by a decision of the Supreme Court of the United States, and the stock of the South Penn Oil Company was distributed among the individual stockholders.

J. S. LAKIN—DEFENDANT'S WITNESS.

Pages 1169 to 1174:

By deed dated June 27th, 1911, the Wheeling Natural Gas Company, Tri-State Gas Company and The Manufacturers Light & Heat Company, West Virginia corporations, and The Manufacturers Light & Heat Company, a Pennsylvania corporation, granted and transferred to the Hope Natural Gas Company, a West Virginia corporation, 892 leases of gas land covering 65,205.15 acres located in Harrison, Lewis, Marion, Upshur, Braxton and Gilmer Counties; also 20 gas-purchase contracts covering gas produced from 9839.75 acres; also over 100 rights of way over various farms; also 177,867 feet of pipe lines.

By deed dated April 1, 1910, the Mountain State Gas Company, a West Virginia corporation, transferred certain property to the Hope Natural Gas Company, including 180 leases of gas territory covering 23,610 acres located in Ritchie, Gilmer, Pleasants, Wirt, Tyler, Wetzel and Calhoun Counties, W. Va.; also over a thousand rights of way over farms in the counties above named and also in Lewis, Harrison, Doddridge and Wood Counties, West Virginia. The same deed transferred 101 wells in Pleasants, Ritchie, Tyler, Wetzel, Calhoun, Gilmer and Wirt Counties, West Virginia. The deed further transferred to the Hope Company eight franchises given by the municipalities of Parkersburg, St. Marys and Sistersville.

B. F. ROBINSON—DEFENDANT'S WITNESS.

Pages 1204 and 1205:

There was a merger of the Clarksburg Light & Heat Company and the Mountain State Gas Company which included a transfer to the former of all the property of the latter, and, in addition the property and franchise of the West Fork Oil & Natural Gas Company, with the exception of some leases which had previously been sold. Of the stock in the new company formed by the merger, 51 per cent. was subscribed for by interests representing the Standard Oil Company of New Jersey. The latter are represented by four of the seven stockholders constituting the Board of Directors.

HARRY A. QUAY

Pages 12-13:

"In practically all gas fields there is more or less competition; and the belief is if you don't sell the gas,

your competitors draw on that territory and sell it, and that you had better sell your gas, what you can, before the other fellow sells it. Competition has been so keen that we have always attempted to sell practically all the gas drilled. Years ago, when there was not the demand for natural gas that there is today, there was a large surplus amount of gas, and we made great efforts to find markets for the gas and dispose of it. I don't wish to imply that those same conditions still apply to the present day."

Page 46:

"The competitive bidding for leases, I consider, is very much more extensive now than perhaps formerly. There is keen competition for leases.

T. O. SULLIVAN

Page 220:

"In my opinion, it (competition) is more pronounced than ever before."

JOHN B. CORRIN.

Page 357:

"There certainly has been strong competition, and we feel that competition is stronger today than it ever was. There is a greater demand for gas territory now than there ever has been, and a greater endeavor by these different gas companies to get it—even reasonably good territory."

H. A. WALLACE.

Page 371:

"There is a large amount of competition along the line of taking up leases, and it is steadily increasing. That is, competition is getting stronger."

J. K. ANDERSON.

Page 827:

"There is an active competition between large companies and smaller producers in endeavoring to lease new territory in new fields."

GEORGE W. WILSON—DEFENDANT'S WITNESS.

Pages 1302 and 1303 (Cross-examination):

There is pretty vigorous competition between the Hope Company and the Pittsburgh & West Virginia Company to obtain the gas production of the independent producers in the fields where those companies have pipe lines.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1026, 1034, 1035, 1036:

Some of the larger cities in West Virginia, such as Morgantown, Fairmont, Clarksburg, Weston, Shinnston, Lumberport, Bridgeport, Salem, Pennsboro Harrisville and Cairo are served by local utilities. There are also a great many cities and towns served by local utilities in the southern section of the State. Some of the larger companies sell gas to local utilities which supply the local communities, for example: The Carnegie Natural

Gas Company sells gas to the West Virginia Traction and Electric Company which supplies Morgantown; the Pittsburgh and West Virginia Gas Company sells gas to utilities serving Fairmont, Marion County, and vicinity of Glenville; the Clarksburg Light and Heat Company serves Clarksburg and the vicinity; the Light, Fuel & Power Company serves Sutton, Braxton County, and, indirectly, Gassaway and various smaller towns in Braxton County; the Keener's Oil, Natural Gas and Fuel Company serves Weston, Lewis County; the Comet Oil and Gas Company serves Pruntytown and some smaller towns in Taylor County; the West Virginia Heat and Light Company serves the towns of Ellenboro, Pennsboro and Cairo in Ritchie County; the Clarksburg Light and Heat Company secures gas from the Hope Natural Gas Company; the United Fuel Company sells gas to Charleston-Dunbar Natural Gas Company which supplies a small portion of Charleston, the incorporated cities of Saint Albans and South Charleston, and the towns of Dunbar, Spring Hill and Institute in Kanawha County. The Columbia Gas and Electric Company and the Reserve Gas Company do not sell any gas to local utilities.

CHARLES A. SHORT—DEFENDANT'S WITNESS.

Pages 1295, 1296:

The smaller gas companies in West Virginia are unable to go out in the field, purchase gas and have it transported to their lines by the pipe line companies. The larger companies have never made a practice of exchanging gas with the small local companies. An attempt on the part of the Home Petroleum Natural Gas Company to purchase natural gas from the Hope people in Pittsburgh was unsuccessful.

B. F. ROBINSON.

Pages 1208; 1212, and 1214:

I. WADE COFFMAN.

Page 1219:

R. T. CUNNINGHAM.

Pages 1234 to 1236, and 1247 and 1248:

CHARLES M. SNAITH.

Pages 1254, 1258, 1266, 1267, 1268 to 1270, and 1273:

CHARLES A. SHORT.

Pages 1275, 1277; 1277 to 1279, 1288 and 1289, 1293, and 1295:

VANCE L. HORNER.

Pages 1305, 1306, 1307; 1307 and 1308 and 1310 and 1311:

PARK BOWSER.

Pages 1331 and 1332, and 1335 and 1336.

F. C. DEVERICKS.

All the above are Defendant's Witnesses.

Pages 1351 to 1354, 1353 and 1354, 1357 and 1358, and 1361 to 1363:

Prior to and coincident with the operation of the great interstate gas companies in the gas industry, independent producers and small local gas companies operated in West Virginia. As a general rule the independent producers did not proceed to develop discoveries of gas producing sands into a complete gas industry or business. They were usually content to find a market in some company already operating and furnishing gas to consumers in order that they, the independent producers, would not be compelled to undergo the expense laying pipe lines or of building pump or compressor stations. Sometimes their interests lay rather in the speculative field of the gas industry than in the developing and distributing lines. Most often their operations consisted in selling gas as quickly as possible to the larger companies.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1353 and 1354:

"A. The rule was this: That those who were financailly able to do it would rather have had the large acreage, but those who were simply promoters and cared but little whether it was a productive well or non-productive well, preferably non-productive, in some cases where they would be selling interests, and there would be more money in not having a well produce than there would be in having it produce.

Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be profitable for promoters, even in West Virginia, to take up a property and make more money out of it when it would not produce than when it did?

A. This is not for the record——

Q. Yes, this is for the record.

A. All right, then I will say this: There has been a great many men who came here following the oil business, who would promote a company, and not only here, but every other field throughout the United States, I think I am safe in making it the United States, who have gone into the territory and gathered up leases, or a lease, rather, a small acreage, and started out to sell a one-thirty-second or a sixteenth or a quarter or one-eighth or something like that, simply for the money that they would be able to obtain for those interests in excess of what it would cost to drill a well, and there has been men who lived on that; and we had a recent example of that in McKeesport, and I am surprised that counsel had never heard of McKeesport.

Q. Do you want that to go down to the court as your answer to my question?

A. I asked for permission not to put that in the record. Every word of which is true.

Q. Is that your answer to my question? And I ask the stenographer to repeat the question to the witness.

(The question read by the stenographer as follows):

"Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be possible for a promoter, even in West Virginia, to take up a property and make more money out of it when it would not produce than when it did?"

Q. Now, the question having been read, I repeat and ask you if you want the answer you just made to be your answer?

A. It is the formula you are asking for. That is the formula. The answer which I gave you is the formula."

So far as regards the local companies, their operations are almost invariably carried on in a small way, at least when compared to those of the larger interstate companies. A few specific examples may be cited: For instance, the Monongahela Valley Traction Company has approximately 18,000 acres of gas territory in the region of Fairmont, five or six thousand acres of which are developed. The Home Petroleum Gas Company owns some 250 acres in Harrison County, and about 80 acres in Marion County, upon which are six wells. The Company possesses no pumping station. The Lumberport Gas Company, serving Lumberport, Haywood, Erie, Hepzibah and a number of small towns surrounding, has territory consisting of some 37 drilled acres and five wells on separate tracts. The Horner Gas Company, from which the Lumberport Gas Company buys some gas, has about 80 acres of developed territory and five wells. The Eagle District Gas Company has about 160 acres. The Lumberport Company has no pump or booster station.

As a rule, the small companies in West Virginia, including those cited above, hold little or no reserve acreage. This is not due always, or even in a majority of cases, to the lack of gas territory. For instance, at the time the Keener Natural Gas, Oil & Fuel Company, supplying Weston, West Virginia, entered that town

some 25 years ago there was ample opportunity to take up additional acreage. Weston afforded the Company a market for its gas. (page 1267).

Financial conditions limited the operations of such companies to a very considerable degree. It is not only the cost of reserve acreage which prevents these companies from acquiring same but the necessity incidental thereto of laying pipe lines from their present holdings or transmission lines to such new territory, assuming that the latter would be productive of a gas supply. For the same reason these small companies are unable to build compressor stations which would have enabled them to obtain more gas from wells where the pressure had decreased to an extent where without a compressor station very little gas was to be had. For instance, the Home Petroleum Gas Company had an opportunity recently to obtain more gas by laying three or four miles of pipe line, but although it had considered the proposition, decided that the investment was not advisable.

(Page 1295.)

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1357 and 1358:

It was generally assumed that the South Penn Oil Company, which had taken up a number of leases in West Virginia fields and districts, had suffered considerable financial loss through these operations. They had been, in a way, pioneers in the field, in that theirs was the first attempt to take up any considerable acreage or leases and do a large amount of drilling on the territory. The company was generally supposed to have lost millions of dollars in the adventure. As a

general rule the small independent operators, either individual or associate, did not feel warranted in marketing gas directly to the consumer. The reason is, that their holdings, generally being comparatively small, their production did not warrant the financial expenditure involved in building pipe lines to transport their gas, and, further, since their territory is somewhat limited they cannot feel assured of a number of consumers sufficient to use all the gas they can produce. The result is that the larger companies soon learn of the existence of gas in these territories and extend their pipe lines there and buy up the gas from these independent producers. It is therefore the larger companies who supply the consumers in the territory where gas is discovered, even though they do not themselves produce it in that territory. This, however, is only a general rule, for sometimes the independent producers themselves lay their own pipe lines and supply consumers direct. The consequence is that there are some gas distributing plants in most of the centers of population in West Virginia in and around Bradford and surrounding districts which were originally built by local capital, although some have been built by larger companies.

At least one of the smaller local companies, however, is doing some development. The Clarksburg Light & Heat Company recently acquired two or three thousand acres in Harrison County, which, however, had been previously operated. The Company has been drilling continuously on an average of from 15 to 20 new wells per year, the cost of which was from twelve to thirteen thousand dollars each (pages 1208 to 1212).

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1020-1021:

As a general rule the independent producers of gas do not have pipe lines for the transportation of their gas to market, nor do they have a market financed by local capital and by local enterprises. They have never had large capitalizations or large financial resources at their command and during the past fifteen years many of them have failed and gone out of business. They do not control a great deal of territory nor do they have any pipe lines or pumping stations. Their gas is distributed by natural rock pressure of the gas wells.

Pages 1028-1029, 1030, 1031:

The Manufacturers Light and Heat Company, the Pittsburgh and West Virginia Gas Company, and the United Fuel Company have absorbed and taken over many smaller companies originally operating in West Virginia.

GEORGE W. WILSON—DEFENDANT'S WITNESS.

Page 1300:

In Lewis and Braxton Counties the independent producers are fewer in number than they have been in recent years. At one time a considerable number operated, drilled wells, etc., but their leases have been sold to larger companies, which is practically the only market for the independents. The only method of transporting gas furnished the independent producer is the pipe lines of the larger companies. The extent of their holdings does not justify the small producers to go to the expense of laying pipe lines of their own.

VANCE L. HORNER—DEFENDANT'S WITNESS.

Pages 1309, 1310, 1311, 1312:

An attempt to exchange gas by the Lumberport Gas Company and the Shinnston Company with the Hope Company was without success. The Carnegie Company operating in the same vicinity as the Lumberport and Shinnston Gas Companies takes its gas at the present time through its pumping station from its well at less than atmospheric pressure which results in reducing the pressure on the adjoining wells operated by the witness' companies. If this were resorted to by all the companies, the Shinnston and Lumberport Gas Companies would be reduced to either establishing pumping stations or find it impossible to get gas from their wells. The financial situation of these companies would not justify the establishment of pumping stations.

PARKE BOWSER—DEFENDANT'S WITNESS.

Pages 1333 to 1335 (Cross-examination):

Operating about seventy oil and gas wells in Calhoun, Ritchie and Gilmer Counties in association with some other individuals, Mr. Bowser had shut in about 2,000,000 feet of gas because the market conditions offered by the Hope Natural Gas Company, to whom this gas could have been sold, practically amounted to a confiscation of property. The price offered was too low and the conditions in the contract were wholly derogatory to the producers. Under the contract offered him by the Hope Company it would have been necessary to lay about twelve miles of pipe line which would have involved an expenditure of from $12,000 to about $15,000, which the company considered an unjustifiably high amount.

J. K. ANDERSON.

Page 822:

Pennyslvania Exhibit No. 31, offered at page 822, appearing at page 1568.

Statement showing relation of operated and unoperated leaseholds of large interstate natural gas companies and small local intrastate natural gas companies doing business in the State of West Virgina. The statement shows the seven companies owning of 2,954,120 acres of gas territory in West Virginia, of which 26.57 per cent. are operated, and 20 small local intrastate natural gas companies owning a total of 27,619 acres in West Virginia, of which 62.65 per cent. are operated. The figures are as of August 19th, 1920, and based upon reports to the Board of Public Works of West Virginia.

Pages 1026 to 1027, 1028:

The Hope Natural Gas Company, the Reserve Gas Company, the Carnegie Natural Gas Company, the Pittsburgh and West Virginia Gas Company and the Manufacturers Light and Heat Company are engaged in and have production and pipe lines in Harrison County, but none of these companies serve the towns of Clarksburg, Shinnston, Lumberport, Bridgeport and Salem in said Harrison County. The total acreage of that County is 266,240 acres and the total acreage of gas territory held by the five companies is 171,996 acres. The total number of gas wells producing gas in that county and owned by these five companies is 1,674. There are 57 independent producers, owning 160 wells, who sell to these five companies. The extent of pipe line owned and operated by the five companies in this County is 1,157 miles, said pipe

line being two inches and larger. The total number of domestic consumers in Harrison County served by the five companies is between 800 and 900, and about 100,000 cubic feet of gas is furnished these consumers. No industries in Harrison County are supplied with natural gas by these companies. The Pittsburgh and West Virginia Gas Company supplies about 100 consumers in the town of Shinnston. Some of the companies furnish gas to local utilities that supply some of the above mentioned towns. The assessed value of the property of the five companies in Harrison County for the year 1920 is $13,915,199.

Pages 1027 to 1028:

The Hope Natural Gas Company, the Reserve Gas Company, the Carnegie Natural Gas Company and the Pittsburgh and West Virginia Gas Company are producing gas and have pipe lines in Lewis County, the acreage of said county being 251,520 acres and the population in 1920 being 20,455. The four gas companies control in that county 176,739 acres. The number of wells owned by the companies is 1,196 and they have purchased or are purchasing from 16 independent producers of gas owning 66 wells. The mileage of pipe line owned by said companies in Lewis County is 795 miles. The assessed value for their property for 1920 is $10,630,629. About 1200 domestic consumers are supplied with gas by these companies. These are chiefly rural consumers and rural communities, no incorporated cities or towns being supplied by any of the four companies. There is practically no service for industrial consumers in Lewis County.

J. S. LAKIN—DEFENDANT'S WITNESS.

Page 1188:

Q. It is at this point that I will ask you to make part of your examination the statement in respect to the Eastern Oil Company group of gas companies, heading that in proper form and letting it go into the record as part of your direct examination.

2589 *Statement Showing Leases, Wells, and Pipe Lines Within West Virginia of "Eastern Oil Company Group" of Natural Gas Companies.*

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
West Virginia Central Gas Company	34,067	161	260
West Virginia and Maryland Gas Company	None	None	220
Northern Natural Gas Company	None	None	10
Totals	34,067	161	490

Leases are located within the counties of Lewis, Harrison, Upshur, Barbour and Gilmer.

Gas wells are within the counties of Lewis, Harrison and Braxton.

The Eastern Oil Company also owns the following local gas companies operating within West Virginia. These companies are not connected with the company's general system.

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
Salem Natural Gas Company	386	6	57 miles, 1 to 8¼ "
West Union Gas Company	367	3	20 miles, 1 to 6¼ "
Glenville Natural Gas Company	200	1	17 miles, 1½ " to 5⅝ "

The Salem Natural Gas Company operates within the counties of Doddridge and Harrison; the West Union Gas Company within Doddridge County and the Glenville Natural Gas Company within Gilmer County.

EDWIN ROBINSON.

Pages 1389-1392:

Made an investigation and compilation of the acreage held by operators in West Virginia; separated the acreage held by operators in West Virginia other than the Hope Natural Gas Company, Pittsburgh & West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas & Electric Company, and The Manufacturers Light & Heat Company; gave the amount of developed acreage held by other operators in the State of West Virginia than those seven companies, and the amount of undeveloped acreage; made an estimate of the amount held by other operators not included in the list, which did not purport to include all, both of developed and undeveloped acreage; offered in evidence Pennsylvania Exhibit 54 at page 1608, Vo. II of Exhibits, statement showing approximate acreage held by certain companies and individuals in West Virginia, comprising ten pages; offered in evidence general summary of acreage held by operators in West Virginia as compared with testimony of Mr. Nease, page 1618 of Exhibits, Vol. I, as follows:

191 & 192 *General Summary of Acreage Held by Operators in West Virginia as Compared with Testimony of Mr. Nease.*

	Developed.	Undeveloped.	Total.
Testified by Nease as held by seven companies	689,305	1,866,720	2,556,025
Ascertained as held by other operators	524,007	1,416,659	1,940,666
Estimated held by operators not included in above	100,000	300,000	400,000
	1,313,312	3,583,379	4,896,691

Percentage Held by Operators Other Than the Seven Companies Without the Estimate of Those Unascertained.

Developed.	Undeveloped.	Total.
43.2	43.1	43.2

Percentage With the Estimate of Those Unascertained.

Developed.	Undeveloped.	Total.
47.5	47.9	47.9

Argued Dec 9

DEC 5 1921
WM. R. STANSBURY
CLERK

Supreme Court of the United States

OCTOBER TERM, 1921.

NUMBER 15, ORIGINAL.

THE STATE OF OHIO,
Complainant,

vs.

THE STATE OF WEST VIRGINIA,
Defendant.

BRIEF ON BEHALF OF COMPLAINANT.

JOHN G. PRICE,
Attorney General of Ohio.
E. E. CORN,
Special Counsel.

FREEMAN T. EAGLESON,
R. G. ALTIZER,
Of Counsel.

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INDEX.

Subject Index.

STATEMENT OF THE CASE 3
Text and analysis of the statute 4
Legal meaning and effect of the law 11
Analysis of the bill of complaint 13
Analysis of the answer 20
The evidence 23
General testimony relating to gas production 24
Gas development in West Virginia 30
The Manufacturers Light & Heat Company 39
The Hope Natural Gas Company 42
The River Gas Company 45
The East Ohio Gas Company 46
The Reserve Gas Company 49
The Union Natural Gas Corporation 53
The Northwestern Ohio Natural Gas Company 57
The United Fuel Gas Company 58
The Ohio Fuel Supply Company 66
The Union Gas and Electric Company 71
The Natural Gas Company of West Virginia 72
Is it not an unlawful monopoly of the gas supply in West Virginia? 73

Index.

There has been no discrimination against consumers in West Virginia 77
Volume of gas exported from West Virginia..... 86
Improper use of gas in West Virginia..... 92
Extent of the property rights which would be effected by the enforcement of this statute..... 95
West Virginia would take substantially all the gas under the act in question..... 97
The testimony shews that the effect of the enforcement of the statute in question would be as alleged in the bill of complaint of the state of Ohio. 102
There has been no discrimination against consumers in West Virginia 205
Present status of the available gas supply—decline and shortage 208

Note: By inadvertence omission of text occurred at page 77 which is inserted at end of brief under heading **"There has been no discrimination against consumers in West Virginia"** as pages 205 et seq.

Conclusion 108
LEGAL ARGUMENT 110
I. This case is properly brought in the original jurisdiction of this court..... 110
II. Natural gas is privately owned and is not the property of the state, which the state may refuse to permit to be transported outside the state 112
III. Natural gas when reduced to possession is a commodity which belongs to the owner of the land, and may be the subject of both intrastate and interstate commerce 120

Index.

IV. The act in question constitutes a regulation of interstate commerce 126

a. Purposes of the commerce clause.....126

b. Early judicial decisions interpreting the commerce clause 130

c. Development of the rule of Cooley vs. Port Wardens. Cases in which the power of Congress is exclusive.....135

d. Application of the rule that as to those subjects "which are of such a nature as to demand that if regulated at all, their regulation should be by a single authority," the power of congress is exclusive to the act in question 143

V. Even a police regulation must be absolutely impartial and not discriminate as between interstate and intrastate transactions.....149

VI. The statute of West Virginia discriminated against interstate commerce in natural gas....155

VII. The states have no right to define the subjects of interstate commerce, but that definition must be made by the court in accord with the general understanding of the commercial world..167

VIII. There is no public service duty owed to the consumers inside the State of West Virginia which justifies this legislation preventing or restricting the interstate transportation of gas.170

Index.

IX. Eminent Domain. The fact that the companies which transport gas in interstate commerce have exercised the right of eminent domain within the State of West Virginia will have accepted franchises or other privileges to which only public service corporations are entitled, does not amount to a dedication of their entire supply of gas to the use of the public inside the State of West Virginia.....178

X. Natural gas is interstate commerce if it is in the course of transportation to another state, although it is mingled with gas which is not intended to be transported out of the state.....181

XI. The act in question is void because it impairs the obligation of the contract in violation of Section 10 of Article 1 of the constitution of the United States 189

XII. The act in question is in violation of the 14th Amendment of the constitution of the United States in that it deprives the State of Ohio and many of its citizens and residents of property without due process of law.....193

XIII. The validity of the act must be determined from its language and its necessary operation and effect 196

XIV. Conclusion 201

Cases Cited.

Adams v. Kentucky, 214 U. S., 218.....169
Adirondack Ry. v. New York State, 176 U. S., 335..192
Atlantic C. Line v. Wharton, 207 U. S., 328.....176
Austin v. Tennessee, 179 U. S., 343.....129

Index.

Benedict v. Columbus Construction Company, 49 N. J. Eq., 23 125

Bethlehem Motors Corporation v. Flynt, Advance Opinions 1921, page 687, Supreme Court Reporter, July 1, 1921, page 571 198

Bowman v. R. Co., 125 U. S., 465 168

Brimmer v. Redman, 138 U. S., 78 152

Brown v. Houston, 114 U. S., 622 139

Brown v. Maryland, 12 Wheaton, 419 ..... 127, 132, 198

Brown v. Spillman, 155 U. S., 665, 669 114

Carnegie Natural Gas Co. v. Swiger, 72 W. Va., 557, 46 L. R. A. (N. S.), 1073 ..... 158, 179

Carter v. Tyler County Court, 45 W. Va., 806 114

Cleveland, etc., Ry. v. Illinois, 177 U. S., 514 176

Coe v. Errol, 116 U. S., 517 155

Cohen v. Virginia, 6 Wheaton, 264 143

Cook on the Commerce Clause, Section 61 154

Cook v. Marshall County, 196 U. S., 261 129

Cook v. Pennsylvania, 97 U. S., 574 128

Cooley on Constitutional Limitations, 7 ed., 858 125

Cooley v. Port Wardens, 12 Howard, 310 ..... 134, 144

County of Mobile v. Kimball, 102 U. S., 691, 697 138

Covington, etc., Bridge Co. v. Kentucky, 154 U. S., 204 ..... 135, 142, 149, 166

Darnell & Son v. Memphis, 208 U. S., 113 154

Dobbins v. Los Angeles, 195 U. S., 223 196

Eubank v. Richmond, 226 U. S., 137 196

Farnum v. Canal Corp., 1 Summ., 46, Fed. Cas. 4, 675. 191

Galveston, etc., Ry. Co. v. Texas, 210 U. S., 217, at 227 199

Geer v. Connecticut, 161 U. S., 519 112

Georgia v. Tennessee Copper Company, 206 U. S., 230 111

German Alliance Insurance Co. v. Lewis, 233 U. S., 389 174

Index.

Gibbons v. Ogden, 9 Wheaton, 1, 6 L. Ed., 23....127, 130
Gulf, Colorado & Sante Fe Ry. Co. v. Texas, 204 U. S., 403, (1907).....187
Guy v. Baltimore, 100 U. S., 434.....151
Hall v. DeGuir, 95 U. S., 485, 488.....138, 146
8 Harvard Law Review, 138.....194
Haskell v. Kansas Natural Gas Company, 224 U. S., 217 (1912).....122
Herndon v. Chicago, etc., Ry. 218 U. S., 135.....176
Holyoke Water Power Co. v. Connecticut River Co., 52 Conn., 570.....191
Hudson County Water Co. v. McCarter, 209 U. S., 349.....112, 117, 119, 190
Ill. C. Ry. v. Illinois, 163 U. S., 142.....176
Jamieson v. Indiana Natural Gas & Oil Co., 128 Ind., 555, 12 L. R. A., 652, 3 Inters. Com. Rep., 613, 28 N. E., 76.....121
Kansas City Railway Co. v. Kansas, 240 U. S., 227, at 231.....199
Kansas v. Colorado, 185 U. S., 125.....110
Kelly Axe Mfg. Co. v. United Fuel Gas Company, P. U. R. A., 289.....160
Landon, Receiver, v. Public Utilities Commission of Kansas, 242 Fed., 658.....123
LeHigh Valley Co. v. Pennsylvania, 145 U. S., 192...129
Leisy v. Hardin, 135 U. S., 100.....126, 140
Looney v. Crane, 245 U. S., 178, at 187.....199
L. S. & M. S. Ry. v. Ohio, 173 U. S., 285.....175
Long v. Michigan, 135 U. S., 161.....169
Manufacturers' Gas and Oil Co. v. Indiana Natural Gas & Oil Co., 155 Ind., 545, 53 L. R. A., 134, 58 N. E., 706, 21 Mor. Min. Rep., 102.....121
Miller v. State, 15 Wall., 478, at 498.....192
Minnesota v. Barber, 136 U. S., 313.....152

Index.

Minnesota Rate Cases, 230 U. S., 352, 57 L. Ed., 1511, 33 Sup. Ct., 729 141
Miss. R. Com. v. I. C. Ry., 203 U. S., 335 176
Mo. Pac. Ry. v. Kas., 216 U. S., 262 175
Munn v. Illinois, 94 U. S., 113 174
New York City v. Pine, 185 U. S., 93, 22 Sup. Ct., 592, 46 L. Ed., 820 194
New York v. Miln, 11 Peters, 102 132
Ohio Oil Company vs. Indiana, 177 U. S., 190, 208, 210 ..... 115, 121
Ohio R. R. Commission v. Worthington, 225 U. S., 101, 106, 108, (1912) 182
Passenger Cases, 7 Howard, 282 ..... 133, 143
Pennsylvania Gas Company v. Public Service Commission of New York, 252 U. S., 23 (1920) .. 123, 162, 185
People ex rel. Pennsylvania Gas Co. v. Saxe, 229 N. Y., 446 185
Pierce v. New Hampshire, 5 Howard, 504 133
Pine v. Mayor of City of New York, 103 Fed., 337 .191, 194
Prentice & Egan, on the Commerce Clause of the Federal Constitution, 195 125
Preston vs. White, 57 W. Va., 278 114
Public Utilities Commission vs. Landon, 249 U. S., 236 ..... 124, 185
R. R. Co. v. Commission of Wisconsin, 237 U. S., 220. .192
Railroad Company v. Husen, 95 U. S., 465, 469-470 ... 137
R. R. Commission of La. v. Texas and Pacific Ry. Co., 229 U. S., 336 (1913) 184, 185
Ratterman vs. Western Union Telegraph Co., 127 U. S., 411 185
Rearick v. Pennsylvania, 203 U. S., 507 186
Rutz. v. City of St. Louis (CC), 7 Fed., 438 191
Savage v. Jones, 225 U. S., 501 126
Snyder on Mines, Section 1170, p. 954 117

Index.

South Penn Oil Company vs. McIntire, 44 W. Va., 296 113
State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Min. Co., 12 Ind., 575, 6 L. R. A., 579, 2 Inters. Com. Rep., 758, 22 N. E., 778 121
St. Louis Street Ry. Co. v. Arkansas, 235 U. S., 350, 362 199
Swift & Co. v. United States, 196 U. S., 375 ..... 181, 187
Texas and N. O. R. R. v. Sabine Tram Co., 227 U. S., 111 (1913) 184
Thornton on Oil and Gas, Sections 18, 19, 20 117
U. S. v. Ames, 1 Woodb. & M., 76, Fed. Cas. 14, 441 191
Vandalia Coal Co. v. Commission, 268 Fed., 572 ..... 126, 171
Voight v. Wright, 141 U. S., 62 154
Walling v. Michigan, 116 U. S., 445 151
Ward v. Maryland, 12 Wallace, 418 149
Welton v. Missouri, 91 U. S., 275 ..... 136, 150
West vs. Kansas Natural Gas Co., 221 U. S., 229 ..... 117, 119, 121, 145, 155, 162, 173
Western Union Telegraph Co. v. Brown, 234 U. S., 542, 547 126
Western Union Telegraph Co. v. Foster, 247 U. S., 105 ..... 126, 186, 200
Western Union vs. James, 162 U. S., 650 140
Western Union Telegraph Co. v. Kansas, 216 U. S., 1 197
Western Union Telegraph Co. vs. Pendleton, 122 U. S., 347, 359 126
West Virginia Public Service Act, Sections 4, 5, 7 and 23 158
White on Mines and Mining Remedies, Section 162, p. 223 117
Williamson vs. Jones, 39 W. Va., 231; 43 W. Va., 562 112
Wilson vs. Youst, 43 W. Va., 826 113
Woodruf v. Parham, 75 U. S., 123 150

Supreme Court of the United States

OCTOBER TERM, 1921.

NUMBER 18, ORIGINAL.

THE STATE OF OHIO,

Complainant,

vs.

THE STATE OF WEST VIRGINIA,

Defendant.

STATEMENT OF THE CASE.

This is a suit in equity, in the original jurisdiction of this court, by the State of Ohio against the State of West Virginia. The complaint is directed, as appears from the bill, against the enforcement by the State of West Virginia, of an act passed by the legislature of that state on February 12, 1919, duly approved by the governor, to be effective May 10, 1919, a copy of which statute is attached to the bill, marked "Exhibit B."

TEXT AND ANALYSIS OF THE ACT.

"Section 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish natural gas for public use, or for use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this state, shall to the extent of his supply of said gas produced in this state, (whether produced by such person or by any other person), furnish for public use within the territory of this state, and for the use of the public and every part of the public within the territory of this state, in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this state, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates."

Section one of this act requires every person engaged in furnishing or required by law to furnish natural gas for the use of the public within the State of West Virginia, to furnish an adequate supply of gas for all purposes, whether domestic, industrial or otherwise, for which gas is consumed or desired to be consumed by the public or any part of the public, within the State of West Virginia, in the territory where the gas is produced or through which it is transported, or which is served by such person.

"Section 2. That in case any person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, or for the use of the public or any part of the public within this state, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this state served by such person, then and in that event the public service commission shall have authority, and the same is hereby conferred on it, upon the application of any such person or any of his consumers within this state and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such persons having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine

and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable rules and regulations and provision for the payment of the costs and expense of making the same or for the apportionment of such cost and expense as may appear just and reasonable. **Provided, however,** that no person shall, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time, have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this state; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing or required by law to furnish, natural gas for public use in a territory within this state, if any when the said person having said excess shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe shall actually furnish, to the consumers within said territory a reasonably adequate supply of natural gas."

Section two of the act provides that any person who is engaged in furnishing gas for public use within the state of West Virginia, and whose supply of gas is insufficient to fully supply the wants of consumers, for all purposes, whether domestic, industrial or otherwise, within the territory in the State of West Virginia served by such person, may make application to the Public Service Commission of that state for an order to require any other person engaged in furnishing or required by law to furnish gas for public use within the state and producing or furnishing gas for public use in the territory or trans-

porting the same through the territory served by the person having an insufficient supply of gas, to supply the deficiency of the person having such insufficient supply. The commission is given the power to fix just and reasonable terms, conditions and rates upon which the gas shall be so furnished as well as the amount of gas to be furnished. The Commission may require the necessary physical connections to be made and make provision for the apportionment of the expense of such connections. Section two contains a proviso that no person should be required to furnish gas to another person furnishing gas to the public, unless the first person shall have a supply in excess of the quantity sufficient to adequately supply his consumers within the State of West Virginia. It provides further that if the person having such excess shall be willing to furnish an adequate supply of gas directly to the consumers of the person having such deficiency, then such person having such excess shall be permitted to supply such consumers directly instead of supplying the persons having such insufficient supply for his consumers.

"Section three. That in so far as the same shall not be in conflict with this act, all of the authority, powers, jurisdiction and duties conferred and imposed on the public service commission by the act, entitled, 'An act to create a public service commission and to prescribe its powers and duties, and to prescribe penalties for the violations of the provisions of this act,' passed February twenty-first, one thousand nine hundred and thirteen, as amended by the act entitled, 'An act to amend and re-enact sections one, two, three, four, five, nine, ten, fourteen, fifteen and twenty-two, of chapter nine of the

acts of one thousand nine hundred and thirteen, creating a public service commission, prescribing its powers and duties, and penalties for violation of the provisions of said chapter, and to add thereto six sections to be known as sections twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, enlarging the powers and duties of said public service commission, prescribing additional penalties and giving to the commission power to punish for contempt,' passed February tenth, one thousand nine hundred and fifteen, are hereby conferred and imposed on the public service commission in respect to the subject matter of this act, or any part thereof."

Section three of the act gives the Public Service Commission of West Virginia all of the power and authority to enforce this act which it has under the general act creating it and prescribing its powers and duties, and the amendments thereto.

"Section four. That in case of violation of any provision of this act any person aggrieved or affected thereby may complain thereof to the public service commission in like manner, and thereupon such procedure shall be had, as is provided in respect to other complaints to or before said commission, and all such proceedings and remedies may be taken or had for the enforcement or review of the order or orders of said commission, and for the punishment of the violation of such order or orders, as are provided by law in respect to other orders of said commission. In case of the violation of any provision of this act, the public service commission, or any person aggrieved or affected by such violation, in his own name, may apply to any court of competent jurisdiction by a bill for injunction, petition or writ of mandamus or other appropriate action, suit or proceeding, to compel obedience to and compliance with

this act, or to prevent the violation of this act, or any provision thereof, pending the proceedings before said commission, and thereafter until final determination of any action, suit, or proceedings for the enforcement or review of the final order of said commission; and such court shall have jurisdiction to grant the appropriate order, judgment or decree in the premises."

Section four of the act gives to any person aggrieved by the violation of any provision of the act the right to complain to the Public Service Commission and to have such proceedings for enforcement of the order of the commission or review thereof as is provided by law with respect to other orders of said Commission. It further gives to the Public Service Commission or to any aggrieved person the right to apply to any court of competent jurisdiction for injunction, mandamus, or other appropriate remedy to compel compliance with the act, pending the proceedings before said Commission, and thereafter until final determination of any action, suit or proceeding for the enforcement or review of the final order of said Commission, and confers upon such court the jurisdiction to grant the appropriate judgment, order or decree in the premises.

"Section five. That if any person subject to the provisions of this act shall fail or refuse to comply with any requirement of the commission hereunder, such person shall be subject to a fine of not less than one hundred dollars nor more than five hundred dollars for each offense; and such person, or the officers of the corporation, where such person is a corporation, may be indicted for their failure to comply with any requirement of the commission under the provisions of this act, and upon conviction thereof, may

be fined not to exceed five hundred dollars, and in the discretion of the court, confined in jail not to exceed thirty days. Every day during which any person, or any officer, agent or employe of such person, shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation of such order or direction of this act, as the case may be."

Section five imposes a fine of not less than $100 nor more than $500 for each failure or refusal to comply with any requirement of the Commission under the act and provides for the indictment of the person, or of the officers of the corporation, if such person be a corporation, for failure to comply, and provides a fine of $500 and a jail sentence, not to exceed thirty days, which may be imposed in the discretion of the court. It further provides that every day during which any person or its officers or agents shall fail to comply with the provisions of the act or any order of the Commission made under the act shall be deemed a separate and distinct violation of the act.

"Section six. That any person claiming to be damaged by any violation of this act may bring suit in his own behalf for the recovery of the damage from the person or persons so violating the same in any circuit court having jurisdiction. In any such action the court may compel the attendance of the person or persons against whom said action is brought, or any officer, director, agent or employe of such person or persons, as a witness, and also require the production of all books, papers and documents which may be useful as evidence, and in the trial thereof such witness may be compelled to testify, but any such witness shall not be prosecuted for

any offense concerning which he is compelled hereunder to testify."

Section six gives to any person aggrieved by violation of the act the right to bring suit for damages in his own name in any circuit court of the state having jurisdiction. It further provides for the compulsory attendance of witnesses and the production of books and papers which may be useful as evidence.

"**Section seven.** That the word 'person' within the meaning of this act shall be construed to mean and to include, persons, firms, and corporations."

"**Section eight.** That the sections, provisions and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be, unconstitutional or for any reason invalid, or unenforceable, the remaining parts thereof shall be and remain in full force and effect.

"**Section nine.** That all acts and parts of acts in conflict with this act are hereby repealed."

Sections seven, eight and **nine** of the act require no comment at this point.

THE LEGAL MEANING AND EFFECT OF THE LAW.

We believe that the legal meaning and effect of this act is as follows:

First: It imposes an absolute duty upon any person furnishing gas or required by any law of West Virginia, whether statutory or common law, to furnish gas for

public use to devote his entire supply of gas to the satisfaction of the wants and desires of all persons within the territory of the State of West Virginia in which the gas is produced or through which it is transported, or which is being served by the person in question, before he will be permitted to furnish any gas whatever to any person outside of the boundaries of the State of West Virginia. His duties within the state are not to be limited to the persons or communities which he has held himself out to serve or which he has in fact been serving in the past, but are made by this act to include also all persons in the territory where the gas is produced or through which it is transported, even though the owner of the gas may never have served or held himself out to serve either of these classes of persons.

Second: It requires any person producing or transporting or furnishing natural gas and having a supply in excess of the quantity necessary to supply his consumers **inside the State of West Virginia**, even though his supply is inadequate or not more than adequate, to supply all of his consumers both inside and outside of the State of West Virginia, to make or submit to physical connection with the pipe lines of any other person engaged in supplying gas, in the territory in which the first person shall be producing or furnishing or transporting natural gas, and to furnish to such other person all of the gas which he may have in excess of the requirements of his consumers **inside the State of West Virginia**, if such other person shall require all of such excess in order to adequately supply his consumers **inside the State of West Virginia.**

Third: The act requires that all consumers, inside the State of West Virginia, shall be given a reasonably adequate supply of natural gas, **whether** for **domestic,** industrial, or other purposes, before any gas whatever is transported outside the State of West Virginia. The act is mandatory upon the person furnishing gas, and gives no discretion either to him or to the Public Service Commission or to any other authority which could permit the person furnishing gas to supply domestic consumers outside of the state if industrial consumers inside the state were desiring gas for their use. Likewise the act places all consumers inside the state, and also all persons not on the lines of the person furnishing gas, but being located inside the state, in a position of preference over all persons outside the state, even though the persons outside the state are domestic consumers only, and have long since been such consumers, on the lines of the persons who are furnishing gas to them.

THE BILL OF COMPLAINT.

The bill of complaint recites the character of the two states, as being states of the United States of America, and that the bill was filed by the attorney general of the complainant state, pursuant to the authority of a joint resolution of the legislature of the State of Ohio, and the written direction of the governor of that state. The complainant states then, in the first division of its bill, alleges facts which are in substance as follows:

That natural gas has been for more than twenty years last past, known to exist in large quantities, of great

value, in the State of West Virginia; that many persons, including many citizens and residents of the State of Ohio, have invested capital in West Virginia in drilling wells and establishing facilities for producing, transporting and marketing gas, said gas being found in thirty-four named counties of the State of West Virginia; that much of the gas development in West Virginia has been and is being done by Ohio citizens and corporations.

The second division of the bill alleges that many cities and industrial plants in West Virginia are connected by pipe lines with the gas supply of the wells in West Virginia, or are located near to said pipe lines, and that if a reasonably adequate supply of natural gas should be furnished to all persons so located within the State of West Virginia, for all purposes, whether industrial, domestic or otherwise, then, in that event, substantially if not entirely, all of the gas produced in West Virginia would be required to meet said demands in West Virginia, the result of which would be to deny natural gas to even the preferred or domestic consumers in Ohio.

The bill of complaint further alleges that, in the early stages of gas development in West Virginia, all of the demands of all consumers in West Virginia for all purposes, were met, and there was a surplus for transportation to the State of Ohio, but that now the consumption of and demand for natural gas in West Virginia has greatly increased, and that if the statute of West Virginia, thereafter complained of, should be enforced, the transportation of gas to Ohio even for use by domestic consumers would be cut off, and such transportation would be entirely prohibited.

The third division of the bill alleges that, for more than twenty years last past, large quantities of natural gas have been transported from the State of West Virginia into the State of Ohio, for use and consumption within said state; that in the early stages of natural gas development in West Virginia, there was a small demand for the same in the State of West Virginia, and that the Ohio municipalities of Cleveland, Cincinnati, Columbus, Dayton, Akron, Canton, Hamilton, Springfield, Youngstown and many others, have either constructed plants for the distribution of natural gas, or permitted such plants to be erected by private capital, at great expense, and are dependent upon natural gas for light, heat and fuel, and for other purposes.

The fourth division of the bill of complaint alleges that many corporations and companies, of which five are named, have, at the expense of many millions of dollars, laid large trunk lines for the transportation of gas from the gas fields of West Virginia to the said cities in Ohio, and that such transportation to and the distribution, sale and use of natural **gas** in the said cities in Ohio have been conducted for many years last past, under contracts then and still existing between the said companies on the one hand, and the State of Ohio and its municipalities on the other; that the State of Ohio, and its inhabitants in said municipalities and elsewhere, now rely almost wholly upon the use of natural gas for light, heat and fuel, and for other purposes; that the demand for such gas is growing, and that there is now, from time to time, a shortage of gas in said state, even when the use of it is limited to

domestic purposes; that all contracts in Ohio with consumers of natural gas provide for preference to domestic consumers, and for cutting off all other classes of users in case of a shortage of supply.

The fifth division of the bill of complaint avers and enarges that for many years gas has been extensively transported in interstate commerce through pipe lines in, through and among the Dominion of Canada, the states of New York, Pennsylvania, West Virginia, Ohio, Kentucky, Indiana, Illinois, Missouri, Kansas, Oklahoma, Texas, Arkansas, Louisiana and other states in the United States; that there are more than five thousand miles of main trunk lines laid and operated in said states and Canada; that the transportation of West Virginia gas by pipe lines has become a great industry, with millions of dollars invested therein; that natural gas is a well established and extensively transported article of interstate commerce.

The sixth division of the bill of complaint alleges that there are now in operation in the State of Ohio, and from Ohio into West Virginia, more than one thousand miles of connecting natural gas main pipe lines; that the property value of said pipe lines is at least twenty-five million dollars, and that more than half of said pipe lines were laid for the exclusive purpose of, and are now engaged in transporting and handling natural gas produced in the State of West Virginia.

The complainant further alleges, in the seventh division of its bill of complaint that it is the owner and proprietor of seventeen state institutions established for

penal, eleemosynary, educational and governmental purposes, within the State of Ohio, which are named in the bill; that said natural gas so transported from West Virginia and used as aforesaid is also used in municipal buildings and for municipal and street lighting in the counties, townships and municipalities of the State of Ohio; that all of said gas so used in said institutions, municipalities and buildings is supplied and used under existing contracts between the State of Ohio and the political subdivisions thereof respectively, on the one hand, and the producers and distributors of natural gas who bring the same from the State of West Virginia, on the other hand; that the State of Ohio has, at great expense, provided equipment for the use of natural gas, which would have a mere salvage value if said state should be unable to continue to secure a supply of natural gas from the State of West Virginia; that the great convenience and economy of this fuel have saved the State of Ohio thousands of dollars annually; that the use of natural gas has enabled the state to better care for its abnormal persons in its institutions; that the said state used, in its said public institutions, during the year ending June 30th, 1918, a total amount of three hundred sixty-nine million, three hundred eighty-nine thousand (369,389,00) cubic feet of natural gas, of which a large proportion was obtained from the State of West Virginia; that if the said state should be deprived of its supply from the State of West Virginia, the volume and pressure of its gas supply would be insufficient for any practical use; that the citizens and residents of Ohio and other states have invested

in the natural gas business in the State of Ohio, approximately one hundred and fifty million dollars, from which investment the State of Ohio and its subdivisions receive in taxes annually large sums of money; that many citizens and residents of the State of Ohio have become bound by contracts to furnish natural gas, whose only source of natural gas supply for the fulfillment of which contracts, is from the State of West Virginia.

The eighth division of the bill of complaint alleges that the legislature of the State of West Virginia passed, on February 12th, 1919, an act, the title of which is quoted in the bill, and a copy of the full text of which act is attached to the bill, marked "Exhibit B," and made a part of the bill. The alleged substance of the act is set forth in the bill, as is also its alleged purposes, and it is alleged to be illegal and void because it offends against, and is in contravention of Clause 3 of Section 8 of Article 1 of the Constitution of the United States, and of the fourteenth amendment of the Constitution of the United States, and of Section 10 of Article 1 of the Constitution of the United States.

The ninth division of the bill avers that it is the effect and purpose of the statute complained of to require persons producing and transporting natural gas in West Virginia to devote their entire supply to the needs of consumers inside the said state, and to wholly prevent the exportation of natural gas from said state.

The tenth division of the bill alleges that the enforcement of the act would cause to the complainant state great and irreparable pecuniary loss and injury, and

would deprive more than four millions of people, being citizens and residents of the State of Ohio, of their natural gas supply, and would deprive the State of Ohio of its large income from the taxes upon gas property, and would destroy or impair the value of the property of many persons and corporations, residents of the State of Ohio, to the extent of many millions of dollars.

The bill of complaint then charges that the act of West Virginia complained of is void because it would prevent the transportation of gas in interstate commerce from West Virginia into Ohio, which the State of West Virginia is not legally empowered to do, such power being lodged in the government of the United States, and not elsewhere; and that the enforcement of the statute would cause great and irreparable injury to the rights and property of the complainant state and its citizens and residents, for which it or they would have no adequate remedy at law.

The bill of complaint then proceeds as follows:

> "In consideration whereof, and for as much as your orator and its citizens and residents, who except through representation by your orator, have no remedy and can only have adequate relief in this honorable court, your orator on its own behalf and also as the **parens patriae**, trustee, guardian and representative of that great proportion of its citizens, who are directly affected by the provisions of said law, as aforesaid, prays this honorable court to take cognizance of the several charges set forth in the premises."

The complainant then prays that the State of West Virginia be made defendant and may be compelled to

answer each and every allegation therein contained, but waiving the answer under oath; that it be adjudged and decreed that the said act or law of the State of West Virginia is illegal and void because it conflicts with and contravenes those provisions of the Constitution of the United States named in the eighth division of the bill; that it be adjudged and decreed that neither the complainant state nor its citizens and residents have an adequate remedy at law for the injury which would result from the enforcement of said act, and that such injury would be irreparable.

The complainant further prays that the defendant may be restrained by a writ of perpetual injunction, issuing out of and under the seal of this honorable court, from in any way interfering with the transportation of natural gas from and out of the State of West Virginia, for use in the State of Ohio by said state, or any of its citizens or residents, under the authority of the said act, or any act, law or statute of the State of West Virginia, or under any pretended common law right, rule of action or unwritten law of the State of West Virginia. The complainant then prays for a provisional or preliminary injunction, and formally concludes its bill.

THE ANSWER.

The State of West Virginia in its answer substantially admits all of the material allegations of the bill of complaint as to the external, physical facts. The denials contained in the answer go principally to conclusions or statements of law contained in the bill of complaint, to-

gether with the formal denial for lack of information, as to certain matters which pertain particularly to internal conditions within the State of Ohio. The answer purports to set forth some of the alleged evils sought to be remedied by the act in question which are in substance these: That West Virginia has a large production of natural gas; that a large proportion of its production is being transported out of the state, and that there is, in many communities inside the state, a shortage of gas supply, especially in winter weather. It further alleges that the gas fields and facilities in West Virginia have largely fallen into the hands of seven named corporations which have a virtual monopoly of the business of producing and transporting gas in West Virginia; that these corporations are public service companies, and have acted as such, except in so far as they have failed and refused to furnish to the public in West Virginia within the range of their pipe lines a reasonably adequate supply of gas.

The answer states that there was, at the time when the lines and facilities for the transportation of gas from West Virginia were established, a large surplus of gas beyond the demands of consumers in West Virginia, but that this condition is no longer true, and that at the present time the transportation of gas from the state makes inadequate the supply within the state.

The answer further alleges that the seven companies base their refusal to furnish additional gas within the state upon the fact that they have duties to consumers in other states, arising out of contracts or out of their duties as public utilities in such other states, while the State

of West Virginia claims that the seven companies owe a duty to furnish gas to all consumers, present and prospective, inside the state in priority to consumers of any class outside the state. This contention of the State of West Virginia appears in paragraph VI, page 30, of its answer, where this language is used:

> "On the one hand it was insisted by said state and its people that they were entitled to a reasonably adequate gas supply to the extent, for the purposes and by the means later specified in and by the statute complained of in said bill of complaint, and that the duty of furnishing such supply rested on said seven companies as well as the other public service gas companies of West Virginia."

It appears again in paragraph X, on page 36 of the defendant's answer, where this language is used:

> "While this defendant admits that gas is or may be an article of interstate commerce, yet this defendant denies that gas placed in mains or pipes by public service gas companies, is either in interstate commerce or a legitimate article of interstate commerce, unless and until it has reached the point where it is no longer subject to the public service in West Virginia, and the duties imposed by law upon public service gas companies have been observed and performed by them; and denies that the requirement of the performance or observance of the duties owed by such companies is an interference with interstate commerce or a burden thereon."

The [illegible]r then states that this issue between the said seven companies on the one hand and the State of West Virginia and its citizens on the other hand, gave rise to the legislation in question in this litigation. It admits that the consequences of the enforcement of the statute

in question will be as alleged in the bill of complaint, but denies that the consequences will be of such extent as alleged in the bill. It states that the State of Ohio may obviate to a certain extent the consequences of the legislation by

> "The contraction by internal regulation by the State of Ohio of the territorial scope of service or distribution and of the number of its consumers."

and says that such remedy must also ultimately be applied in West Virginia. It admits that the inconveniences, losses and other consequences would result to the State of Ohio as alleged in the bill, but alleges that similar consequences will result in West Virginia, unless the statute is upheld. The answer then alleges the constitutionality and legal validity of the statute and denies that it would, **except indirectly or incidentally,** prevent the transportation of gas in interstate commerce.

THE TAKING OF THE PROOFS.

This court, on April 20, 1920, made an order granting motions to consolidate cases numbers 23 and 24, original, October Term, 1919, being the cases of The Commonwealth of Pennsylvania, complainant, vs. The State of West Virginia, and The State of Ohio, complainant, vs. The State of West Virginia, "for the purpose of taking the proofs." The court further appointed Levi P. Cooke, Esq., of the District of Columbia, as a commissioner to take and return the testimony in these cases, with the powers of a Master in Chancery, as provided by the rules of this court, but the court ordered that said Commis-

sioner should not make any findings of fact or state any conclusions of law. The order of the court further fixed the time for the taking of the testimony.

The hearings commenced on May 11th, 1920, and continued from time to time until April 26th, 1921. Hearings were held in Pittsburgh, Pennsylvania; Columbus Ohio; Charleston, West Virginia, and Clarksburg, West Virginia. The testimony taken, and the exhibits offered comprise over 2,000 printed pages. **Notwithstanding this large amount of testimony, there is practically no conflict in the evidence upon any material point in the case, and hence a long and detailed discussion of the proof would be needlessly burdensome to the court.** We present therefore, as brief a statement as possible of the facts as shown by the proofs, or admitted by the pleadings, with citations to the pages of the record, for the purpose of verification.

GENERAL TESTIMONY RELATING TO GAS PRODUCTION.

Natural gas is not found in rooms or open cavities under the earth's surface, but in the minute spaces between the grains of sand which make up sand rock. This substance is called by the profession "gas sand," but is, in fact, sand rock. There is no regeneration of natural gas in the sands from which it has been removed. (Wyo 869,909).

There is no reliable method of determining the existence of natural gas under the earth's surface except by puncturing the earth down to the location of the gas sand

that is, by drilling a gas well. (Quay 10, Sullivan 196, Wyer 868). This fact makes the business of finding and producing natural gas an extremely hazardous venture. (Quary 10). Natural gas exists in the sands originally at a high pressure known as the rock pressure. This pressure varies for different wells and for different areas, and has no particular relation to the volume of gas that will flow from a well. (Wyer, page 869). This rock pressure, however, is the force by which gas is, in the first instance, severed from the soil. This process of severance is shown by Pennsylvania Exhibit 36, record, page 1578, copy of which we insert next following this page, and which exhibit is explained by the witness, Wyer, in his testimony (Record, pages 870, 871).

PENNSYLVANIA EXHIBIT 36.

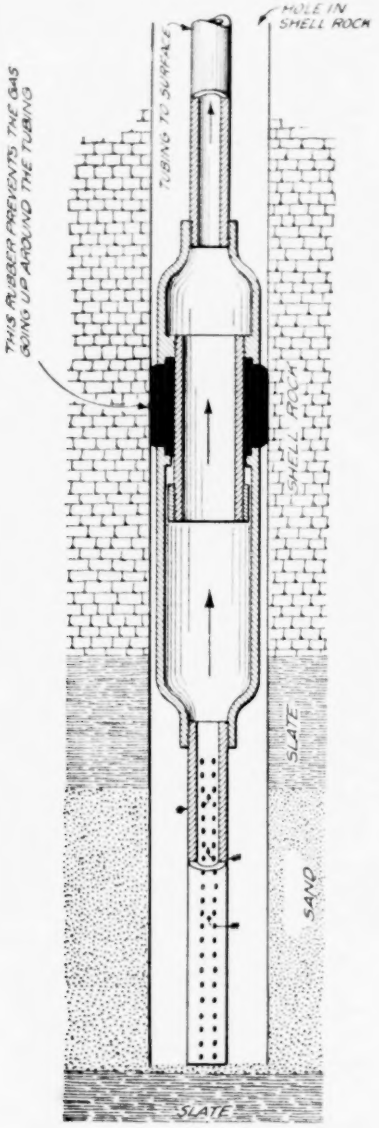
Offered at p. 870 of Printed Record by Witness Wyer.

How Natural Gas is Severed from the Soil, Brought under Control, and Delivered Into a Fixed Closed Container.

HOW NATURAL GAS IS SEVERED F
AND DELIVERED INTO

FIRST STEP

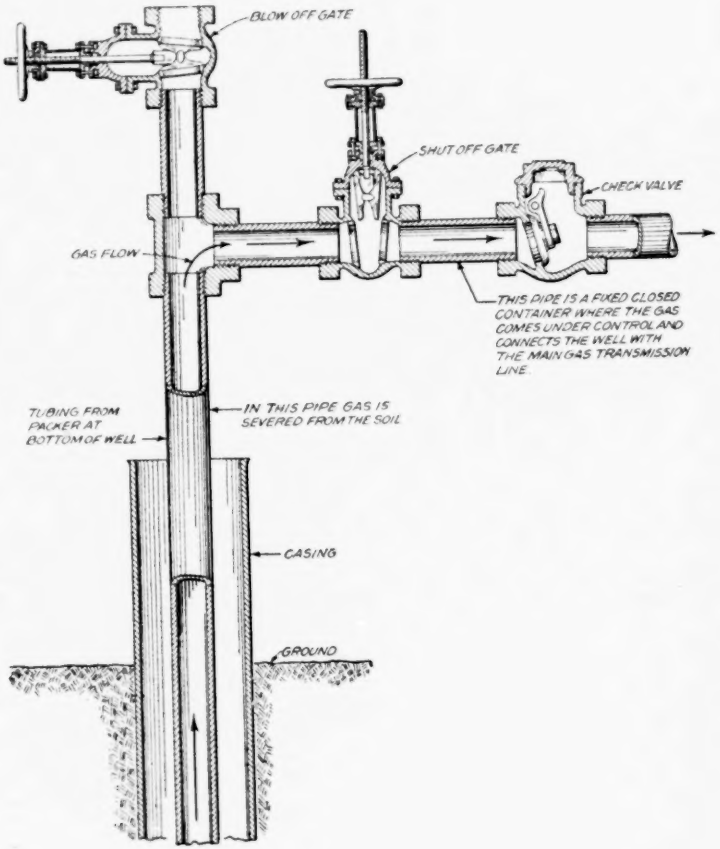
Well packer at bottom of well—usually about ½ mile below the earth's surface—where the gas is separated from the ground, is forced into the tubing, and then comes to the surface.



THE SOIL, BROUGHT UNDER CONTROL,
IXED CLOSED CONTAINER

FINAL STEP

Well fittings above ground where the gas from the packer below as it flows up through the tubing comes under control and is delivered into the well discharge line which is a fixed closed container.



This exhibit and its explanation show that the process of severing natural gas from the soil and of placing it in a closed container, requires only the provision of the necessary mechanical equipment for catching the gas as it is forced by the rock pressure out of the earth through the well or aperture, and the keeping of the pressure of the pipe or container into which it flows, lower than the rock pressure which is forcing the gas out of the well. This natural or rock pressure declines as the gas is removed from the natural reservoir. (Wyer, p. 873). It thus gradually becomes so low that it is insufficient to cause the gas to flow for any considerable distance in the direction of the place of its ultimate use. Sufficient pressure then must be restored to give the gas a tendency to flow, so that it will reach its destination. This pressure is artificially supplied by natural gas compressors, the function of which is to re-compress the gas and thus supplement the declining natural rock pressure. These compressors have been in use for more than thirty years. Pennsylvania Exhibit No. 38, record, p. 1580, which is inserted next following this page, is a diagram of a natural gas compressor, prepared by the witness, Wyer, and explained by the witness on page 874 of the record.

PENNSYLVANIA EXHIBIT 38.

Offered at p. 874 of Printed Record by Witness Wyer.

Diagram Showing Action of Natural Gas Compressors as Used For Compressing Gas Through the Transmission Lines.

The action of a gas compressor is illustrated in the diagram below, where A is a reciprocating piston working in cylinder B. C and D are inlet valves to the cylinder, and E and F are discharge valves to the cylinder, drawn to their seats by the springs K K. All the gas wells are connected to the intake side of a compressor so that the pressure from the wells drives the gas to the compressor. As the piston moves in the direction of the arrow the inlet valve C is opened by the higher pressure of the gas in the intake G, and the gas then rushes from G through C into the space H. As the piston moves toward the end of its stroke the gas in space I is forced out into the discharge line J through the discharge valve E. When the piston A reaches the end of its stroke the spring K closes the valve C and on its return stroke the piston A compresses the gas in H until the pressure is great enough to open the discharge valve F and thereby drive the gas out into the discharge line J.

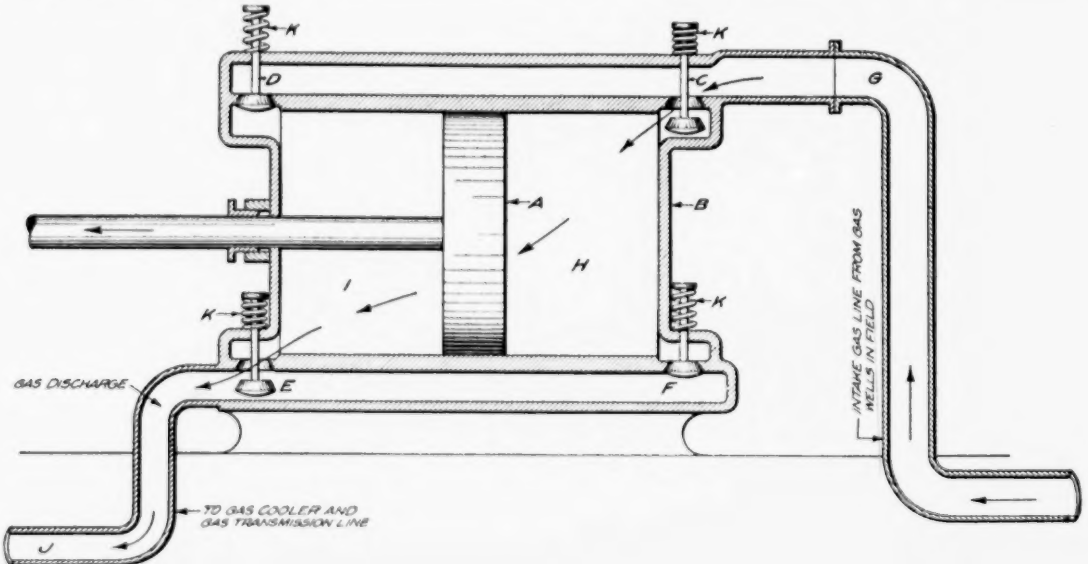


DIAGRAM SHOWING ACTION OF NATURAL GAS COMPRESSOR AS USED FOR COMPRESSING GAS FOR TRANSMISSION THROUGH LINES

This exhibit and explanation show simply a machine by which the gas is taken in through valves on the low pressure side of the machine, compressed by pistons and sent out at a higher pressure through a valve on the opposite side of the machine. It would be impracticable to market natural gas at any considerable distance from the point of its production without the use of a compressing device. (Record, p. 875.) Some of these compressor stations located in West Virginia have thousands of horsepower which impart the supplemental energy which transmits the gas through West Virginia and thence throughout all the journey to the house fixtures of consumers located in municipalities in Pennsylvania and Ohio. In some instances, for instance, where West Virginia gas is transmitted through West Virginia and Ohio to cities in Indiana, additional compressing stations are necessary to impart the required pressure for the ultimate delivery.

The gas producing territory involved in this action lies within the area known as the Appalachian field, which, in a general sense, includes Pennsylvania, Ohio, West Virginia, Kentucky and Indiana. (Record, page 60). It was first discovered in this field, not by persons searching for it, but by persons drilling for oil, who, upon puncturing the earth, found a deposit of gas instead of the oil for which they were drilling. It was considered a hindrance and annoyance, as well as a source of considerable danger to oil operators, when they found it. Their practice was to conduct it through pipes to a safe distance and there ignite it and permit it to burn in the open.

Later, it was used by persons near the wells, they burning it in ·le burners. The supply was thought to be inexhaustible and the gas was grossly wasted. However, it soon became apparent that the supply of gas was being depleted, and meters were installed, over the consumers' protest; also better types of burners were invented, which effected a saving of gas and increased its efficiency. (Quay, pages 18, 19.)

GAS DEVELOPMENT IN WEST VIRGINIA.

The production of gas in the State of West Virginia originated in substantially the same way; that is, as a by-product accidentally discovered in the search for oil. The South Penn Oil Company was the pioneer operator for oil in West Virginia. Many of the wells which it drilled produced gas instead of oil. It endeavored to find a market for this gas in West Virginia, and its owners formed a corporation, called The Flaggy Meadow Gas Company, to take this gas and supply it to the then small West Virginia towns. Later, the same owners, still having a large surplus of gas, formed another corporation, known as the Mountain State Gas Company, for the purpose of carrying the gas to the river towns, such as Sistersville and Parkersburg. The amount of gas produced by these companies was, however, so large and was accumulating so fast, that these outlets for it were entirely insufficient, and hence further provision had to be made for a more distant market. In the meantime, before these outside markets were established, billions of cubic feet of gas were blown into the air and wasted because there was no

market for the gas and no facilities for reaching a market. (Record, p. 331). The logical places for such market were the towns in the States of Ohio and Pennsylvania which were closest to this source of production. In 1898 The Hope Natural Gas Company, now one of the largest producers and transporters of natural gas, was formed for the purpose of taking over the gas wells and gas territory of the South Penn Oil Company and marketing that gas through a pipe line to be laid from West Virginia fields to cities in Ohio.

Later, The Reserve Gas Company was formed for the purpose of producing gas and transporting it to the Ohio river, from whence it would be taken through two lines to Sugar Grove, Ohio, from which place it could be distributed to its ultimate destination, in the State of Ohio. The Connecting Gas Company was formed by the same interests who formed the Reserve Gas Company, solely for the purpose of transporting this gas from the Ohio river to Sugar Grove, Fairfield County, Ohio. This entire plan was carried out and has been for years in operation.

The formation of these companies is described in the testimony of the witness, Corrin,, record, pages 322, 323, 324, 325. They were formed for the purpose of making it possible to save and utilize the natural gas which would otherwise have been wasted because there was no demand for it in the vicinity of its production.

> "Every town that they could get in West Virginia was being supplied. They were supplying all the industries that there were to be supplied, and these wells were being drilled continuously in a search

for oil and were either being shut in or being abandoned, and that was the only way they had to dispose of this gas—was to look for some market outside of the state, which they did." Corrin, page 331.

After these lines were established and the value of the gas for light, heat and fuel, as well as the opportunity to place it at the disposal of a consumer who desired it, was assured, wells were drilled for the sole purpose of discovering and producing gas, instead of, as originally, being drilled merely for the production of oil, and incidentally producing gas.

After referring to the pioneer operations in West Virginia by outside capital, above referred to, the witness, on page 333 of the record, states:

> "They certainly were the pioneers, there is no question about it; and if it hadn't been for these companies, or companies similar to them, with a good backing of capital, why, I don't think that West Virginia would have been advanced to where it is today. In fact, I think they are responsible for the advancement of West Virginia twenty-five years. As a sample of that, when I first started to work for the South Penn Oil Company, over 90 per cent. of the land, the titles to which were examined, had liens of some kind against it. Today there isn't 1 per cent. in the oil and gas counties."

Many other companies secured gas territory in West Virginia and constructed great pipe line systems to market gas in Ohio, as hereinafter described.

The supply of gas was adequate, both for consumption inside the State of West Virginia and for transportation to other states, until during the time of the world war in

1917 and 1918. (Record, pages 331 and 334). By reason of the vast demand for gas for industrial consumption, which occurred as a result of the war, and which drew upon the lines of the gas companies during the summer as heavily as, or more heavily than during the winter, the gas companies had no opportunity to rest their wells or to accumulate a surplus of gas, as they had been in the habit of doing, in accord with good practice, under normal conditions. The federal government, through the fuel administration, gave orders to the gas companies to supply essential industrial plants with all the gas possible. Wells were drilled and turned into lines which, under normal conditions, would have been held in reserve, to assure a future supply. (Record, pages 333, 334). The supply of gas has never been adequate for all purposes, during the periods of maximum demand, since that time.

The relation of the gas producing companies to the land from which the gas is produced, and the method of establishing that relation, is usually, substantially, as follows: The gas company determines that certain land is worthy of consideration as possible gas producing land. Men from the leasing department of the company are sent to the owners of the land to secure, if possible, leases upon these lands, granting to the gas company the right to enter upon the land and drill a well for oil or gas, and reduce the same to possession, if discovered. The consideration for this lease is usually the payment of a certain sum, ordinarily one dollar per acre per year from a date designated in the lease, until such time as a well is

completed upon the lands. If a well producing either oil or gas is found upon the lands, then the payment of said amount ceases, and the gas company pays a royalty upon the production from the premises instead. This royalty is generally one-eighth of the oil produced, or a given amount, usually two or three hundred dollars per year, for a producing gas well. It is sound business policy, of course, for a company which is about to hazard its money in the drilling of a well, to secure leases upon a considerable amount of contiguous territory, so that a well, if found, would be protected from drainage, by a competitor, through other lands not within the control of the company. (Record, p. 23, Quay.)

The amount of money spent by the producing gas companies annually, in payment of bonuses at the time when these leases are originally secured, and in payment of rentals during the time when the leases are held for the purpose of protecting wells and providing a sufficient reserve acreage for the future production of the company, and in payment of the expense of drilling wells to test this territory, is a vast amount for each of the larger companies, amounting to many millions of dollars. (Quay, 24,25). If gas is discovered upon leased lands, then it becomes necessary to secure rights of way across the lands intervening between the well and the point at which the gas will be consumed. This is ordinarily done by agreement with the owners of that land upon the payment of an agreed sum. (Quay, 24).

A diagram illustrating all of the typical processes of gas production, transportation, distribution and consumption was introduced in evidence by the witness Wyer, page 871 of the printed record as Pennsylvania Exhibit 37. (Record, p. 1579). We insert a copy of that exhibit herein, to avoid an extended discussion of this process.

PENNSYLVANIA EXHIBIT 37.

Offered at p. 871 of Printed Record by Witness Wyer.

How Natural Gas from West Virginia is Transmitted to the Consumer in Another State.

HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMER IN ANOTHER STATE

Gas Well

Sand & Slate

Slate

Berea Grit

Slate

Lime

Gas Sand

300 LBS

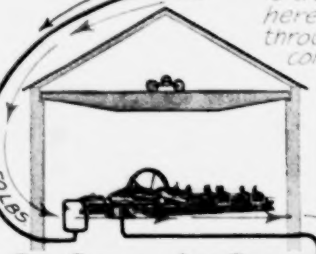
WEST VIRGINIA

Gas Well Drilling Rig

At each well, natural gas comes to the surface - by its own inherent tendency to expand - from the underground reservoir, forces itself into the transmission line, which is a fixed closed container, is severed from the soil and put under control

Gas Measuring Station in Field

From wells natural gas is transmitted - by its own inherent tendency to expand - through pipes to many ultimate consumers in another state



50 LBS

Gas Compressing Station

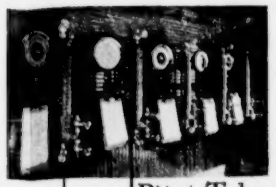
As the gas travels through the transmission lines the pressure must drop. This necessitates the installation of gas compressors to recompress the gas - increasing thereby its pressure - so that it will continue to travel through the transmission lines.

300 LBS

Gas Cooling Basin

STATE LINE

Gas Transmission Line



Pitot Tube Gas Measuring Station at Gates of Town

Medium Pressure Regulator

20 LBS

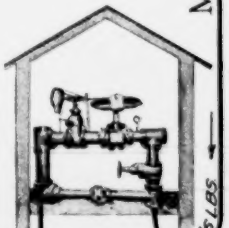
100 LBS

4 OZ

Service Line

Service Cock and Box

Low Pressure Gas Line



Low Pressure Regulator

15 LBS

Medium Pressure Gas Line in Town Distributing System

Gas Meter

It is not feasible commercially to store natural gas in tanks or holders, but it must be transmitted to the points of consumption where the consumers use it and be held back in the wells during the warm weather when there is a less demand for it. (Sullivan, 202).

A NATURAL GAS PLANT IS DESIGNED AND BUILT FOR SPECIFIC PURPOSE.

Sullivan (The Hope Natural Gas Company), Record, pp. 204 and 214:

> "Every natural gas plant is designed and built for some specific purpose, with a view to taking gas from some certain field, transporting it and delivering it to some certain market; and the installation of the compressing stations, the size of the lines, the size of the compressing stations, their location—all of those things are carefully studied out and planned before the plant is built. The compressing stations are installed where it may be considered is the most favorable location to take the gas from certain territory—or from wells located in certain territory, and deliver it into the lines leading to the market. This is all definitely planned and fixed with most every gas company when the project of installing it is being considered and thought out. It is built for a certain specific purpose. Of course, later on, depending on conditions, additions and changes may be made from the original plan, but it is originally planned for a certain definite purpose."

CASE INVOLVES FOUR INTER-STATE OPERATING SYSTEMS.

The record discloses that there are four large and distinct gas producing, transporting and distributing systems in this case. The names of the principal separate companies composing each system are as follows:

1. The Manufacturers Light and Heat Company, located in the northern part of West Virginia, the southeastern part of Ohio and the southwestern part of Pennsylvania.

2. West of the first mentioned system is that composed of The Hope Natural Gas Company and The East Ohio Gas Company. The River Gas Company, an interstate company, is a part of this system.

3. West of the second mentioned system is that composed of The Reserve Gas Company, The Connecting Gas Company, The Union Natural Gas Corporation and The Northwestern Ohio Natural Gas Company.

4. West of the third mentioned system is that composed of The United Fuel Gas Company, operating in the middle and western part of West Virginia, eastern Kentucky and southern Ohio. The Ohio Fuel Supply Company, The Columbia Gas and Electric Company and The Union Gas and Electric Company. The Point Pleasant Gas Company, an interstate company, owned by The Ohio Fuel Supply Company, is also part of this system.

A brief description of the above mentioned companies, with copies of exhibit maps, showing their position and function in each of said four systems, is as follows:

THE MANUFACTURERS LIGHT & HEAT COMPANY

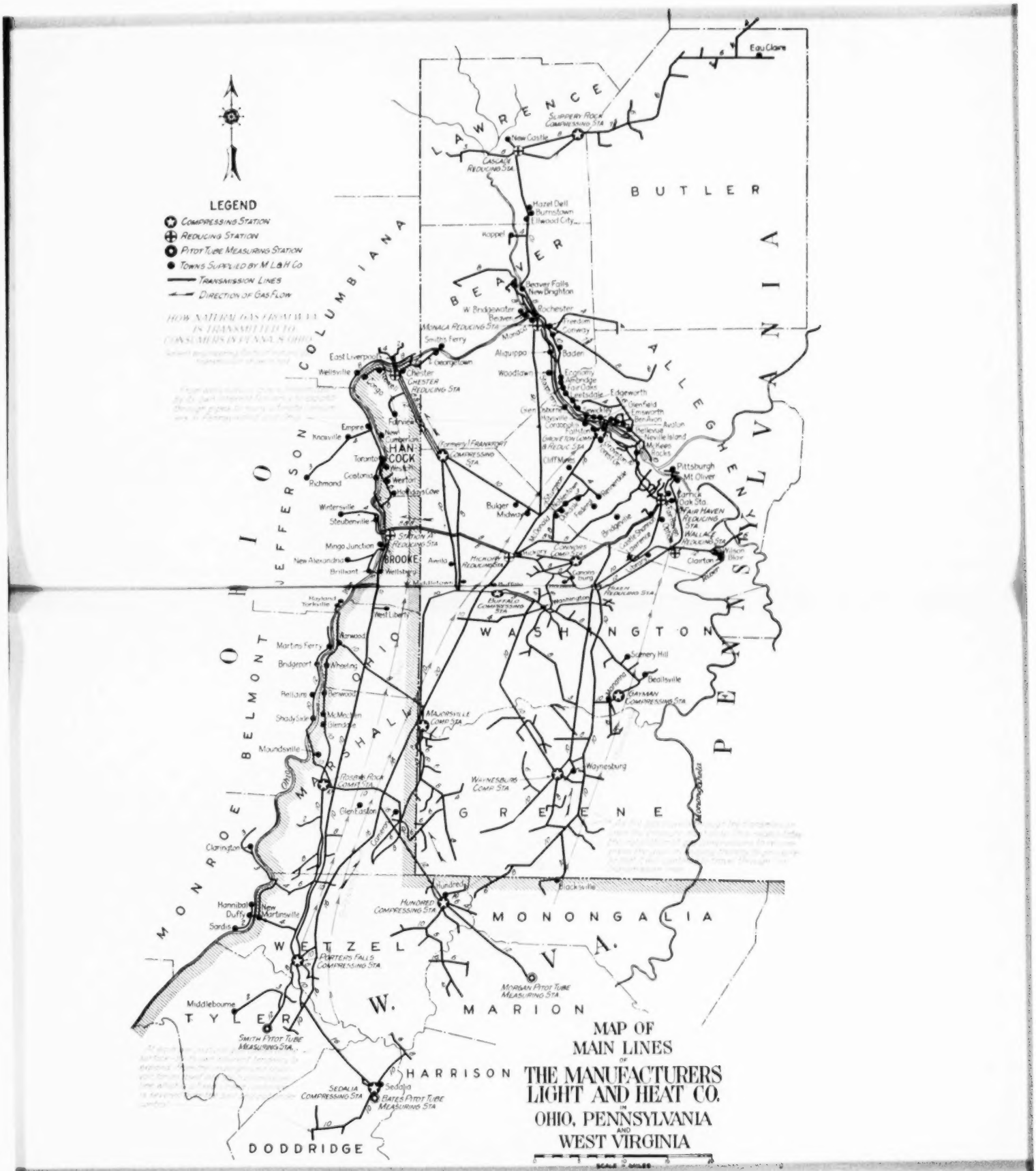
The Manufacturers Light & Heat Company has a system of gas pipe lines covering the western portion of the State of Pennsylvania and northern portion of the State of West Virginia, and a number of towns along the eastern boundary of the State of Ohio. A detailed statement of the affairs of this company is given in the testimony of Mr. Quay, the general manager of the company. His testimony appears in the record, beginning on page 4. This company has under lease in West Virginia approximately 170,000 acres, in Pennsylvania approximately 180,000 acres, and in Ohio approximately 15,000 acres. (Record, page 5). It has 457 gas wells in West Virginia, 700 in Pennsylvania and 10 in Ohio (Record, page 6). It produced in the State of West Virginia in the year 1919 approximately 5,700,000,000 cubic feet of gas, in Pennsylvania approximately 6,500,000,000 cubic feet, and in Ohio approximately 300,000,000 cubic feet. It purchased in the State of West Virginia, in the year 1919, approximately 13,500,000,000 cubic feet of gas, in Pennsylvania approximately 900,000,000 cubic feet, in Ohio approximately 100,000,000 cubic feet. The major portion of the gas purchased by this company was secured from The Hope Natural Gas Company, a large producer in the State of West Virginia, which company is hereinafter discussed in detail. (Record, p. 7).

This company has in West Virginia approximately 11,000 consumers, in Pennsylvania approximately 75,000 and in Ohio approximately 26,000. A map showing the lines of this company was introduced in evidence, at page 876 of the record, by the witness Wyer, being Pennsylvania Exhibit 39e, appearing in the record at page 1585, is here inserted.

PENNSYLVANIA EXHIBIT 39 E.

Offered at p. 876 of Printed Record by Witness Wyer.

Manufacturers Light & Heat Company Map.


LEGEND
COMPRESSING STATION
REDUCING STATION
PITOT TUBE MEASURING STATION
TOWNS SUPPLIED BY M.L.&H.CO.
TRANSMISSION LINES
DIRECTION OF GAS FLOW
HOW NATURAL GAS FROM WELLS IS TRANSMITTED TO CONSUMERS IN PENNA. OHIO
LAWRENCE
BUTLER
BEAVER
ALLEGHENY
COLUMBIANA
JEFFERSON
BELMONT
MONROE
WASHINGTON
GREENE
MONONGALIA
MARION
WETZEL
TYLER
HARRISON
DODDRIDGE
OHIO
MARSHALL
PENNSYLVANIA
W. VA.
Erie
Crawford
Mercer
Venango
Forest
Clarion
Jefferson
Cambria
Somerset
Fayette
Westmoreland
Indiana
Armstrong
Butler
Lawrence
Beaver
Allegheny
Washington
Greene
Monongalia
Marion
Harrison
Doddridge
Wetzel
Tyler
Monroe
Belmont
Jefferson
Columbiana
Ohio
Marshall
Brooke
Hancock
Eau Claire
Slippery Rock Compressing Sta
New Castle
Cascade Reducing Sta
Hazel Dell
Burnstown
Ellwood City
Koppel
Beaver Falls
New Brighton
W. Bridgewater
Rochester
Monaca Reducing Sta
Freedom
Conway
Smiths Ferry
East Liverpool
Georgetown
Wellsville
Chester
Chester Reducing Sta
Aliquippa
Baden
Woodlawn
Economy
Ambridge
Edgeworth
Glenfield
Emsworth
Ben Avon
Avalon
Bellevue
Neville Island
Mc Kees Rocks
Pittsburgh
Mt Oliver
Carnegie
Oak Sta
Fairview
New Cumberland
Empire
Knoxville
Toronto
Weirton
Follansbee
Cove
Richmond
Costonia
Wintersville
Steubenville
Mingo Junction
New Alexandria
Brilliant
Wellsburg
Follansbee
Cumberland Frankfort Compressing Sta
Cliff Mines
Bulger
Midway
Station 21 Reducing Sta
Avella
Midland Reducing Sta
Cannonsburg
Buffalo
Buffalo Compressing Sta
Washington
Fredericktown Reducing Sta
Maryland
Yorkville
West Liberty
Martins Ferry
Bridgeport
Wheeling
Benwood
Bellaire
Shadyside
Mc Mechen
Glendale
Moundsville
Majorsville Comp Sta
Pigeon Run Comp Sta
Glen Easton
Claington
Hannibal
Duffy
New Martinsville
Sardis
Porters Falls Compressing Sta
Middlebourne
Smith Pitot Tube Measuring Sta
Sedalia
Sedalia Compressing Sta
Bates Pitot Tube Measuring Sta
Waynesburg Comp Sta
Waynesburg
Hundred
Hundred Compressing Sta
Blacksville
Morgan Pitot Tube Measuring Sta
Summery Hill
Bealtsville
Dayman Compressing Sta
Clairton
Wilson Boyer
Wall Reducing Sta
Fair Haven Reducing Sta
Cannonsburg
Bridgeville
Upper Strabane
Lower Strabane
Peters
Finleyville
Jefferson
Coraopolis
Coraopolis Compressing Sta
Monongahela
Fredericktown
Mc Donald
Cecil
Canonsburg
Houston
Chartiers
Scenery
Bridgeville
Upper Strabane
Lower Strabane
Peters
Finleyville
Jefferson
Coraopolis
Coraopolis Compressing Sta
Monongahela
Fredericktown
Mc Donald
Cecil
Canonsburg
Houston
Chartiers
Scenery
MAP OF
MAIN LINES
OF
THE MANUFACTURERS
LIGHT AND HEAT CO.
IN
OHIO, PENNSYLVANIA
AND
WEST VIRGINIA
SCALE 5 MILES

This map shows very frequent crossings and re-crossings of the state lines between West Virginia and Pennsylvania, and West Virginia and Ohio. It shows that the lines were constructed in complete disregard of state lines, and solely with reference to the convenience of the company and of the communities which it had an opportunity to supply with gas.

The portion of the testimony of witness Quay upon this point is here inserted:

> "The gas passes from the State of West Virginia into the State of Pennsylvania, passes from the State of Pennsylvania back into West Virginia, passes from the State of West Virginia into Ohio, and passes from the State of Ohio back into West Virginia." (Record, page 18).
>
> "I believe that there are forty-three different points at which our lines cross from West Virginia into Ohio, from West Virginia into Pennsylvania, and vice versa." (Record, page 27).

The largest towns in the so-called Panhandle District of West Virginia, namely, Chester, New Cumberland, Weirton, Holliday's Cove, Follansbee and Wellsburg, are many times supplied entirely with gas coming from Pennsylvania or Ohio. (Rec., p. 53.)

The lines of this system constitute

> "one huge net work spreading over parts of three states—Ohio, Pennsylvania and West Virginia." (Record, Wyer, p. 887).

THE HOPE NATURAL GAS COMPANY.

The Hope Natural Gas Company was formed in 1898 to take over the gas wells and gas territory of the South Penn Oil Company. (Corrin, p. 332). It was the West Virginia end of a pipe line system all built at one time and for one purpose, the Ohio end being built by The East Ohio Gas Company to supply Canton, Massillon, Akron and other towns in Ohio. The lines of the Hope Company as they exist at the present time are shown by Pennsylvania Exhibit 39b, offered at page 876 of the printed record by witness Wyer, and appearing at page 1582 of the printed record, a copy of which exhibit we here insert.

PENNSYLVANIA EXHIBIT 39 B.

Offered at p. 876 of Printed Record by Witness Wyer.

Hope Natural Gas Company Map.

This also shows River Gas Co., along Ohio river as described at p. 318-319 of Printed Record by Witness Corrin.

MAP OF
MAIN LINES
OF
HOPE NATURAL GAS CO.
IN
WEST VIRGINIA
SCALE - MILES
LEGEND
COMPRESSING STATION
MEASURING STATION
TOWNS SUPPLIED WITH NATURAL GAS
DIRECTION GAS FLOW
HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMERS IN PENNSYLVANIA AND OHIO
BROOKE
OHIO
PENNA.
MARSHALL
WETZEL
MONONGALIA
MARION
TYLER
PLEASANTS
WOOD
RITCHIE
DODDRIDGE
HARRISON
TAYLOR
BARBOUR
WEST VIRGINIA
WIRT
GILMER
LEWIS
UPSHUR
BRAXTON
CALHOUN
Clarington
Paden City
Friendly
Sistersville
Williamstown
St Marys
Belmont
Eureka
Parkersburg
Centerville Comp Sta
Schultz Comp Sta
Ellenboro Comp Sta
Harrisville Comp Sta
Craig Comp Sta
Big Spring Comp Sta
Cabot Comp Sta
Russet Comp Sta
Minnora
Cedarville Meas Sta
Hoover Comp Sta
Orlando
Cove Lick Comp Sta
Cold Water Comp Sta
Fink Comp Sta
Martin Comp Sta
Weston Comp Sta
Gaston
Roanoke
Wilkersville
Ireland
Adrian
Gould
French Creek
Frenchton
Rock Cove
Lightburn Comp Sta
Lost Creek
Johnston
Bristol Comp Sta
Smithburg Comp Sta
Wolf Summit Comp Sta
Goff Comp Sta
Hill Comp Sta
Bridgeport Comp Sta
Nutter Fort
Norwood Comp Sta
West Fork Comp Sta
Mt Clare
Milford Comp Sta
Wallace Comp Sta
Bates Meas Sta
Deep Valley Comp Sta
Schutte Comp Sta
Liberty Comp Sta
Smith Meas Sta
Linna
Enterprise
Wilsonburg
Mt Morris
Fairmont
Mannington
Barrackville
Shinnston
Meadowbrook
Lumberport
Clarksburg
Salem
Jane Lew
Buckhannon
Weston
Glenville
Sutton
Flatwoods
Gassaway
Burnsville
Ripley
Ravenswood
Ohio River
Kanawha River
Little Kanawha River
Monongahela River
West Fork River
Tygart Valley River
Hughes River
Elk River
Little Kanawha River
Pennsylvania
West Virginia
State Line

This map shows pipe lines of various dimensions, from two inches in diameter to twenty inches in diameter, extending over numerous counties in West Virginia. It shows also numerous compressing stations in which the pressure necessary to cause the gas to flow in the desired direction is restored to the gas. This map shows along the northern and western boundaries of the State of West Virginia points at which the gas is delivered out of the lines of the Hope Company to consumers and other companies in Pennsylvania and Ohio. At Clarington, West Virginia, three lines of the Hope Company, being 20, 20 and 18 inches in diameter, respectively, are shown, which deliver gas from the Hastings compressor station to The East Ohio Gas Company lines, which transport the same into the State of Ohio. A similar situation is shown farther north and east along the river, where, at a point called Round Bottom, two other lines, 10 and 18 inches in diameter, respectively, deliver gas from the Hastings compressor station to The East Ohio Gas Company for transportation into Ohio. Along the southern boundary of Pennsylvania and the northern boundary of West Virginia, other points are shown at which the Hope Company delivers gas to other companies for consumption in the State of Pennsylvania.

The largest sales of gas made by the Hope Company for consumption in the State of Ohio are made to The East Ohio Gas Company. The contract under which these sales are made at present is Pennsylvania Exhibit No. 19, offered by witness Sullivan at page 225 of the

printed record, and reproduced in full at page 1544 of the printed record. It supersedes the oral contract made in the formation of both companies in 1898 and recites in substance that the Hope Company is the owner of gas wells, gas rights and leases for gas purposes in the State of West Virginia, and is the owner of pipe lines extending from its natural gas territory in the State of West Virginia to boundary of the State of Ohio on the Ohio river, and that The East Ohio Gas Company holds franchises and distributing systems for the distribution of natural gas in the city of Cleveland and other cities, villages and towns in the State of Ohio, and is the owner of three trunk lines extending from the boundary of the State of Ohio on the Ohio river through the State of Ohio to the city of Cleveland and connecting with distributing systems owned by the said Ohio company in the city of Cleveland and in various cities, villages and towns in the State of Ohio. It further shows the undertaking and agreement of the Hope Company to sell and deliver to The East Ohio Company and of the East Ohio Company to purchase and take from the Hope Company, all the natural gas requisite for the supply of the domestic consumers of The East Ohio Gas Company, and also certain amounts of gas to be supplied upon special terms and with the consent of the Hope Company for manufacturing purposes. The contract regulates the pressure at which the gas is to be delivered and recites in the seventh division thereof, at page 1546 of the record, that the contract shall continue unless previously terminated by mutual consent of the parties so long as the Hope Company produces gas in

marketable quantities in West Virginia. **The seventh division of the contract further provides for preferential service for the domestic consumers on the lines of the Hope Company in West Virginia, and for the pro rating of all of the rest of the supply of gas of the Hope Company between the domestic consumers of The East Ohio Company and those of the Peoples Natural Gas Company.** The contract contains many provisions covering the details of so large and important a transaction, but none of which, we believe, is material in this litigation.

THE RIVER GAS COMPANY.

The River Gas Company obtains its gas supply for distribution from West Virginia. It supplies towns in both Ohio and West Virginia, namely, Marietta, Matamoras, Newport, Belpre, Stockport, Chester Hill, Amesville, Painesville, Gravel Bank, Reno and Fly.

> "Part of the Hope's allotment of gas going through the lines of The Connecting Gas Company was taken by The Hope Natural Gas Company and sold to the River Company." (Record, page 321).

At times the gas from its lines in Ohio passes back into West Virginia through the lines of The Hope Natural Gas Company. The testimony of the witness Corrin upon this point appears at page 205 of the record:

> "It is true that gas at times goes from the lines of the River Gas Company back into the State of West Virginia through the lines of the Hope Company. I know this, because there is a meter on the lines and we pay the River Gas Company for the gas that goes through."

The map of the lines of the Hope Company, Pennsylvania Exhibit 39b, which we have hereinbefore inserted at page —— in this brief, shows also the lines of The River Gas Company.

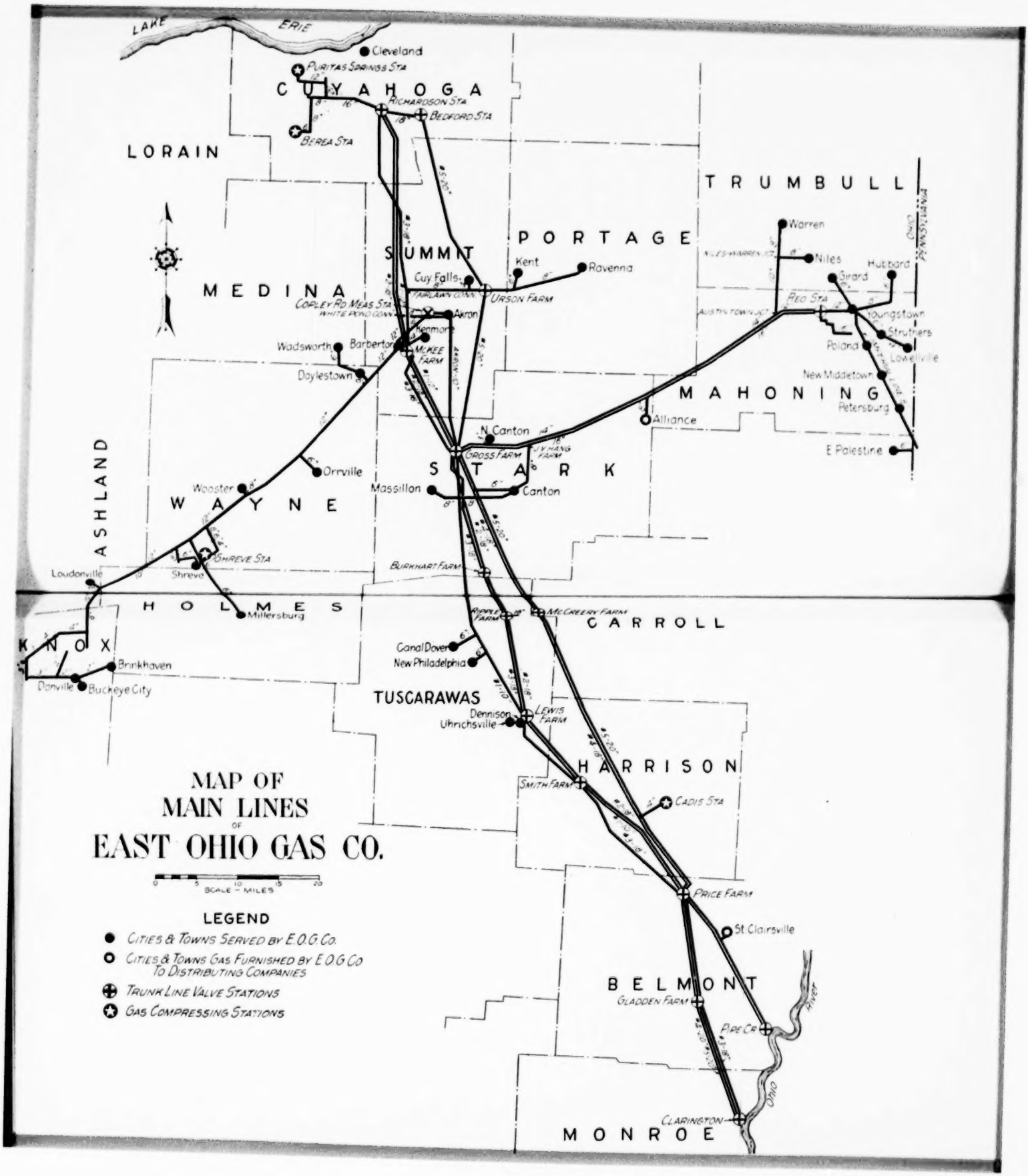
THE EAST OHIO GAS COMPANY.

The East Ohio Gas Company, the company entitled to receive the gas from the Hope Company under the contract herein last discussed, has an extensive system of gas transmission and distribution lines in the State of Ohio, which supply gas to many cities, among them Youngstown, Alliance, Canton, Massillon, Akron and Cleveland. It owns and operates five large pipe lines, being 20, 18, 18, 10 and 18 inches in diameter, respectively, the longest of which is 134 miles in length, and the shortest of which is 100 miles in length, which transport gas, three from Clarington and two from Round Bottom on the Ohio river, at which points the gas is received from The Hope Company, to the cities hereinbefore named and numerous other municipalities in Ohio. (Record, 565, 567, 582; Pennsylvania Exhibit 47, record 1599). The first of these lines was laid from Round Bottom on the Ohio River to the city of Akron, Ohio, in the year 1898. (Record, 590). All of its main lines, their dimensions and directions and communities supplied by them are shown upon a map, which was offered in evidence at page 973 of the record, by the witness Wyer, as Pennsylvania Exhibit 47, and which appears at page 1599 of the record, a copy of which map we here insert.

PENNSYLVANIA EXHIBIT 47.

Offered at p. 973 of Printed Record by Witness Wyer.

Map of the Main Lines of the East Ohio Gas Company.


LAKE ERIE
Cleveland
PURITAS SPRINGS STA
CUYAHOGA
RICHARDSON STA
BEDFORD STA
BEREA STA
LORAIN
TRUMBULL
PORTAGE
SUMMIT
MEDINA
Warren
Niles
Hubbard
Girard
Youngstown
Struthers
Lowellville
Poland
New Middletown
Petersburg
E. Palestine
Kent
Ravenna
Cuy Falls
PARLAMA CONN.
URSON FARM
COPLEY RD MEAS STA
WHITE POND CONN.
Akron
Kenmore
Wadsworth
Barberton
McKEE FARM
Doylestown
PEO STA
MAHONING
Alliance
N. Canton
GROSS FARM
J.V. HANG FARM
ASHLAND
Orrville
STARK
Wooster
Massillon
Canton
WAYNE
SHREVE STA
Loudonville
Shreve
BURKHART FARM
HOLMES
Millersburg
APPLE FARM
McCREERY FARM
CARROLL
KNOX
Canal Dover
New Philadelphia
Brinkhaven
Danville
Buckeye City
TUSCARAWAS
Dennison
Uhrichsville
LEWIS FARM
HARRISON
SMITH FARM
CADIS STA
PRICE FARM
St. Clairsville
BELMONT
GLADDEN FARM
PIPE CR
OHIO RIVER
CLARINGTON
MONROE
MAP OF
MAIN LINES
OF
EAST OHIO GAS CO.
0 5 10 15 20
SCALE - MILES
LEGEND
CITIES & TOWNS SERVED BY E.O.G. CO.
CITIES & TOWNS GAS FURNISHED BY E.O.G. CO TO DISTRIBUTING COMPANIES
TRUNK LINE VALVE STATIONS
GAS COMPRESSING STATIONS

The testimony of the witness Daly, at page 582 of the printed record, shows conclusively how The East Ohio Gas Company and The Hope Natural Gas Company are dependent upon each other for their supply of gas and market, respectively. We quote here a part of Mr. Daly's testimony:

> "Q. You may state whether or not it is a fact that when The East Ohio Gas Company would construct its lines 1, 2, 3, 4 and 5 from the river northwardly, as you have described, The Hope Natural Gas Company, on the West Virginia side of the river, would construct a line or lines from its system, perhaps Hastings Station, northwardly to the river, and connect with your lines, having with your company a unity of purpose of transporting West Virginia gas into Ohio for distribution to your consumers."

p. 538:

> "A. The investment in each instance was made after the East Ohio Company had received the assurance of The Hope Natural Gas Company that it had an adequate supply of gas and would lay additional transportation lines of sufficient size to transport the quantity of gas desired, up to the full capacity of the pipe lines that the East Ohio Company constructed."

The testimony of Mr. Daly at page 570, with reference to the source of supply of the gas distributed by The East Ohio Gas Company here follows:

> "A. No, it had no territory in the State of Ohio. The East Ohio Gas Company had no territory in the State of Ohio until after 1903.
>
> "Q. Prior to 1903, where did it procure its gas?
>
> "A. Purchased it under contract from The Hope Natural Gas Company. That contract was entered into prior to the construction of the No. 1 ten-inch line running from Pipe Creek to Akron.

"Q. Then since the inception of The East Ohio Gas Company in 1898, it has been procuring gas delivered to it from West Virginia by The Hope Natural Gas Company?

"A. Yes, sir; it didn't start any development for itself until 1906 or 1907."

Page 569:

"Q. What are the sources of your gas supply?

"A. We purchase nearly all of our gas— approximately 80 per cent. of it—from The Hope Natural Gas Company."

"The Hope Natural Gas Company was organized for the purpose of supplying The East Ohio Gas Company with gas."—Tonkin, p. 425.

The amounts of gas produced in West Virginia and purchased by The East Ohio Gas Company for the purpose of supplying Ohio communities, and the extent to which those Ohio communities are dependent upon the West Virginia gas for their supply, are shown by the testimony of Martin B. Daly, beginning record, page 563, and the figures especially appear at pages 569 and 570. They show that in 1918 the East Ohio Company purchased from the Hope Company 36,069,354,000 feet; produced in Ohio 8,317,075,000 feet; purchased in Ohio 4,290,920,000 feet of gas. The testimony of the same witness at page 573 shows the towns served by this company as of December 31st, 1919, and the number of consumers in each town. Thirty-four principal towns are shown to be served, the largest being Cleveland, having 208,294 consumers, and the smallest New Middletown, with 65 consumers. On pages 575 and 576 appears a

table prepared by the same witness showing the meter connections for the United States government, the state, subdivisions of the state, such as municipalities, counties and school boards, and churches, parsonages, and charitable institutions. The tables appearing at page 580 of the record, prepared by the witness Daly, show that substantially all of the gas distributed by The East Ohio Gas Company is distributed to domestic consumers. This company is active in its efforts to procure additional gas territory and to increase the production from territory already acquired. (Record, page 585).

THE RESERVE GAS COMPANY.

A map of the main lines of The Reserve Gas Company in West Virginia, offered at page 877 of the printed record by witness Wyer as Penn. Exhibit 39c, and appearing in the record at page 1583, is here inserted.

PENNSYLVANIA EXHIBIT 39 C.

Offered at p. 876 of Printed Record by Witness **Wyer.**

Reserve Natural Gas Company Map.

HOW NATURAL GAS FROM WEST VIRGINIA IS TRANSMITTED TO CONSUMERS IN OHIO & INDIANA
LEGEND
COMPRESSING STATION
MEASURING STATION
DIRECTION OF GAS FLOW
PENNSYLVANIA
WEST VIRGINIA
STATE LINE
Note
The towns of Camden and Wilsonburg are served by Reserve Gas Company
OHIO
Ohio River
TYLER
PLEASANTS
WOOD
DODDRIDGE
HARRISON
WEST VIRGINIA
Wilsonburg
WILSONBURG COMPRESSING STA
CORRIN COMPRESSING STA
RITCHIE
CITY TAP
KENNEDY COMPRESSING STA
CAMDEN COMPRESSING STA
Camden
GILMER
LEWIS
MAP OF
MAIN LINES
OF
RESERVE GAS COMPANY
IN
WEST VIRGINIA
SCALE OF MILES

This map shows that practically all of the production of this company is in the counties of Harrison and Lewis in West Virginia, and that the gas is there compressed and sent through three large lines, being 12, 12 and 16 inches in diameter, which are, before reaching the river, reduced to two 16-inch lines, to a point on the Ohio river where the gas is delivered to The Connecting Gas Company. Detailed information with reference to the operations of The Reserve Gas Company is given by the witness Corrin, the manager of the company, at page 317ff of the record. This company had, in January, 1920, approximately 750 wells and approximately 56,000 acres of territory, and approximately 525 miles of pipe line. (Record, 317). The lines of the company extend to the state line between the states of West Virginia and Ohio at Boaz, south of Marietta, Ohio. The Reserve Company, during the year 1919, produced 20,911,000,000 feet of gas and purchased during the same period 1,267,000,000. (Record, pp. 319, 320).

The gas which it delivers at Boaz, Ohio, is there received by The Connecting Gas Company, which is merely a transporting company, transporting gas produced by The Reserve Gas Company from the state line between Ohio and West Virginia to a point in Ohio called Sugar Grove, through two 16-inch pipe lines, approximately 60 miles long. This gas, transported to Sugar Grove, Ohio, is there apportioned between two companies, one being The Union Natural Gas Corporation, which through its subsidiary companies supplies many municipalities in the central and northern part of Ohio with gas. (Record, p. 321).

The other line of the Connecting Company carries gas from the West Virginia line to Wheeler Station at Sugar Grove, Ohio, where it is delivered to The Northwestern Ohio Natural Gas Company for transportation to Toledo and other cities in northwestern Ohio. (Rec., 323).

The contract between The Reserve Natural Gas Company, The Union Natural Gas Company, The Hope Natural Gas Company, The Connecting Gas Company and T. N. Barnsdall, dated April 11th, 1913, offered in the printed record at page 225 by the witness Sullivan and appearing in the printed record at page 1535 as Pennsylvania Exhibit No. 18, supercedes prior contracts made at the time of the building of the plants in 1902. This contract on its face shows that it was made for the purpose of purchasing gas from the Reserve Company and having it transported to various points in Ohio for the purpose of supplying gas to The Union Natural Gas Corporation for the communities in Ohio which it serves and of supplying gas to The Northwestern Ohio Natural Gas Company with gas for Toledo and other Ohio communities. **As in all other contracts made and in evidence in this case pursuant to which gas is produced in West Virginia and transported to consumers in Ohio communities, provision is made for preferential service for the domestic consumers of the respective producing companies in West Virginia.** The contract is long and detailed, but we believe that the statements here made concerning it show all of it that is material to this litigation.

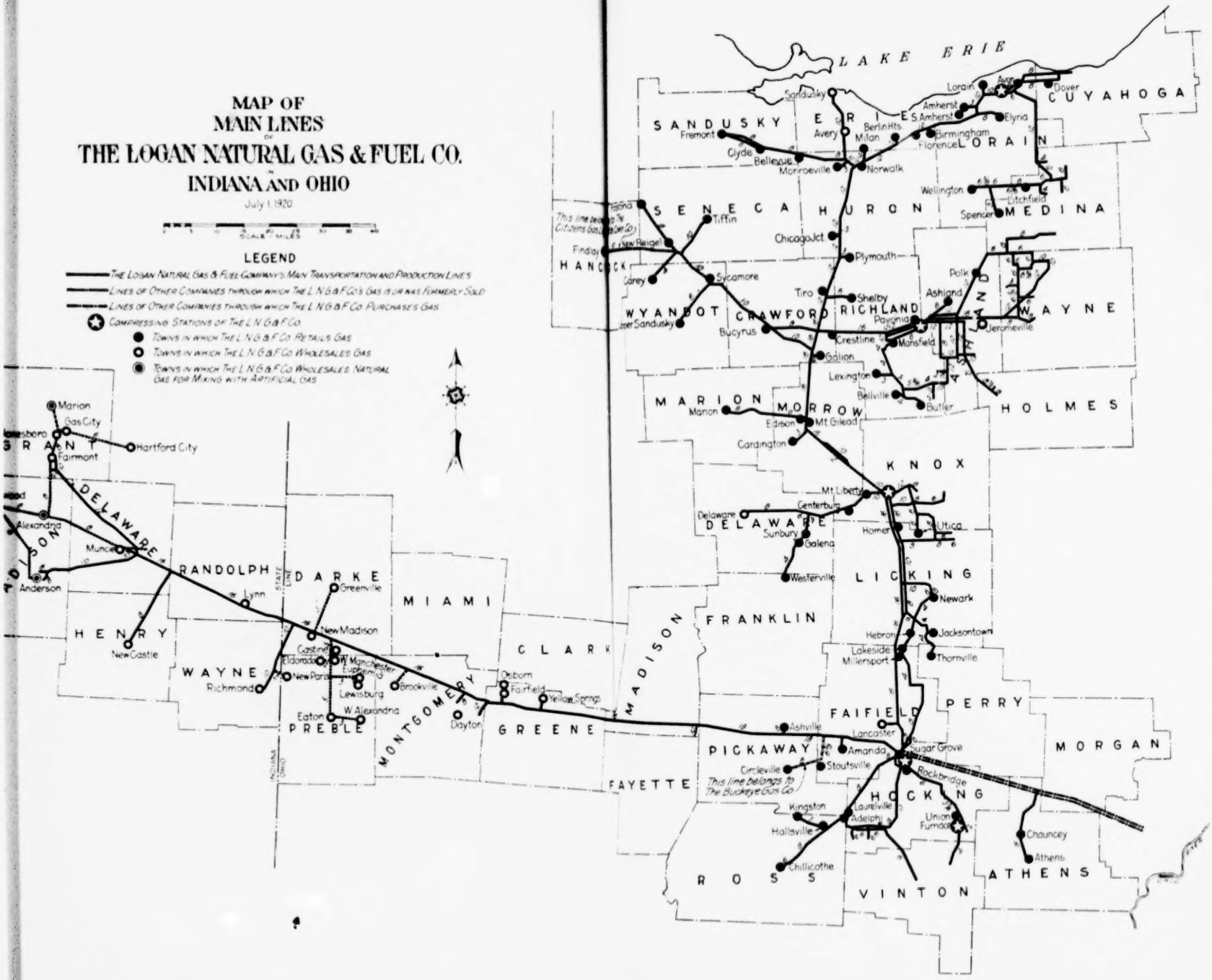
THE UNION NATURAL GAS CORPORATION.

The Union Natural Gas Corporation was organized under the laws of the State of Delaware in 1902, and proceeded forthwith in the same year to acquire 50 per cent., less one share, of the capital stock of The Reserve Gas Company, a West Virginia corporation, and of The Connecting Gas Company, an Ohio corporation, together with T. N. Barnsdall's interests and right to a certain contract executed in 1902 between himself, The Hope Natural Gas Company and The Reserve Natural Gas Company. (Record, p. 748). The Union Natural Gas Corporation, which receives gas from The Reserve Gas Company through the lines of The Connecting Gas Company at Sugar Grove, Fairfield county, Ohio, owns and holds the stock of thirteen distributing companies in the State of Ohio. (Record, pages 748-749.) The largest of these is The Logan Natural Gas and Fuel Company, acquired in 1902, which owns all leases, gas wells, does all the developing and owns all the pipe lines or transmission lines, with two unimportant exceptions, that are identified with and used in connection with the supplying of gas to said distributing companies. (Record, pages 749 and 771). A map designated by the witness Whitcomb as a "Field and Main Line Map" of the subsidiary companies of The Union Natural Gas Corporation in Ohio and Indiana was offered at page 750 of the printed record by the witness, as Ohio Exhibit No. 10, and appears at page 1708 of the printed record. The map is here next inserted.

OHIO EXHIBIT 10.

Offered at p. 750 of Printed Record by Witness Whitcomb.

Map of Main Lines of Logan Natural Gas & Fuel Company in Indiana and Ohio.


MAP OF
MAIN LINES
OF
THE LOGAN NATURAL GAS & FUEL CO.
IN
INDIANA AND OHIO
July 1, 1920
SCALE MILES
LEGEND
THE LOGAN NATURAL GAS & FUEL COMPANY'S MAIN TRANSPORTATION AND PRODUCTION LINES
LINES OF OTHER COMPANIES THROUGH WHICH THE L.N.G.&F.CO'S GAS IS OR HAS FORMERLY SOLD
LINES OF OTHER COMPANIES THROUGH WHICH THE L.N.G.&F.CO. PURCHASES GAS
COMPRESSING STATIONS OF THE L.N.G.&F.CO.
TOWNS IN WHICH THE L.N.G.&F.CO. RETAILS GAS
TOWNS IN WHICH THE L.N.G.&F.CO. WHOLESALES GAS
TOWNS IN WHICH THE L.N.G.&F.CO. WHOLESALES NATURAL GAS FOR MIXING WITH ARTIFICIAL GAS
LAKE ERIE
SANDUSKY
ERIE
HURON
CUYAHOGA
LORAIN
MEDINA
SENECA
WYANDOT
CRAWFORD
RICHLAND
WAYNE
HANCOCK
MARION
MORROW
HOLMES
KNOX
DELAWARE
LICKING
FRANKLIN
MADISON
CLARK
MIAMI
GREENE
MONTGOMERY
PREBLE
DARKE
RANDOLPH
HENRY
GRANT
DELAWARE
FAIRFIELD
PERRY
MORGAN
PICKAWAY
FAYETTE
ROSS
VINTON
ATHENS
HOCKING
Sandusky
Fremont
Clyde
Bellevue
Avery
Berlin Hts.
Milan
Norwalk
Monroeville
Lorain
Amherst
S. Amherst
Elyria
Birmingham
Florence
Dover
Wellington
Litchfield
Spencer
Tiffin
Fostoria
New Reigel
Findlay
Carey
Sycamore
Chicago Jct.
Plymouth
Tiro
Shelby
Ashland
Polk
Bucyrus
Crestline
Mansfield
Payonia
Jeromeville
Galion
Lexington
Bellville
Butler
Marion
Edison
Mt. Gilead
Cardington
Mt. Liberty
Centerburg
Delaware
Sunbury
Galena
Homer
Utica
Westerville
Newark
Hebron
Jacksontown
Lakeside
Millersport
Thornville
Ashville
Lancaster
Amanda
Sugar Grove
Circleville
Stoutsville
Rockbridge
This line belongs to The Buckeye Gas Co.
Kingston
Laurelville
Adelphi
Union Furnace
Hallsville
Chillicothe
Chauncey
Athens
Marion
Gas City
Hartford City
Fairmont
Alexandria
Muncie
Anderson
Lynn
Greenville
New Madison
New Castle
Castine
Eldorado
Manchester
Euphemia
New Paris
Richmond
Lewisburg
Brookville
W. Alexandria
Eaton
Dayton
Osborn
Fairfield
Yellow Springs
STATE LINE
INDIANA
OHIO

e lines of The Connecting Company also are shown
is map by the two broken parallel lines lying close
her and extending from the Ohio River northwest
gar Grove in Fairfield county, Ohio.

is map shows that service is rendered by these
rous Ohio companies in many counties and munici-
ies in the northern and western parts of the State of

e natural gas transported through The Logan Nat-
Gas and Fuel Company's 18-inch line westward from
r Grove to The Jantha Light and Heat Company in
, to all Indiana consumers, and to Dayton, Ohio,
s "all from West Virginia." (Record, page 753).
ontracts on the line from Sugar Grove to Dayton
Indiana contemplate and provide for the delivery of
Virginia gas only. The Sugar Grove compressing
n was installed for the distribution or the compres-
of gas produced both in Ohio and in West Virginia;
e time of the laying of the 18-inch Sugar Grove-
on line, in 1913, the station was very materially in-
ed as to capacity in order to take care of the in-
ed volume of gas from West Virginia, to drive it on
ayton and to points in Indiana. There is no other
ressing station on that line, a distance of approxi-
ly 182 miles. (Whitcomb, p. 782).

ese affiliated companies not only buy large quanti-
f gas from The Reserve Company, at Sugar Grove,
but also produce a considerable quantity of gas
n the State of Ohio, or purchase such gas from pro-
's. A tabulation of the cities and towns in Ohio and

Indiana served by these affiliated companies, appears on pages 758, 760 and 761 of the printed record. They show a total of more than 130,000 consumers, representing a population of more than 500,000 people. Tables on pages 761, 762 and 763 show that these companies furnish a large amount of gas to public institutions operated by the State or its subdivisions.

The testimony of the witness Whitcomb at page 773 of the record shows a delivery of more than 9,000,000,000 cubic feet of gas by the Reserve Company to the Logan Company in the year 1919, under the provisions of the contract between the Reserve Company and the Union Company and others hereinbefore discussed, being Pennsylvania Exhibit No. 18. The testimony of the witness Whitcomb at page 768 shows that all of the communities lying upon the line which appears upon the map as running from Sugar Grove, Ohio, west to Elwood, Indiana, are supplied and have a right to be supplied only with West Virginia gas, purchased from the Reserve Company through the lines of the Connecting Company at Sugar Grove, Ohio.

A summary of the investment for delivery of gas from West Virginia to Ohio and Indiana consumers shows a total of $6,521,254.08. (Record, page 786). The total number of consumers supplied with West Virginia gas by The Logan Natural Gas and Fuel Company, directly and indirectly, represents a population of 364,949, and 78,994 consumers. (Record, p. 787).

THE NORTHWESTERN OHIO NATURAL GAS COMPANY.

The Northwestern Ohio Natural Gas Company has already been discussed in connection with the discussion of The Hope Natural Gas Company and will hereinafter be referred to in connection with The Ohio Fuel Supply Company. The main or transmission lines of this company appear on the map of The Ohio Fuel Supply Company's lines. Pennsylvania Exhibit 49, record, p. 1601, which exhibit is to be evidence of that fact the same as if separately offered. (Record, p. 717). Its gas supply comes from The Hope Natural Gas Company in West Virginia, through the lines of The Connecting Gas Company, by virtue of an arrangement before mentioned with The Reserve Gas Company. (Record, p. 1509, 1535). As shown on said map, the gas is transported through two 10-inch lines from Horn's Mills, Fairfield county, Ohio, to the cities of North Baltimore, Bowling Green, Perrysburg, Maumee and Toledo, a total distance of about 160 miles. The gas distributed by this company comes exclusively from West Virginia, except for some small amounts of gas which this company procures from The Ohio Fuel Supply Company in emergency cases, where the Hope Company does not furnish a sufficient amount. (Record, pp. 718-19). This company has a production of its own from only six or seven wells.

Its consumers are all situated in the northwestern part of Ohio and are as follows:

City of Toledo	52,132
Maumee	489
North Baltimore	663
Perrysburg	595
Bowling Green	1,639

The population dependent upon this company for natural gas service is more than 250,000. (Record, p. 721). Its supply has been furnished almost exclusively for domestic use, less than 10 per cent. being furnished for industrial use. (Record, 722).

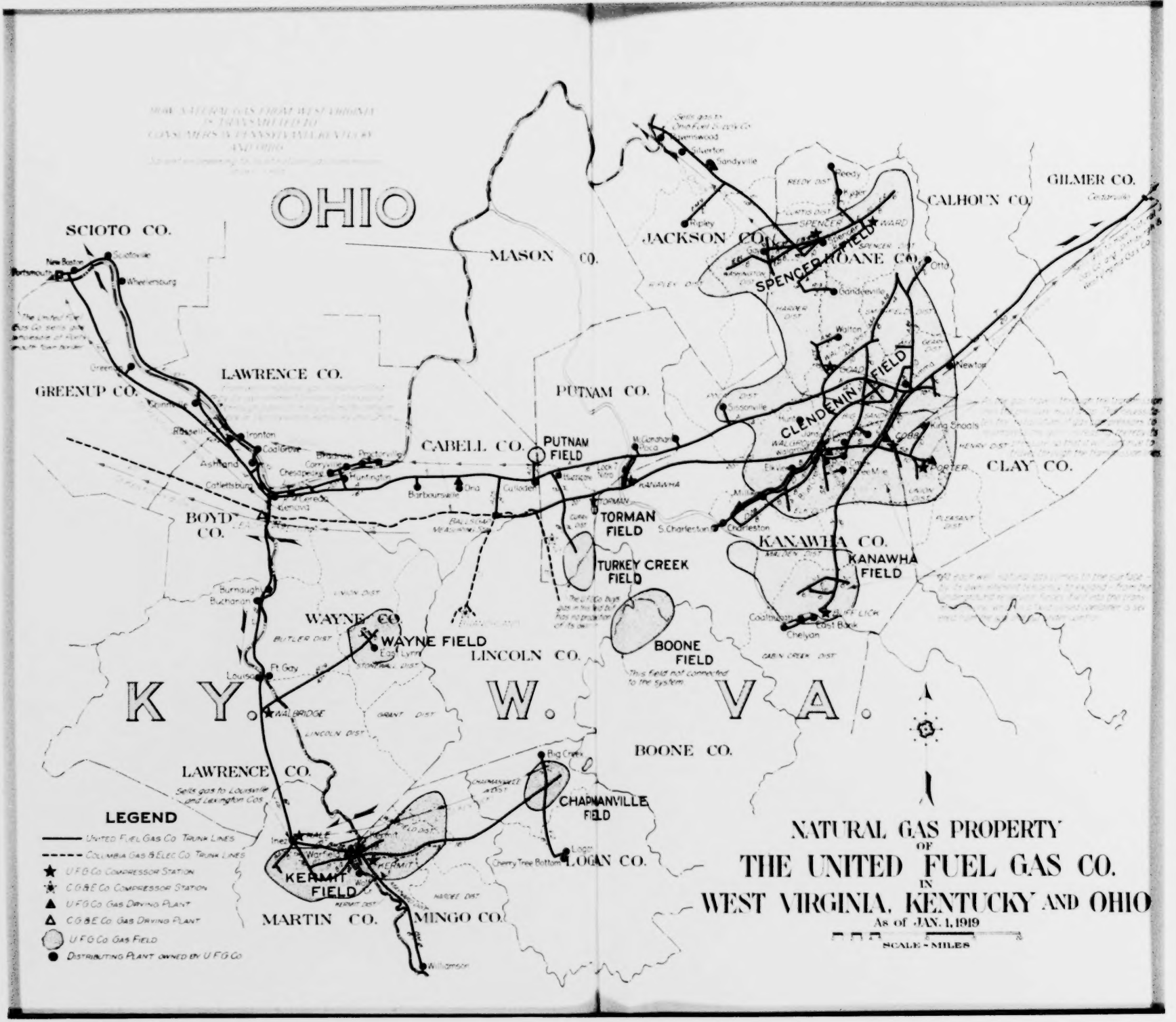
THE UNITED FUEL GAS COMPANY.

The United Fuel Gas Company, a large producer and transporter of gas in West Virginia, is shown by a map which was offered at page 876 of the printed record by the witness Wyer as Pennsylvania Exhibit 39d, which map appears at page 1584 of the printed record. A copy of said map is here inserted.

PENNSYLVANIA EXHIBIT 39 D.

Offered at p. 876 of Printed Record by Witness Wyer.

United Fuel Gas Company Map.


OHIO
SCIOTO CO.
MASON CO.
JACKSON CO.
CALHOUN CO.
GILMER CO.
ROANE CO.
SPENCER FIELD
CLENDENIN FIELD
LAWRENCE CO.
GREENUP CO.
PUTNAM CO.
CABELL CO.
PUTNAM FIELD
CLAY CO.
BOYD CO.
TORMAN FIELD
TURKEY CREEK FIELD
KANAWHA CO.
KANAWHA FIELD
WAYNE CO.
WAYNE FIELD
LINCOLN CO.
BOONE FIELD
K Y. W. VA.
BOONE CO.
LAWRENCE CO.
CHAPMANVILLE FIELD
LOGAN CO.
KERMIT FIELD
MARTIN CO.
MINGO CO.
LEGEND
UNITED FUEL GAS CO. TRUNK LINES
COLUMBIA GAS & ELEC. CO. TRUNK LINES
U.F.G.CO. COMPRESSOR STATION
C.G.&E.CO. COMPRESSOR STATION
U.F.G.CO. GAS DRYING PLANT
C.G.&E.CO. GAS DRYING PLANT
U.F.G.CO. GAS FIELD
DISTRIBUTING PLANT OWNED BY U.F.G.CO.
NATURAL GAS PROPERTY
OF
THE UNITED FUEL GAS CO.
IN
WEST VIRGINIA, KENTUCKY AND OHIO
As of JAN. 1, 1919
SCALE - MILES

It shows that this company transports gas from its northern field in West Virginia to Ravenswood on the Ohio River, and there delivers it to The Ohio Fuel Supply Company, by which company it is transported farther into Ohio. It shows further that gas is transported from the Clendenin field to various points upon the Ohio River, crossing the river at several places, one of which is in the vicinity of Portsmouth, Ohio. It further shows that gas is transported from the Kermit field, which lies partly in West Virginia and partly in Kentucky through a line which crosses the state line between West Virginia and Kentucky at several places, and discharges into the lines already described which carry the gas into the State of Ohio near Portsmouth, Ohio. This same map shows lines of The Columbia Gas and Electric Company, the company which supplies the City of Cincinnati, Ohio, extending through the States of Kentucky and West Virginia to Ball's Gap, West Virginia, where gas is purchased from The United Fuel Gas Company. A full description of this system appears in the testimony of the witness Wallace, the general manager of the United Fuel Gas Company. At page 361 of the printed record the testimony of Mr. Wallace shows that this company has 626 wells in West Virginia and 47 wells in Kentucky. The utter disregard of state lines, with which this company's lines were established, crossing and re-crossing the state lines between Ohio, West Virginia, and Kentucky, to supply communities lying in any of these states which could be conveniently supplied by this company, is so significant of the confidence which the business inter-

ests of the country have reposed in the frequent statemens of this court that, with respect to commercial intercourse, state lines are non-existent, that we quote verbatim the testimony of this witness, as it appears on pages 361, 362, 363, 364 and 365 of the printed record:

"A. Our main transmission line, leading from the Roane county field, beginning at Roxalana, in Roane county, West Virginia, extending to Portsmouth, Ohio, consisting of 10-inch, 14-inch and 16-inch pipe, approximately 125 miles in length. This line is known as our line "A." We also have—

Q. Just a moment, before you get to another line. That line crosses the Big Sandy river, does it not, at Kenova?

A. It does.

Q. And runs through Kentucky, up to a point above Ashland, where it divides and crosses the river into Ohio, at some place above Chinnville, and continues on to Portsmouth, on the other side of—the other branch continues on to Portsmouth, on the other side, on the Kentucky side of the Ohio river; while the branch continues up to Wheelersburg, Sciotoville, New Boston, to Portsmouth on the opposite side, the Ohio side of the Ohio river? Is that the fact?

A. It is.

Q. And this is shown here on the map?

A. It is.

Q. Now, then, to what points is this line particularly designed to transport gas, up to what points? Or, transportation to what points is this line used for?

A. Coal Grove, Ohio, Ironton, Ohio, Wheelersburg, Ohio, Sciotoville, New Boston and Portsmouth, all in the State of Ohio.

Q. Now, what about those towns in Kentucky—that is, Catlettsburg and Ashland, and so on?

A. We have the main line on the opposite side of the river in Kentucky supplying Catlettsburg and

Ashland, Russell, Chinnville, in Greenup county, and Boyd county, Kentucky.

Q. What towns in West Virginia does this line supply?

A. Kenova, Ceredo, Huntington, Barboursville, Ona, Culloden, Hurricane, Nitro, Poca, Sissonville, Clendenin, and other smaller places.

Q. The United Fuel Gas Company produces its gas then in the Roane county filed from its own gas territory, and through its own gas well, and transports this gas through this line supplying these various cities and towns in West Virginia, Ohio and Kentucky, as you have described. Now state whether it does that in its own name directly, as a producing, operating, transporting and supplying company?

A. It does supply all these various places in its own name and with its own gas, transported through these lines. Also, in addition to the river crossing previously spoken of, there is another one at Huntington, supplying Corryville, Bradrick, Proctorville and Chesapeake, in Lawrence county, Ohio.

Q. That crosses the Ohio river there at Huntington?

A. It does.

Q. And is there another crossing, or two crossings, near Kenova?

A. There are two crossings. One of them has been previously referred to, and there is another additional crossing at Chinnville, from Greenup county, Kentucky, into Lawrence county, Ohio.

Q. In addition to that Chinnville crossing, there are two lines that cross the Big Sandy at Kenova, and above, are there not?

A. Yes, sir, one line crossing near Huntington, that has been previously referred to—

Q. No, I mean right there, just above Kenova.

A. There is a line leading across the point at Coal Grove from Boyd county, Kentucky, into Lawrence county, Ohio; a line crossing near Chinnville from Greenup county, Kentucky, into Lawrence county,

Ohio; the line crossing again from Greenup county into Ohio near New Boston, Ohio.

Q. Now, at Portsmouth, Ohio, do you supply the town of Portsmouth direct, in the name of the United Fuel Gas Company, or do you supply some local company there that has the distributing system?

A. We supply the local company at Portsmouth, at the city limits, with gas.

Q. What is the name of that company, do you remember?

A. The Portsmouth Gas Company.

Q. And at all the other towns that you have described, the United Fuel Gas Company maintains the distributing systems itself?

A. It does.

Q. Now, take up the next important transmission line of the company?

A. We have an additional line practically paralelling line "A," previously spoken of, known as our line "S," leading from the Roane county field to Ball's Gap measuring station. This line is approximately 49 miles in length, consisting of 10-inch, 12-inch and 20-inch pipe; by far the larger proportion of it being 20-inch O. D. pipe.

Q. Now, this line supplies, as shown by your map, a number of towns in West Virginia?

A. It does.

Q. And at Ball's Gap, with what line does it connect there?

A. With the 18-inch line belonging to the Columbia Gas and Electric Company, of Cincinnati.

Q. And where did that carry the gas?

A. The 18-inch gas line carries the gas from our measuring station at Ball's Gap, at which point the gas is measured to the Columbia Gas and Electric Company, to their Kenova compressor station; from which point it is compressed and delivered to a 20-inch line to the City of Cincinnati.

Q. How many miles distant?

A. 123 miles from Kenova compressor station to

Cincinnati, and 29 miles from our measuring station to Kenova.

Q. You refer to the only Cincinnati—that is, in Ohio?

A. Cincinnati, Ohio.

Q. Now, what is your next important transmission line?

A. Our next line of importance is an 18-inch line leading from what is known as our Spencer gas field, located in Roane and Jackson counties, West Virginia, to and across the Ohio river, near Ravenswood, West Virginia, at which point we measure the gas before crossing the Ohio river, to the Ohio Fuel Supply Company, of Ohio.

Q. What is the size of that line?

A. The line is 18 inches, outside diameter.

Q. And you supply, do you, a number of towns in West Virginia, before you reach the river?

A. We do.

Q. And the Ohio Fuel Supply Company takes this gas, as I understand, at the low water mark on the Ohio side?

A. It does.

Q. And transports it where?

A. To various cities throughout Ohio.

Q. I beg your pardon.

A. To various cities and towns throughout the State of Ohio.

Q. What are the larger cities or towns? Just name one or two of them, as to get the general direction of it.

A. I am not very familiar with the towns.

Q. Well, if you don't know, it is all right. Now, give us your next line. What is this called on your system—one was "A" and the other was "S," and what is this called?

A. That is called line "E."

Q. Now, then, take your next line.

A. We have another line connecting with our line 'A,' near Kenova, West Virginia, running south to Inez, Kentucky, and ending at Kermit, West Vir-

ginia. This is a 10-inch line, and crosses the state line, or river, near Leach, Kentucky, and Kenova, West Virginia, leading from West Virginia into Boyd county, Kentucky; again crossing the line, the river, between Buchanan and Louisa, Kentucky, crossing the river from Lawrence county, Kentucky, into Wayne county, West Virginia; again crossing the line from Wayne county, West Virginia, near Ft. Gay; leading again into Lawrence county, Kentucky, from Wayne county, West Virginia. This line connects with an 8-inch line and a 6-inch line near Inez, Kentucky, and extends across the river, or state line, into Kermit, Mingo county, West Virginia; then entering our compressor station at Kermit, West Virginia, the gas is compressed and delivered back into our line, our 16-inch C. D. line, known as 'B. M. 22.'

Q. Extending from where?

A. From Kermit, West Virginia, this line B. M. 22 leads to Inez, Kentucky, from the compressor station in Kermit, West Virginia.

Q. Now, the gas that is obtained in this line, as you have described, comes, in part from the Roane county filed, from the Wayne county field, and the Kermit field, in West Virginia?

A. Also from the Kanawha field in Clay county.

Q. And the Clay county field and the Chapmanville field or district in West Virginia, and from the Kermit field in Martin county, Kentucky, does it not?

A. It does.

Q. And that gas is all mixed and compressed at your Kermit station in West Virginia.

A. It is.

Q. And sent up as far as Inez, across the river to Inez, in Kentucky?

A. It is.

Q. And there delivered to whom?

A. To the Central Kentucky Natural Gas Company, supplying towns and cities in Central Ken-

tucky and the Louisville Gas and Electric Company, of Louisville, Kentucky.

Q. The Louisville Company supplies gas to Louisville, Kentucky, does it, as well as to stations en route?

A. Its gas is practically all supplied to domestic consumers in the city of Louisville, Kentucky.

Q. How far is the gas transported by the Central Kentucky Company, the longest distance, from Inez?

A. The distance from Inez, Kentucky, to Frankford, Kentucky, is 142 miles.

Q. And how far is it from Inez to Louisville?

A. The distance from Inez, Kentucky, to Louisville, Kentucky—the length of this line is 180 miles.

Q. Now you supply from this same line, do you not, beginning at Kenova, towns on both sides of the river in West Virginia and Kentucky, at different points along the line?

A. We do.

Q. Then you have quite a number of such towns, as shown on the map here?

A. We have.

Q. Now give us your next large transmission line?

A. Our next large transportation line is known as line 'T,' 20 inch O. D. pipe; which line connects with, or has an extension known as our line 'M,' 16-inch O. D. pipe. These two lines were practically built to supply the Hope Natural Gas Company and the Pittsburgh and West Virginia Natural Gas Company, transporting the gas from the Kanawha county gas fields at Buff Lick, and also the gas from Rome and Kanawha counties, near Clendenin.

Q. Now, how long is that line?

A. The line 'M,' consisting of 10, 12 and 16-inch pipe—the larger proportion of it being 16-inch, is 19.2 miles in length.

Q. Now line 'T'?

A. Line 'T,' to which line 'M' connects, is 39.29 miles in length.

Q. About 60 miles then altogether.

A. Yes, sir.

Q. Now you say it sells gas there—it delivers gas to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company. At what points does it make that delivery?

A. At Cedarville Measuring Station, in Gilmer county, West Virginia.

Q. And where does the Hope Natural Gas Company take it?

A. At that point, Cedarville, West Virginia.

Q. And where does it take it?

A. I couldn't tell you just what points it travels. I believe it eventually leads to Hastings Station in Wetzel county.

Q. Do you know where the Pittsburgh & West Virginia Gas Company takes it?

A. The gas is measured to them at the same point in Gilmer county.

Q. To what point do they take it?

A. That gas is eventually delivered to Pittsburgh, Pennsylvania."

The testimony of the witness Wallace on page 367 shows that this company had, in the year 1919, 24,559 domestic consumers in the State of West Virginia, and 11,777 consumers in other states. It also had industrial consumers, both inside and outside the state.

THE OHIO FUEL SUPPLY COMPANY.

The Ohio Fuel Supply Company, a gas company operating entirely inside the State of Ohio, purchases West Virginia gas from The United Fuel Gas Company at Ravenswood, which appears upon the map of The United Fuel Gas Company hereinbefore discussed and inserted. The Ohio Fuel Supply Company has a net work of pipe

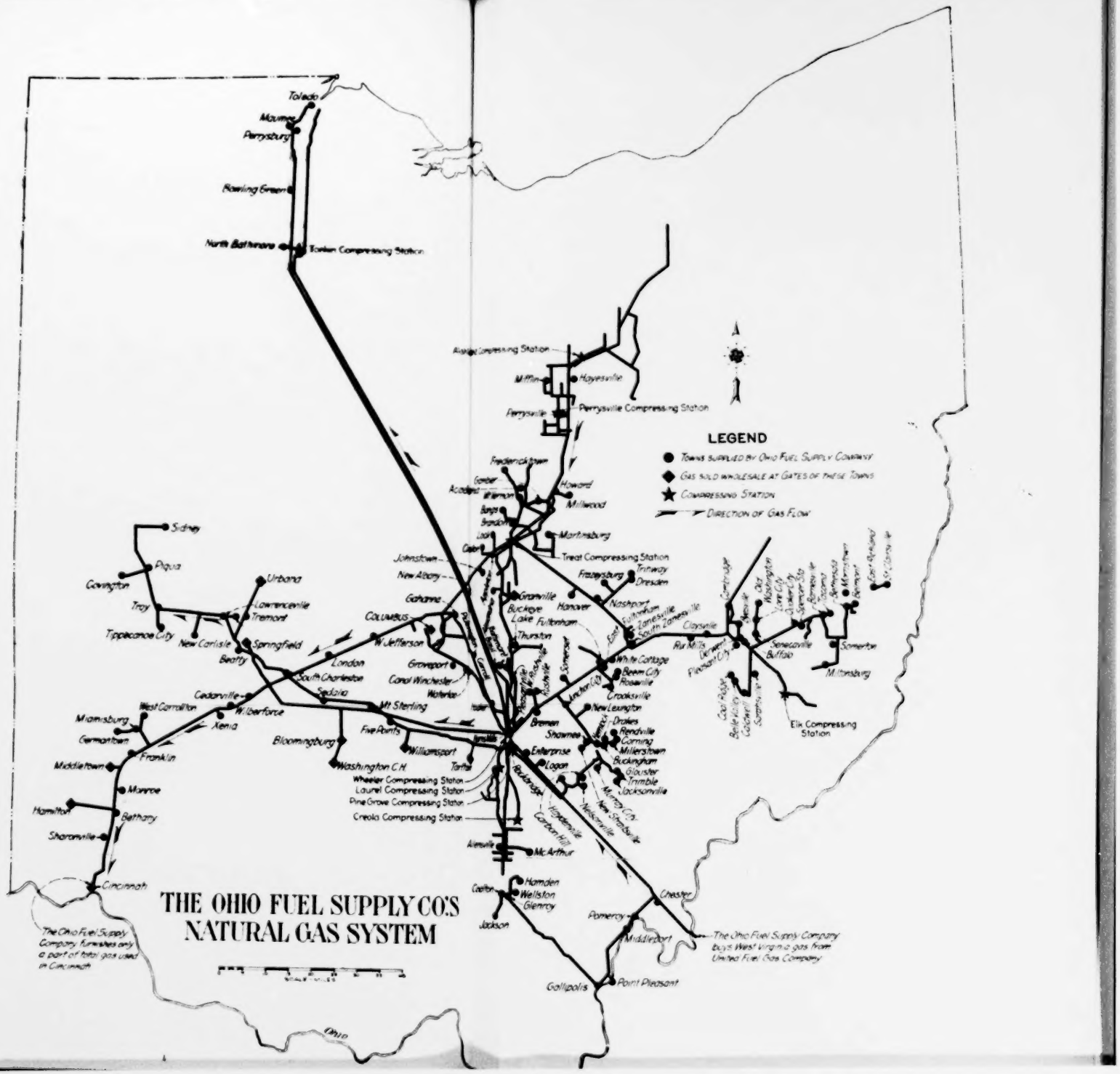
lines extending over the entire central portion of the State of Ohio, with some branches running farther in all directions. A map of the system of this company was offered at page 974 of the printed record by the witness Wyer as Pennsylvania Exhibit 49 and appears in the printed record at page 1601. A copy of this map is here inserted.

PENNSYLVANIA EXHIBIT 49.

Offered at p. 974 of Printed Record by Witness Wyer.

Map of the Ohio Fuel Supply Company's System.

is also replaces Ohio Exhibit 2 and shows the lines of the Northwestern
io Natural gas Company to Toledo, as described at p 717 of printed
cord by Witness McMahon.


THE OHIO FUEL SUPPLY CO.'S
NATURAL GAS SYSTEM
LEGEND
Towns supplied by Ohio Fuel Supply Company
Gas sold wholesale at gates of these towns
Compressing Station
Direction of Gas Flow
Toledo
Maumee
Perrysburg
Bowling Green
North Baltimore
Tonkin Compressing Station
Alvada Compressing Station
Hayesville
Perrysville Compressing Station
Frederickstown
Howard
Millwood
Martinsburg
Treat Compressing Station
Johnstown
New Albany
Gahanna
Columbus
W. Jefferson
Frazeysburg
Trinway
Dresden
Nashport
Granville
Buckeye Lake
Fulton
Hanover
Thurston
Zanesville
South Zanesville
Claysville
Fox Mills
Senecaville
Buffalo
Somerton
Millmsburg
Elk Compressing Station
Sidney
Piqua
Covington
Troy
Tippecanoe City
Urbana
Lawrenceville
Tremont
New Carlisle
Springfield
Beatty
London
South Charleston
Sabina
Cedarville
Wilberforce
Xenia
West Carrollton
Miamisburg
Germantown
Franklin
Middletown
Monroe
Hamilton
Bethany
Sharonville
Cincinnati
Bloomingburg
Five Points
Washington C.H.
Williamsport
Tarlton
Wheeler Compressing Station
Laurel Compressing Station
Pine Grove Compressing Station
Creola Compressing Station
Groveport
Canal Winchester
Waterloo
Mt Sterling
Bremen
Shawnee
Enterprise
Logan
Redondo
Hopedale
Carbon Hill
Nelsonville
New Straitsville
Murray City
Jacksonville
Trimble
Glouster
Buckingham
Millersport
Corning
Rendville
Drakes
New Leington
Crooksville
Roseville
Bloom City
White Cottage
Anchor City
Somerset
Junction City
Thornville
Kirkersville
Reynoldsburg
Alexville
Mc Arthur
Hamden
Wellston
Glenroy
Gallia
Jackson
Pomeroy
Middleport
Chester
Gallipolis
Point Pleasant
The Ohio Fuel Supply Company buys West Virginia gas from United Fuel Gas Company
The Ohio Fuel Supply Company furnishes only a part of total gas used in Cincinnati
Ohio

(The main line of The Northwestern Ohio Natural Gas Company, hereinbefore referred to, are also shown on this map, there being two lines extending from a point marked Hern's Mill, in a northwesterly direction to a point in Hancock county, a distance of 121 miles, and thence on to Toledo, a distance of 38 miles. Record, pages 717 and 718.)

The detailed testimony with reference to the system of The Ohio Fuel Supply Company was given by the witness Denning, the vice-president of The Ohio Fuel Supply Company, beginning at page 650 of the printed record.

The two general sources of gas supply of The Ohio Fuel Supply Company are gas produced in Ohio and that produced in West Virginia, the latter by reason of contract relations with The United Fuel Gas Company. (Record, page 656.) That part of its system which carries gas to Cincinnati is the 18-inch line beginning at Homer Station and extending in a southwesterly direction to Cincinnati, approximately 170 miles, built in 1905, and through which flows gas produced in Ohio and that produced in West Virginia. (Denning, 655, 656.) The 8-inch line of The Ohio Fuel Supply Company extending from Wheeler Station southeasterly to the Ohio river and connecting with the 18-inch line of The United Fuel Gas Company was for the express and only purpose of procuring and transporting gas from West Virginia. (Denning, page 665.) The lines of The Northwestern Ohio Natural Gas Company—its transmission system—were built and laid exclusively for the sole and only pur-

pose of obtaining West Virginia gas. (Denning, page 666.)

The witness Denning testified that this company, and all companies, within the knowledge of the witness, are constantly exercising efforts to discover not only new sources of supply, but additional gas within known fields. (Denning, pages 670, 671, 713.)

The gas supplied by The United Fuel Gas Company to The Ohio Fuel Supply Company on the Ohio side of the river is transported to the Wheeler station at Sugar Grove, Ohio, and is there mingled with gas produced in Ohio, and is all supplied to communities in Ohio except a portion which is transported back into West Virginia to supply the municipality of Point Pleasant, where the distributing company, The Point Pleasant Natural Gas Company, is owned by The Ohio Fuel Supply Company. The Ohio Fuel Supply Company supplies directly the 137 cities listed on pages 667, 668 of the record, and also wholesales gas and supplies indirectly, through its subsidiary companies, The Northwestern Ohio Natural Gas Company, and The Point Pleasant Natural Gas Company, the cities of Toledo, Bowling Green, North Baltimore, Maumee and Perrysburg, Ohio, and Point Pleasant, West Virginia. In addition, The Ohio Fuel Supply Company wholesales gas to utilities and municipalities for the purpose of supplying the same to Ohio consumers, as shown by the list on page 669 of the printed record. Altogether it is responsible for the natural gas supply of approximately one million people in Ohio. (Denning, 672.) The number of municipalities, churches, schools, state in-

stitutions and public buildings furnished gas during the year 1919 by this company were:

Municipalities	135
Churches	130
Schools	57
State Institutions	43
Public Buildings	170

The Ohio Fuel Supply Company has not taken on new towns in Ohio for several years past. [Denning, 691.] It requires all of the gas which it has been able to get from West Virginia, and more, to meet its present obligations. (Denning, 696.)

The United Fuel Gas Company has not been able, during cold weather, to furnish to The Ohio Fuel Supply Company the amount of gas which it has contracted to furnish to that company. (Denning, 696.)

THE UNION GAS AND ELECTRIC COMPANY.

The Union Gas and Electric Company of Cincinnati is the distributing company that supplies the city of Cincinnati with natural gas. It purchases this gas from The Columbia Gas and Electric Company and The Ohio Fuel Supply Company. (Record, page 454.)

The Columbia Gas and Electric Company owns 253 gas wells, 122 miles of field lines and a considerable acreage, operated and unoperated, in the State of West Virginia. In addition, it has a twenty mile pipe line connecting with the United Fuel Company's lines at Ball's Gap, West Virginia, through which it secures a further supply. All of the natural gas used in the city

of Cincinnati is West Virginia gas, except such portion of the gas furnished by The Ohio Fuel Supply Company as is produced in the State of Ohio, which is a very small proportion of the total gas supply of the city of Cincinnati, and even now in cold weather amounts to almost nothing. (Record, page 459.)

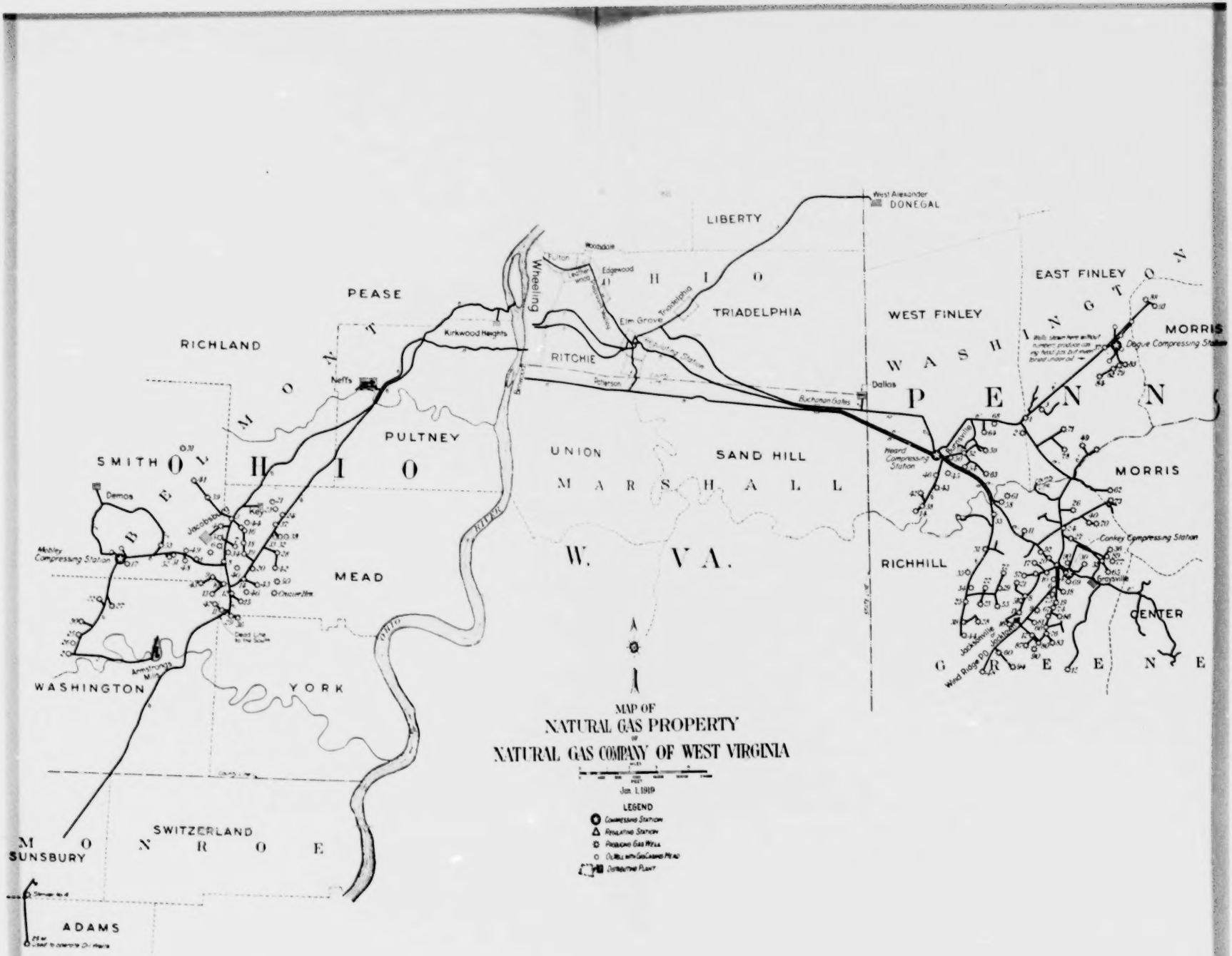
THE NATURAL GAS COMPANY OF WEST VIRGINIA.

The Natural Gas Company of West Virginia has gas wells, lines and territory in the States of Ohio, West Virginia and Pennsylvania. The detailed explanation of the affairs of this company appear in the testimony of the witness, Batchelor, at pages 741-747 of the record. A map showing the lines and wells of the southern division of this company was introduced in evidence at page 746 of the printed record by the witness Batchelor, and appears in the record at page 1566, being Pennsylvania Exhibit No. 26, which map is here inserted.

PENNSYLVANIA EXHIBIT 26.

Offered at p. 746 of Printed Record by Witness Batchelor.

Map Showing Natural Gas Property of Natural Gas Company of West Virginia—Southern Division.


LIBERTY
West Alexander
DONEGAL
PEASE
RICHLAND
Woodside
Fulton
Edgewood
Wheeling
Kirkwood Heights
Elm Grove
Triadelphia
TRIADELPHIA
WEST FINLEY
EAST FINLEY
MORRIS
Dague Compressing Station
RITCHIE
Neffs
Peterson
Dallas
Buchanan Station
PULTNEY
UNION
SAND HILL
Burnsville
Heard Compressing Station
MORRIS
SMITH
Demos
Jacobsburg
Mobley Compressing Station
Conkey Compressing Station
MEAD
RICHHILL
Grapeville
CENTER
WASHINGTON
YORK
Armstrong Mine
Jacksonville
Wind Ridge P.O.
GREENE
SWITZERLAND
SUNSBURY
ADAMS
MAP OF
NATURAL GAS PROPERTY
OF
NATURAL GAS COMPANY OF WEST VIRGINIA
Jan. 1, 1919
LEGEND
Compressing Station
Regulating Station
Producing Gas Wells
Distributing Plant

The gas production of this company is all in the States f Pennsylvania and Ohio. It has not and never has had ny gas production in West Virginia. (Batchelor, 743.) 'et for the most part, it markets its gas in the State of Vest Virginia to 14,137 consumers, including Wheeling nd Benwood, West Virginia. Of the gas supplied in Vest Virginia, 37 per cent. is consumed by industrial oncerns.

THERE IS NO MONOPOLY OF THE GAS SUPPLY AND INDUSTRY IN WEST VIRGINIA.

An examination of the evidence with reference to the ownership of the principal gas companies operating in the State of West Virginia, exporting gas from West Virginia shows that ownership to be as follows:

The Hope Natural Gas Company is owned and The Reserve Natural Gas Company is controlled by The Standard Oil Company of New Jersey. (Record, p. 188.) This company also owns The East Ohio Gas Company, operating in Ohio, and The Peoples Natural Gas Company in Pennsylvania. (Record, pp. 325, 424.)

The Pittsburgh and West Virginia Company, The Carnegie Natural Gas Company, The United Fuel Gas Company, The Manufacturers Light and Heat Company and The Fayette County Gas Company are in no way affiliated with the Standard Oil interests. (Record, p. 356.) The stock of The United Fuel Gas Company is owned by The Columbia Gas and Electric Company and The Ohio Fuel Supply Company. (Record, pp. 378-379.) The Carnegie Natural Gas Company is a subsidiary of The

United States Steel Corporation. (Record, p. 172.) The evidence shows that these gas companies have in fact engaged in and do engage in the keenest competition, formerly in finding markets for the gas when there was a surplus, and at the present time in securing gas to supply the already established markets. (Record, pp. 12-13.) Competitive bidding for leases is keen at the present time, even more keen than formerly. (Record, pp. 45, 46, 220, 371, 827.) There is a greater demand for even reasonably good territory now than there ever was before, and there is stronger competition to secure that territory than ever before. (Record, pp. 357, 371.)

There certainly has been strong competition, and we feel that competition is stronger today than it ever was. There is a greater demand for gas territory now than there ever has been, and a greater endeavor by these different gas companies to get it—even reasonably good territory. (Corrin, 357.)

The undisputed testimony, then, and the facts relative to the ownership of the principal gas companies operating in West Virginia, show that the claim of an unlawful combination between these companies is entirely without foundation. Several of the companies are large, and do have large affiliated companies in the other states, to which companies they supply this gas. However, a large combination of capital is required to lay gas lines for hundreds of miles and install the necessary equipment for causing the gas to flow through those lines, in addition to the capital required to hold a sufficient reserve acreage to protect these investments. The size of the

company which undertakes to carry on such an enterprise is hardly a fault, but rather a necessity.

It is not apparent how the rights of the plaintiff state and its citizens with respect to a continuation of the gas supply secured to them by interstate pipe lines and contracts, can be abridged, even if the charge that the gas territory of West Virginia is controlled by seven big companies were true. Even should the seven companies be combined into one, and the one be a sole and complete monopoly, the remedy to prevent an alleged hardship upon West Virginia consumers would not be by an act which expressly discriminates against the consumers residing out of West Virginia and against the plaintiff states as consumers of gas.

The defendant has not even correctly selected the seven large operating gas companies in West Virginia in that it has omitted to name the West Virginia Central Gas Company, one of the group of companies known as the Eastern Oil Company group supplying West Virginia gas to Cumberland and other Maryland cities. The seven companies which defendant has named do not have control of West Virginia gas resources nor are they combined in interest as defendant seeks to imply by grouping them together. There are between 40 and 50 gas utilities supplying West Virginia cities. (Stipulation, pp. 1365-1366.)

Many of the local utilities have a great spread of pipe lines, large areas of undrilled and undeveloped territory, and suitable compressing stations. (Robinson, 1374-1378.)

Operators other than the seven companies hold 43.2% of the developed acreage and 43.1% of the undeveloped acreage and in arriving at these percentages there are many operators whose holdings could not be ascertained. (Robinson, 1390-1391, Pennsylvania Exhibit 54.)

There are no contracts between the seven companies or any of them restricting development, territory, or production, or dividing territory. Such contracts as exist between some of the companies are for the purpose of buying and selling severed gas already produced, made at a time when one company had a surplus production and the other had requirements for the market beyond its then existing production. These contracts are in evidence. Many of them provide for deliveries of gas within West Virginia from which delivery points many West Virginia cities are served as well as cities outside of the state. For example, the contract for sale of gas by The Hope Natural Gas Company to the Manufacturers Light and Heat Company, (Record, p. 1712), provides for delivery at three points within the State of West Virginia from which delivery points the Manufactures Light and Heat Company takes its purchases of gas and transmits the gas to Wheeling, Moundsville, and many West Virginia cities and also its markets in Pennsylvania and Ohio.

There are no contracts whereby the Carnegie Natural Gas Company sells to or buys from any of the other seven companies, but it does sell gas to both the local company serving Morgantown and the local company serving Fairmont, West Virginia. (Record, p. .....)

There are no contracts whereby the Philadelphia Company group sells to or buys from the Standard Oil Company group or sells to or buys from the Manufacturers Light and Heat Company.

The Reserve Gas Company has no contracts with any of the other six, excepting the Hope Natural Gas Company.

Omission:--See Pages 205 et seq.

NATURAL GAS SERVICE IS IMPRACTICABLE UNLESS THE PEAK LOAD OF THE DOMESTIC DEMAND CAN BE MET.

All the evidence in the case is to the effect that the purpose with which the great systems of production, transportation and distribution of natural gas were established was the furnishing of gas to domestic consumers. The contracts in evidence provide for the furnishing of natural gas by the companies producing it in West Virginia to the companies distributing it in the plaintiff states, for the purposes of domestic consumption. The physicial situation and the practical operation of the plants proves this, the lines being laid to centers of population, and the gas being distributed to thousands of domestic consumers instead of to a few large industrial plants. The demand for gas for domestic consumption, that is, for cooking, lighting, heating, and hot-water heating, exists throughout the year, but fluctuates greatly in amount during the different seasons. There is during the summer months a demand, though comparatively small, for gas for cooking, lighting and hot-water heating. During the colder weather,

when the heating demand is added, a peak load condition is created. We quote the description of peak load conditions as described by two witnesses, (1) Sullivan—page 222:

"A. The peak load is the demand created by the increased quantity of gas required by consumers on cold days and at certain hours of the day. In cold weather, on an extremely cold day, the demand of the average domestic consumer will be from four to five times greater than it is on the normal days. Then there are certain hours in the day when the demand is very considerably increased above the normal demand. This creates a very increased demand, which probably at times is as high as 15 to 20 times more than the regular average daily load."

And (2) Denning—page 711:

"Using the term 'peak load' in this sense, meaning the greatest amount of gas which the domestic consumer requires or thinks he requires to meet his needs at the time, during very extremely cold weather; in other words, the greatest amount of gas that will be required of you at any particular given time. Now the seasonal peak load will always reach us during the cold weather periods. * * * There will come a sudden drop in temperature and the mercury will go down below zero. At once everyone begins to turn on his gas, getting cold, and the demand becomes a peak very much greater and the quantity of gas required is at once increased; that is a seasonal demand, a seasonal peak load which always reaches us during the winter; it may last only a day or two at a time; it may last for two or three weeks, depending entirely on weather conditions, which we cannot forecast. There is a daily peak load, even in the summer time, running usually during the breakfast hour in the morning, as a rule, but at noon there comes another, due to the preparation of the noon meal, not being so great. The evening meal is what is called the supper peak." * * etc.

A very excellent description of peak load requirements and conditions and the operating conditions that must exist in order to meet peak load requirements, is given by witness Quay at Record, pages 56-57.

If the transportation and distribution systems are to continue to be of value, it is necessary that the gas company be able to serve all the consumers upon whose patronage they are primarily dependent, namely, the hundreds of thousands of domestic consumers, throughout the whole year. If the service is intermittent, it is worthless, and will, necessarily, be discontinued. The testimony of the witness Denning at page 677 of the record, is as follows:

> "One of the great values of natural gas service, and its prime requisite, is its continuity of service; the ability of the consumer to step into his house any hour of the day for the 365 days of the year and, by simply turning a little stop-cock and lighting the gas, have an instantaneous service at his command. A problem of the gas company has always been to supply that instantaneous demand and maintain that continuity of service. We have reached a point where, as I said yesterday, during extreme cold weather we are unable to meet the entire demand of the consumer. To have any considerable or substantial quantity of gas diverted or eliminated from our West Virginia supply means to so disarrange and disorganize, and I may say discontinue the service to the consumer, as to practically render it useless to the domestic consumer."

The producing, transporting and distributing gas companies, as well as the governmental authorities, have recognized the fact that domestic consumers must have

service at all seasons, and have made every effort to insure an ability to render continuous service to the patrons upon whom they are primarily dependent, even during the periods of maximum demand. This has been accomplished by the original contracts between the companies, by administrative orders of the Public Utilities Commission of Ohio, and by reasonable rules and practices adopted and enforced by the gas companies themselves. We here make specific reference to the provisions of the contracts between the gas producing companies and the distributing companies, which contracts provide for the preference to the domestic consumers.

The contract between The Hope Natural Gas Company and The East Ohio Gas Company, Pennsylvania Exhibit 19, appearing at page 1544 of the Record, provides for the furnishing by The Hope Company to The East Ohio Company of all the gas requisite for the supply of the domestic consumers of The East Ohio Gas Company and provides that any contracts made by The East Ohio Company for the supply of gas for manufacturing purposes must be made with the consent and approval of the Hope Company. (Record, p. 1545.) This contract further specifically provides for a full supply of gas to the domestic consumers of the Hope Company in West Virginia, before any gas is deliverable under the contract even for domestic consumption outside the State of West Virginia. (Record, pp. 1546, 1547.)

The contract between The Hope Natural Gas Company and The Peoples Natural Gas Company, Pennsylvania Exhibit 17, Record, p. 1524, contains similar provisions. (Record, pp. 1525, 1533, 1534.)

The contract between The Hope Natural Gas Company and The Northwestern Ohio Natural Gas Company, Pennsylvania Exhibit 16, Record, p. 1509, at 1510, provides that the gas supply furnished under this contract is to be used for domestic consumers.

The contract between The Mountain State Gas Company and The River Gas Company, Pennsylvania Exhibit 20, Record, page 1554, provides for the sale of all the natural gas required by The River Gas Company for the supply of all the consumers of that company paying domestic rates, and for such further amounts as may be required by The River Gas Company to fulfill contracts for the supply of gas for manufacturing purposes, such contracts to be made with the consent of The Mountain State Gas Company. **The latter company expressly reserves the right to prefer its domestic consumers in West Virginia.** (Record, p. 1556.)

The contract between The Hope Natural Gas Company and The Fayette County Gas Company, Pennsylvania Exhibit 21, Record, p. 1560, provides for the supply of gas for consumers paying domestic rates. It further provides for a preference to the domestic consumers connected with its own system in West Virginia and those connected with systems in West Virginia, which it is supplying with gas. (Record, p. 1565.)

The contract between The United Fuel Gas Company and The Ohio Fuel Supply Company, West Virginia Exhibit 38, (Record, p. 1761) measures the amount which The Ohio Fuel Supply Company is entitled to receive by the demands of its domestic consumers. (Record, p.

1761.) It reserves to The United Fuel Gas Company "the right to supply all of its domestic consumers in West Virginia and the domestic consumers in West Virginia of all companies whose capital stock or a majority thereof is owned by The United States Fuel Gas Company. (Record, p. 1764.)

The Public Utilities Commission of Ohio issues from year to year what it terms its administrative orders to the natural gas companies of Ohio, classifying the consumers, and ordering that in case of any shortage that would render the companies unable to meet the needs of all classes of consumers, the gas is to be shut off from all classes other than domestic, to the end that domestic consumers may have the first and prior right to the gas. (Rec., p. 578.) The Commission issues from time to time during periods of cold weather its so-called emergency orders, pursuant to Section 614-32, General Code of Ohio, (Rec., p. 681) limiting, where necessary, domestic consumers to a maximum number of cubic feet of gas per day. (Rec., pages 578, 681.) Sufficient of these orders to show their nature and extent were offered by the witness, Mr. Denning, at page 681 of the printed record, and are shown in the record at pages 1695, 1706, being Ohio Exhibits Nos. 3-9, inclusive. The text of the general administrative order No. 34, issued May, 1918, which is reissued annually by the Commission, being Ohio Exhibit 17 (at page 1703 of the Record) is as follows:

> "Administrative Order No. 34.
>
> The Public Utilities Commission, having under consideration the probable inability of natural gas companies to furnish an adequate supply to all their

consumers during the coming winter, and the necessity of formulating more definite rules for the guidance of such public utility companies in disconnecting industrial and other consumers from the service, when necessary, during an emergency, to conserve the supply for domestic consumers, and the order in which disconnection should be made, as well as the order in which the service should be restored when the emergency is passed, hereby adopts the following rules and regulations, to wit:

1. That for the purpose of disconnecting or curtailing service to consumers during an emergency, all consumers of natural gas are divided into two general classes, namely: Domestic Consumers and Industrial Consumers.

2. That domestic consumers, for such purposes, include the users of natural gas for heating, lighting and cooking in private homes, boarding houses and apartment houses; and users of natural gas for lighting and cooking only, in hotels, restaurants, bakeries, eating places, club houses, hospitals and other charitable institutions.

3. That all other consumers shall be designated as "Industrial Consumers;" but for the purpose of disconnecting or curtailment during an emergency, the following subdivisions of industrial consumers may be made, in cases where there is more than a sufficient supply of gas for domestic consumers as herein specified, but not a sufficient supply for all industrial consumers:

A. Users who are not included in the domestic consumer's class, as herein specified, but who are engaged in preparing or preserving foodstuffs, or food producing plants, for such purposes only.

B. Industries directly engaged in manufacturing or producing war materials, for such purposes only; and users of gas in gas engines.

C. All other industrial consumers.

When there is not sufficient gas for all industrial consumers, as herein defined, the surplus shall be furnished to industrials in the order above named.

4. This classification is subject to the following exceptions: Where natural gas is being used in limited qualities for scientific, experimental or mechanical purposes, and where other means of producing light and heat for such purposes cannot be reasonably substituted, an amount essential to such use, but not to exceed five thousand (5000) cubic feet per month to each consumer so engaged may be used for such purposes only, and as if they were included in the class of domestic consumers herein specified.

5. If, after disconnecting all industrial consumers, there is not a sufficient supply of gas for the domestic consumers, then all boilers and furnaces not provided with gas fixtures and appliances primarily designed for burning natural gas as a fuel shall be disconnected; and if it becomes necessary to further restrict the use of gas to meet the emergency, domestic consumers may be limited to the use of thirty-five thousand (35,000) cubic feet per month, in one building, or for one family.

6. A copy of these regulations shall be furnished by each natural gas company to its consumers not later than June 15, 1918.

7. Consumers who do not promptly disconnect or curtail, in accordance with these rules and regulations, when notified by the utility that it is necessary so to do, shall, upon discovery, be wholly disconnected from the service until the emergency is passed."

What is accomplished by virtue of these various orders of the Public Utilities Commission was, prior thereto, voluntarily practiced by the gas companies. (Rec., p. 680.) That these orders are carried out is shown by the record: The East Ohio Gas Company,

which supplies Cleveland, Akron, Canton, Youngstown and numerous other municipalities in Ohio, confines its gas service strictly to domestic consumption during the cold weather, or winter period. (Rec., p. 578.) The Ohio Fuel Company limits its supply of gas to domestic consumers at all times when the supplying of gas to other consumers would impair its supply to domestic consumers. (Rec., p. 680.) The Logan Natural Gas & Fuel Company, and all of the other subsidiaries of the Union Natural Gas Corporation, supplying more than fifty municipalities in Ohio, furnish no industrial gas during the six months winter period. (Rec., pages 781, 793.) The North Western Ohio Natural Gas Company furnishes gas for industrial purposes during the summer months only. During the year 1919, less than 6% of the gas distributed by this company was to consumers other than domestic. (Rec., pages 721, 722.) The companies held by The Pure Oil Company which supply Columbus, Springfield and Dayton, Ohio, cut off their industrial consumers in the winter season. (Rec., p. 634.) The Union Gas & Electric Company, distributing gas in Cincinnati and suburbs, cuts off all industrial consumers during the cold weather, its own power plant being first. (Rec., page 458.)

The record discloses sufficient facts to warrant the statement that, in the very near future, Ohio will be on a strictly domestic basis of gas consumption, thus conserving this exceptional fuel for the use that will render the greatest service to the public. Even now, companies supplying gas in Ohio and Pennsylvania for industrial purposes, do so only under contracts which give the com-

pany the right to shut off this supply immediately when it becomes necessary to do so in order to take care of the domestic consumers. (Rec., pages 436, 328, 458, 603, 939.)

The provision of the statute which would require an adequate supply to consumers within the State of West Virginia **for all purposes**, whether domestic, industrial, or otherwise, would immediately destroy what has been accomplished by the contracts, the administrative orders and the reasonable rules and practices of the gas companies hereinbefore set forth, and would render it impossible for the gas distributing companies to meet their peak-load demands and render continuous service to domestic consumers. The evidence shows that intermittent service is neither practicable nor possible, and that the utility value of these systems would be destroyed if they were reduced to that condition. (Rec., pages 214, 326, 368, 428, 677, 725.)

VOLUME OF GAS EXPORTED FROM WEST VIRGINIA.

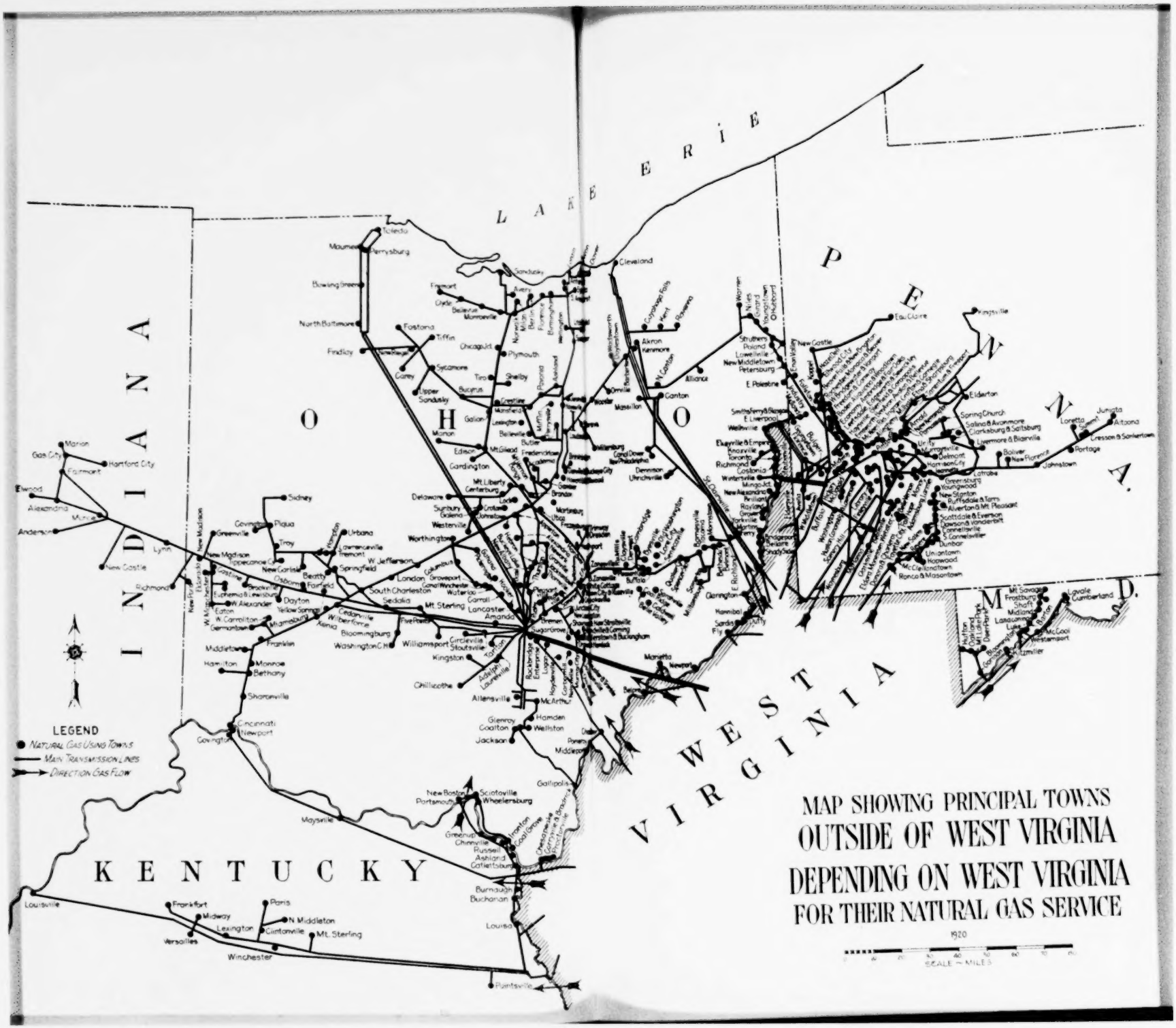
The maps showing the lines of the principal gas companies receiving gas exported from the State of West Virginia, which maps have been inserted heretofore in this statement of facts, show the vast amount of that exportation. A single map was prepared by the witness Wyer and offered at page 914 of the record as Pennsylvania Exhibit 46, which appears at page 1598 of the record, showing the principal towns outside of West Virginia depending upon West Virginia for natural gas

service. We insert here a copy of this map for the purpose of showing graphically the large extent to which communities in Ohio and Pennsylvania, as well as in the other states of Maryland, Indiana and Kentucky, are dependent for their gas supply upon the continued right to receive gas exported in interstate commerce from the State of West Virginia.

PENNSYLVANIA EXHIBIT 46.

Offered at p. 904 of Printed Record by Witness Wyer.

Map Showing Principal Towns Outside of West Virginia Depending on West Virginia for Natural Gas Service.


LAKE ERIE
INDIANA
OHIO
PENNA.
WEST VIRGINIA
MD.
KENTUCKY
LEGEND
NATURAL GAS USING TOWNS
MAIN TRANSMISSION LINES
DIRECTION GAS FLOW
MAP SHOWING PRINCIPAL TOWNS
OUTSIDE OF WEST VIRGINIA
DEPENDING ON WEST VIRGINIA
FOR THEIR NATURAL GAS SERVICE
1920
SCALE ~ MILES

The testimony of the witness Wyer (at page 895) shows in figures the amount of this exportation. The production of natural gas in West Virginia was at its greatest in 1916. During that year approximately 193 billion cubic feet of gas or sixty-four per cent. of the total production, was exported from the state. In the year 1919 approximately 138 billion cubic feet of gas was exported from the state. (Record, pages 895, 896.) Pennsylvania Exhibit 41, offered at page 895 of the record by the witness Wyer, shows the volume of gas exported from West Virginia in billion cubic feet, and the percentage of the state's total production exported for the years from 1906-1919, inclusive. We insert here a copy of this exhibit.

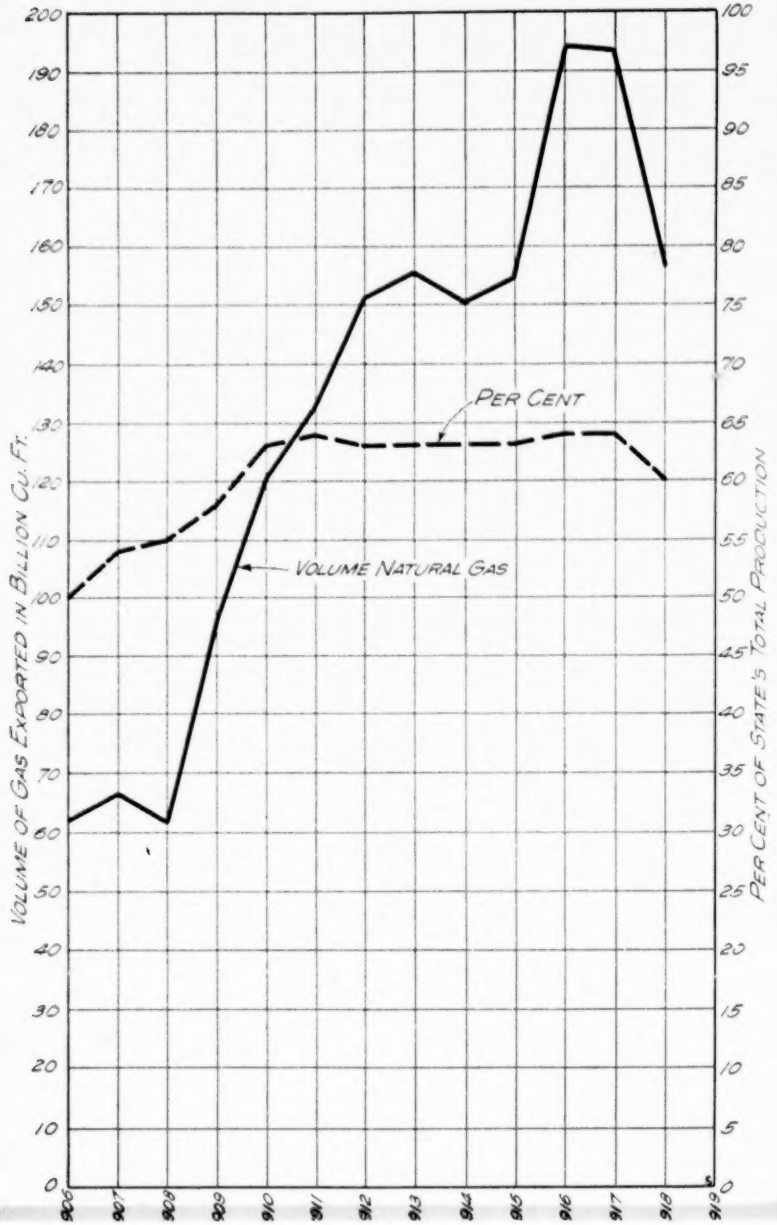
PENNSYLVANIA EXHIBIT 41.

Offered at p. 895 of Printed Record by Witness Wyer.

Volume of Natural Gas and Per cent of State's Total Production Exported from West Virginia.

VOLUME NATURAL GAS
AND
PER CENT OF STATE'S TOTAL PRODUCTION
EXPORTED FROM WEST VIRGINIA

Based on data compiled by the United States Geological Survey.



The exhibit shows that both the volume of gas exported and the per cent. of the state's total production exported increased from the year 1906 to the year 1911, from which time until the year 1916 the volume of gas exported increased, although the per cent. of the state's total production remained practically static; that since the year 1916 both the volume of gas exported and the per cent. of the state's total production exported have gradually decreased.

The testimony of the witness Robinson, and the table prepared by him, being Pennsylvania Exhibit No. 50, offered at page 1378 and appearing on pages 1603, 1604 and 1605 of the printed record, are to the same effect. They show that the percentage of the total production of gas in West Virginia which is exported from the state, was, for the year 1919, 64 per cent.

The percentage of the gas consumed in other states, which is imported into those states from West Virginia is shown by the testimony of the witness Wyer at pages 907, 908 of the Record. It is as follows:

Maryland	100 per cent.
Pennsylvania	35 per cent.
Ohio	50 per cent.
Indiana	80 per cent.
Kentucky	90 per cent.

About 650 towns in these five states depend entirely upon West Virginia gas. (Record, page 907.) Three hundred of these municipalities are in Ohio, three hundred in Pennsylvania, twenty-five in Kentucky, fifteen in Indiana and fourteen in Maryland. (Record, page 908.) The number of domestic consumers dependent

entirely upon West Virginia gas for their natural gas service, and the number of people so dependent, is as follows:

Ohio	725,000	consumers	3,625,000 people
Pennsylvania	300,000	"	1,500,000 "
Kentucky	75,000	"	375,000 "
Indiana	15,000	"	75,000 "
Maryland	10,000	"	50,000 "

IMPROPER USE OF GAS IN WEST VIRGINIA.

The policy of the State of Ohio and of the gas companies distributing gas in that state, of giving the preference at all times to domestic consumers, has been shown. There is much evidence to the effect that gas is being wastefully used in West Virginia, and that it is being extensively and grossly used in industries, although the use therein necessarily accentuates the shortage of gas for the domestic consumers in West Virginia and other states. The testimony of the witness Wyer at page 101 shows that a large saving of gas could be effected by the correction of improper burning equipment, both in industries and by the domestic consumers. (Record, pages 901, 902.) The practice of domestic consumers of neglecting to turn off the gas in mild weather and thereby grossly wasting it, is shown by the testimony of the witness Wyer. (Record, page 901.)

These observations are fully borne out by the statistics in the testimony of the witness Wallace (page 368), showing that the average domestic consumer in Charleston, West Virginia, in the year 1919, used more than

twice as much as the average domestic consumer in the city of Cincinnati, Ohio. The charts prepared by the witness Wyer, Pennsylvania Exhibits 42, 43, 44 and 45, appearing at pages 1594-1597 of the printed record, hereinbefore inserted, show also that the average consumption is much greater in West Virginia than in Ohio or Pennsylvania.

One of the grossest misuses of natural gas is in the carbon black industry. A considerable proportion of the gas produced in West Virginia is used in that state in the manufacture of carbon black. We insert here the testimony of two witnesses with reference to that condition.

The witness Wallace (Record, page 369), says that the carbon black industry is,

> "An industry in which we all know all the heat units and valuable substance in the gas is absolutely wasted."
>
> "Q. Do you know whether or not there are any number of such carbon black plants in the State of West Virginia and if you do, tell us how many?
>
> A. I can't give you the exact number from memory. I can furnish that for the record, if you want it. About 9 or 10 per cent. of the state's production is misused in carbon black manufacture." (Wyer, p. 903).

The soundness of the Ohio policy rsetricting the use of natural gas to domestic consumers, when the supply is inadequate, and the unsoundness of the policy of permitting this valuable fuel to be used in such wasteful processes as in the manufacture of carbon black, is well

shown by the testimony of the witness, Daly, at page 586 of the record. We here quote his language:

"Q. I wish you would state briefly the advantages, if any, of natural gas for domestic or other purposes, as compared with coal or other fuels?

A. The principal advantage, of course, is in its low cost, as compared with other gaseous fuel, its convenience, its cleanliness, and its advantage, when an adequate supply can be given, to the health of the community, by the ability to keep an even temperature at all times. It is a commodity that might be described as a luxury within the reach of the poor as well as the rich, and has probably contributed more to the comfort of the laboring classes and peo- contributed to the comfort of the people. It has also saved a great deal of drudgery in that way, and has contributeed to the comfort of the people. It has also been a great contributory in the way of taxation to the communities. Not only in that way has it saved the community, but in the saving to cities of a large amount of money in the gathering and disposing of ash content. In the city of Cleveland alone, in the year 1917, the East Ohio Gas Company displaced approximately thirteen hundred thousand tons of coal. * * * Then we have charitable institutions and hospitals, where it is almost a necessity. They find it very difficult to get along without some fuel of that kind, and in the smaller communities, the cutting off of natural gas would mean that they would be deprived of all gaseous fuel, for the reason that they are not large enough to maintain an artificial gas plant. Even though the company could furnish gas, the cost would be very excessive in comparison with natural gas, and it would be unthinkable to tax the people to the extent necessary to use artificial gas for heating purposes, although they might afford the luxury of it for cooking and water heating."

On this subject the witness, Denning, (at page 677 of the record), testified as follows:

> "Natural gas is the best and most economic and most convenient fuel for all general purposes that has ever been discovered. Its B. T. U. content of heat efficiency is generally from 100 to 150 per cent. more than that of any manufactured gas or any solid fuel. For those reasons and due to the practically unlimited supply in the past, the domestic consumer throughout Ohio, to the number of somewhere between four millions and five millions, have grown to practically depend upon the use of natural gas for all purposes of a general household nature, cooking, in a large measure for lighting, and in a very large measure for heating, particularly for dwellings."

EXTENT OF PROPERTY RIGHTS WHICH WOULD BE AFFECTED BY THE ENFORCEMENT OF THIS STATUTE.

The maps hereinbefore inserted showing the pipe line systems of the various natural gas companies engaged in transporting gas from West Virginia to other states and in transporting gas in and through those other states to the ultimate consumer, show graphically that the property the value of which would be destroyed by the shutting off of the gas now carried by these lines, would be enormous. The equipment of consumers upon all of the lines shown by these maps, would be rendered largely useless, and this would add another large sum to the total of destroyed property values. The testimony of the witness, Wyer, (pages 905 and 906), is to the effect that the property value of gas companies that would be affected by the enforcement of the law in question would

be at least two hundred million dollars. The same witness testified that the readjustment of the appliances and houses of consumers for the use of other fuel would be a loss of at least one hundred dollars on the average for each consumer affected, and this would make an aggregate loss of at least one hundred and twelve million dollars. The testimony of the witness, Daly, (page 588), is that the result of the enforcement of this act would be the practical financial wreckage of The East Ohio Gas Company. It would render the transportation system useless and destroy its value, except its salvage value. The loss would be approximately twenty million dollars.

The testimony of the witness, Denning, (record, page 673), is to the effect that much of the property of The Ohio Fuel Supply Company would be rendered useless by the operation of this act.

The testimony of the witness, Quay, (record, page 47), Corrin (record, page 326), Wallace (record, page 368), Tonkin, (record, page 428), Angle, (record, page 555), McMahon, (record, page 725), Whitcomb, (record, pages 782-783), Anderson, (record, page 828), Wyer, (record, page 909), is to the effect that the service of these gas companies to their consumers would be demoralized by the operation of the act. The deteroriation and loss in value of property which would necessarily follow such a demoralization of service is plain.

WEST VIRGINIA WOULD TAKE SUBSTANTIALLY ALL THE GAS UNDER THE ACT IN QUESTION.

The testimony shows that under the operation of the act, practically the entire supply of gas produced in the State of West Virginia would be, if not immediately, then at a very early date, required for consumers inside the State of West Virginia. We here insert verbatim extracts of the testimony of the complainant's witnesses upon this point:

Quay (The Manufacturers Light & Heat Company, record, page 44):

> "A. If we were called upon to supply natural gas to meet all the requirements of the gas which they may desire to use, in all of the industrial plants, manufacturing companies, in West Virginia, it would require between 25 and 33,000,000 cubic feet per day.
>
> Q. As I understand your answer, that applies only to those industrial plants that are connected with your own lines?
>
> A. Yes."

Wallace, (The United Fuel Gas Company, record, page 369):

> "I feel that in the course of a year or year and a half, the gas would be practically all sold in the State of West Virginia for manufacturing purposes." * * *

Sullivan, (The Hope Natural Gas Co., record, page 214):

> "We have attempted to make an estimate of the increased amount which consumers connected to

our lines and closely tributory thereto, would require to take care of their business, if they were using natural gas for all purposes. And we estimate that that would be in the neighborhood of from sixty to seventy-five million cubic feet per day." * * *

Anderson, (record, pages 824, 825):

"Q. Have you made any computation and estimates of the quantity of gas which the industrial plants in West Virginia would take per year, if they could get a full and continuous supply?

A. I have made two such estimates, based upon the reports of the maximum monthly sales in any one month to domestic and industrial consumers of the twelve largest gas utilities doing business in West Virginia, which reports were made to me in writing by letter. The first show the increased demand per annum in excess of the present sales which the industrial consumers would make upon the utilities by reason of the operation of the act in question amounting to 98,628,380,000 cubic feet; second, showing the increased sales per annum of gas which would be made to industrial consumers under the operation of said act, amounting to 55,017,359,000 cubic feet.

Q. Have you any other estimates of the increased industrial use of gas per annum within the State of West Virginia, by reason of the operation of the act now in controversy?

A. I have made an estimate of such increased use of gas in West Virginia, based upon the curtailment of the supply of gas to industrial consumers, by reason of the increased domestic consumers' demand during the winter months, based upon the actual monthly industrial sales of the nine largest gas utilities operating in the State of West Virginia, Pennsylvania, Ohio and Kentucky.

Q. What amount of increased use of gas per annum does this computation show?

A. It shows 32,959,471,000 cubic feet.

Q. Does this purport to show the entire increase in the industrial demand, which will occur under the operation of the act?

A. It does not; on the contrary, it is believed to be much less than the actual demand would prove to be."

There are many natural gas utilities in West Virginia, (stipulation, pp. 1365-1366; Robinson, 1374-5-6-7-8), supplying the towns and cities of that state, and it is chiefly from industrial concerns in a few of these that the loudest complaints about shortage occur. The glass companies of Morgantown, Fairmont and Clarksburg were largely responsible for the passage of the act, in a self-centered demand that insists on gas for their glass pots throughout the winter, though the supply for their use shall be taken from the homes of Pennsylvania and Ohio families.

The local companies supplying Morgantown, Fairmont and Clarksburg had an inadequate supply from their local wells, though both companies have large areas of undrilled leaseholds, extensive pipe line systems and compressing stations. (Robinson, 1375; Cunningham, 1219). The unique scheme, therefore, was evolved and embodied in the act, **something entirely new in utility regulation** or policy, whereby the local companies should have the right to demand that the interstate companies shall not only take care of their own West Virginia patrons, but shall make good the deficiency upon the lines of any other gas utility before gas may go out of the state. (Cunningham, 1230).

Fairmont and Morgantown also made application to the Public Service Commission of West Virginia to com-

pel the interstate companies to sell to the local companies. (Robinson, 1399).

That the statute in question here had its inception in 1917 in the demand for gas from the industries of West Virginia also appears from the testimony of Governor Cornwell, who testifies, (record, page 1194), that "the matter was first brought to my attention by Mr. Steptoe, who represented manufacturers and other gas consumers at Clarksburg in the northern part of the state." The governor refused, he testifies, (record, page 1195), "to put a provision in the call for the special session in 1917 to deal with this question, for several reasons, but I did lay the matter before the legislature, or called it to the attention of the legislature at the regular biennial session in 1919."

From the paragraph, relating to this subject, in the governor's message to the 1919 session of the West Virginia legislature, we quote, in part, as follows:

> "With the approach of the last winter and the early cold weather there was an acute gas shortage in the central and northern section of the state, **especially for manufacturing purposes**, which led to a demand of me by gas consumers for a special session of the legislature to enact a measure under which the gas companies could be compelled to furnish an adequate supply of gas to West Virginia consumers.
>
> * * * * * * * * *
>
> I acceded to that request, not only because of the importance of the particular questions therein involved, but because I felt that the graver and more far-reaching question of the powers of the legislature itself, as well as the general regulatory powers of the Public Service Commission were likewise in-

volved, and that they should be settled by the Commission, and if need be by the courts of the land, in order that we might know, once and for all, how far the legislature has gone or how far it can properly go in regulating public service corporations through the Public Service Commission." (Record, page 1196).

In addition to these industries which are using gas from the lines of local utilities but want an additional supply during the peak load time, as well as at all other times, there are many other industries which are not dependent altogether on gas, but are using coal and coke; these constitute an enormous threat against the gas supply in their locality should this act be upheld. For instance, the Weirton Steel Company, Weirton, West Virginia; Wheeling Steel and Iron Company, Wheeling, West Virginia; LaBella Iron Works, Wheeling; Whittaker Glass Company, Wheeling; Follansbee Bros., Wellsburg, West Virginia; Fostoria Glass Company, Moundsville, West Virginia; United States Stamping Company, Moundsville, West Virginia; Homer Laughlin China Company at Newell, West Virginia; Smith and Taylor Company, Chester, West Virginia, are some of these plants which would avail themselves of the benefit of the act and would demand from 25 million to 33 million cubic feet per day. (Quay, 44.) And a large number of other similar plants near the lines of other interstate companies in West Virginia. (Quay, 45.)

Even though, under the act in question, a substantial amount of gas would remain for exportation to other states during the season of minimum demand, yet the

evidence is plain that, during the winter period, the amount would be so small as to render the service insufficient, dangerous and intolerable, and the value of the service and of the property devoted to it would be destroyed as completely as if no gas at all were available for exportation. (Record, pp. 214, 326, 368, 428, 677, 725).

THE TESTIMONY SHOWS THAT THE EFFECT OF THE ENFORCEMENT OF THE STATUTE IN QUESTION WOULD BE AS ALLEGED IN THE BILL OF COMPLAINT OF THE STATE OF OHIO

The undisputed testimony of the witnesses upon the question of the effect of the act of West Virginia completely supports the allegations made in the bill of complaint of the State of Ohio with reference to that fact. We insert herein the verbatim testimony of the managers of the various companies transporting gas from West Virginia, and distributing such gas in other states:

Quay, (The Manufacturers Light and Heat Company, record, page 47:

> "If my company was compelled to furnish gas in an amount equal to the possible requirements of all of our customers, connected to our lines in the State of West Virginia—and that would apply to all other companies in the state as well—that it would practically demoralize our business in the States of Pennsylvania and Ohio."

Sullivan, (The Hope Natural Gas Company), record, page 214:

> "If the provisions of this statute were put into effect it would result in such a demoralization of the business as to make it impossible for us to fulfill our obligations under the contracts which we have made with other companies for a supply of gas outside of the State of West Virginia. It would also have the effect of making the service that we could render to those companies so unsatisfactory to their consumers that they would necessarily have to adopt some other means of providing heat in their homes. * * *"

Corrin, (The Hope Natural Gas Company The Reserve Gas Company, The Connecting Gas Company, The River Gas Company), record, page 326:

> "First, it would be very dangerous. I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and have some person or city, or otherwise, take gas off of the line before it reached your consumers. In addition, you could not retain any of your consumers yourself, because the service that would be rendered would be uncertain and undependable; and, in fact, I don't believe that it would be practicable to maintain a gas company if that condition existed."

Wallace, (The United Fuel Gas Company), record, p. 368:

> "I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the state, and for that reason I do not believe domestic consumers and other people would care to be connected to our lines, if they could only receive a supply of gas during the summer season, and in the winter time, when they absolutely needed the gas

for heating and lighting and comfort, to have the supply discontinued. * * *"

Tonkin, (Peoples Natural Gas Company), record, page 428:

"Well, the result would probably be that on extremely cold days there would be very little, if any, gas come north through the lines connecting with the Hope Company. It would create a situation that would leave us practically without gas, and what little gas we would have left would be scattered around to so many places, and we would have to try to do so much with so little gas, that we wouldn't have any service. It would also create a dangerous situation, where the gas would go out, no doubt, in a number of places. In fact, it would demoralize the operation of the company."

Angle, (Fayette County Gas Company), record, page 555:

"It would, without any question of doubt, put The Fayette County Gas Company out of business."

Daly, (The East Ohio Gas Company), record, page 588:

"The result of such an action, in so far as we are able to anticipate it, would be the wreckage—practical financial wreckage of the company. It would result in depriving many of the communities of gas service of any kind. It would leave our transportation system without any reason or any practical use to which it could be applied. That alone would involve a loss of approximately $20,000,000, less whatever salvage might be obtained from it."

Jones, (The Pure Oil Company), record, page 636:

"The Dayton Gas Company, depending entirely upon its supply from The Logan Natural Gas & Fuel

Company, which company secures the gas from West Virginia, and having no other source of supply, if the gas was cut off entirely, would immediately have to turn to other fuel. If the gas was only partially curtailed the consumers would have to be limited undoubtedly to cooking, heating water, some lighting and perhaps a little auxiliary heating."

Denning, (The Ohio Fuel Supply Company, (record, page 673:

"A very disastrous and destructive effect upon both, of course more or less dependent upon the quantity of gas diverted. A substantial quantity diverted would have the immediate effect of disorganizing and disarranging the service to the consumers throughout the state, make necessary the entire elimination of service from a considerable number of consumers, a complete rearrangement of lines, compressing stations and operating conditions of the company and undoubtedly deprive a considerable portion of the people served by the company, of gas service, thereby destroying the investment which they have in appliances, and also result in a destruction of a considerable portion of the company's property, by reason of the fact that it would no longer be of any value or use in the company's operations, and would not have any value whatsoever, except what might be possibly obtained from a resale or junk or a salvage value. It would necessitate—I think I have already said—a complete elimination or discontinuance of service to a considerable number of consumers."

"Q. Do you mean by that a considerable number of municipalities?

A. Yes; for instance, for illustration, take the city of Columbus—

Q. That is the capital of the state?

A. The capital of the state, yes; we rely almost entirely upon the volume of gas produced in West Virginia and transported through the West Virginia

105

18-inch line, to supply Columbus. If that were diverted or were to cease, Columbus would be, I may say, almost without gas service entirely."

McMahon, (The Northwestern Ohio Natural Gas Company), record, page 725:

"If the Northwestern was to be deprived, through the legislative acts of another state, or if the Hope Company were only able to deliver us a smaller quantity or a less quantity of gas than they are at present delivering us, it would cause us great hardship in the communities we serve. If that was very extensive it would cause, during the winter months, almost a total cessation of the supply of gas to our consumers, and would cause irreparable damage to the people that we serve, and would be detrimental to their health and dangerous to their property. * * * The company would be financially ruined."

Whitcomb, (The Union Natural Gas Corporation, The Logan Natural Gas and Fuel Company, and other subsidiary companies, (record, pages 782-783):

"It would ruin and demoralize the service in our entire southern division, with the exception of the two and a quarter million feet of gas available in local fields. There would be absolutely no gas whatever passing through the line west of Sugar Grove compressing station supplying the city of Dayton the city of Muncie, Richmond, New Castle and other cities and towns in Ohio and Indiana. We would have no service whatever, or no supply to deliver to the city of Lancaster, in Fairfield county. * * * "

James H. Reed, former president of the Philadelphia Company, says, (page 526):

"Under the operation of the West Virginia statute, even eliminating from consideration the in-

creased industrial consumption in West Virginia, there would be enough gas taken out of the lines by increasing the domestic consumption and by making other connections to very seriously cripple the service to Pennsylvania and Ohio consumers on cold days."

Anderson, (expert witness), record, page 828:

"The chief effect upon the large utilities would be to disorganize their operations because of changing the direction and amounts of gas from those for which their plants were designed to meet demands which were unforseen and which, being caused by the deficiency in supply of gas produced by small local companies, would come at times of greatest demand upon their own consumers, this great deficiency in supply to the consumers in other states during extreme cold weather would cause great distress and suffering and be attended with danger of possible death from asphyxiation."

Wyer, (expert witness), record, page 909:

"Q. What would be the effect of making physical connection in West Virginia between those interstate lines and local lines or communities, as is provided for in the statute now under discussion, as to the service on the lines of such interstate companies?

A. The immediate practical effect of making such connections would be to demoralize in all cases, and in many instances destroy entirely, the interstate service for natural gas transmission, in towns outside of West Virginia."

CONCLUSION OF STATEMENT OF THE CASE.

The proofs taken, and hereinbefore reviewed, show that the effect of the enforcement of the act in question herein would be to compel the gas companies engaged in transporting gas from West Virginia in interstate commerce to divert immediately a considerable proportion of the gas now being transported in interstate commerce and furnish it to applicants inside the state; that within a comparatively short period the increased demand for gas for industrial consumption inside the State of West Virginia, which increase would be the natural consequence of the preference created by the act in question, would require all of the gas produced in West Virginia, leaving none for exportation interstate; that the diversion to intrastate uses of any considerable proportion of the amount of gas now being transported interstate, would, during the cold weather months, demoralize the gas service in the plaintiff state and other states and render it dangerous and intolerable; the consequence of this would be that provision for other fuel would have to be made, and the consumers would lose their gas supply and the value of their appliances adapted to natural gas; the companies and municipalities transporting and distributing the gas would lose the larger portion of the value of their investments; that natural gas is the ideal fuel for domestic purposes, and that this fact has been recognized by the gas companies and governmental authorities of the State of Ohio by giv-

ing the preference in all cases to domestic consumers; that the contract and property rights of these domestic consumers, as well as those of the plaintiff state and of its subdivisions, would be impaired and destroyed by the operation of the act in question.

We proceed now to the discussion of whether or not the State of West Virginia has the power, under our constitutional limitations, to impose these consequences upon the plaintiff state and her citizens and residents.

LEGAL ARGUMENT.

I.

THIS CASE IS PROPERLY BROUGHT IN THE ORIGINAL JURISDICTION OF THIS COURT.

The allegations made by the pleadings and the facts as shown by the proofs in this case clearly bring it within the original jurisdiction of this court, as that jurisdiction has been defined in the cases.

In the case of Kansas v. Colorado, 185 U. S., 125, this question was fully discussed by Mr. Chief Justice Fuller in an able opinion in which he held that, undoubtedly, the constitution made some things justiciable which were not known as such at the common law and that, as the remedies ordinarily resorted to by independent states for the determination of controversies raised by collision between them were withdrawn from the states by the constitution, a wide range of matters susceptible of adjustment, and not purely political in their nature, were made justiciable by that instrument. He referred to the case of Missouri v. Illinois, 180 U. S., 208, in which it was held that the State of Missouri had a right to sue in this court to protect the health and comfort of her citizens which were threatened by the act of the state of Illinois in introducing large quantities of sewage into the waters of a river upon which the state of Missouri depended for her water supply. He held that the mere fact that a state

had no pecuniary interest in the controversy would not defeat the original jurisdiction of this court which might be invoked by the state as **parens patriae**, trustee, guardian or representative of all, or a considerable portion, of its citizens. The learned justice stated that, when one of our states complains of the infliction of a wrong by another state this court has the constitutional jurisdiction to ascertain the existence of the cause of complaint and to adjust the matter, if the complaint be well founded, since the states of the Union cannot make war upon each other nor make reprisal upon each other by embargo nor enter upon diplomatic relations and make treaties. He asserted the power of the court to sit, upon occasion, as an international tribunal and to apply international law if the exigencies of the particular case should so demand.

Again, in the case of Georgia vs. Tennessee Copper Company, 206 U. S., 230, Mr. Justice Holmes, delivering the opinion, used the following language:

> "The case has been argued largely as if it were one between two private parties; but it is not. The very elements that would be relied upon in a suit between fellow citizens as a ground for equitable relief are wanting here. The state owns very little of the territory alleged to be affected, and the damage to it capable of estimate in money, possibly, at least, is small. This is a suit by a state for an injury to it in its capacity of quasi-sovereign. In that capacity the state has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests, and its inhabitants shall breathe pure air. It might have to pay individuals before it could utter that word, but with it remains the final power. The alleged

> damage to the state as a private owner is merely a makeweight, and we may lay on one side the dispute as to whether the destruction of forests has led to the gullying of its roads."

The rule of these cases is readily applicable to the facts of the instant case. The court took this view in passing upon the application for leave to file, and, since the proofs taken clearly support all the material allegations in the bill of complaint, the action of the court in thus taking jurisdiction of the case was clearly right.

II.

NATURAL GAS IS PRIVATELY OWNED, AND IS NOT THE PROPERTY OF THE STATE, WHICH THE STATE MAY REFUSE TO PERMIT TO BE TRANSPORTED OUTSIDE THE STATE.

The claim may be made that natural gas is comparable with wild game and naturally flowing water, which have been held to be the property of no one until reduced to possession, and as to which, therefore, the state may impose terms upon the privilege of reducing them to possession. See Geer vs. Connecticut, 161 U. S., 519; Hudson City Water Co. vs. McCarter, 209 U. S., 349.

This claim, if made, is completely answered by the statement that such is not the law of West Virginia, as is shown by repeated decisions of their Supreme Court of Appeals, to which we now refer.

In the case of Williamson vs. Jones, 39 W. Va., 231,

Holt, J., speaking for the Supreme Court of Appeals of that state, said:

> "We are met at the threshold by the contention on the part of defendant Jones that, no matter who may be the rightful owner of the land, petroleum—mineral oil—so far from being a part of the inheritance, something of which waste can be committed, is only capable of the qualified ownership of belonging to him who first appropriates it, no matter where it may be situated. Whatever the earlier decisions in other states may have been, it has never been so held in this state; and the authorities now very generally—universally, so far as I have examined them—hold petroleum to be a mineral, and as much a part of the realty as timber, coal, or iron ore, except that in proper cases its mobility as a subterranean liquid must be taken into consideration as in the case of salt water, etc. * * * Oil is a mineral and, being a mineral, is part of the realty. Funk vs. Haldeman, 53 Pa. St., 229. In this it is like coal or any other natural product which in **situ** forms part of the land."

This case came again before the Supreme Court of Appeals of West Virginia, (43 W. Va., 562), where, Brannon, J., speaking for the court, said:

> "Petroleum oil in its place in the land is a part of the land itself, just as are ore, coal, timber and iron."

This question again came before the Supreme Court of Appeals of West Virginia in Wilson vs. Youst, 43 W. Va., 826, and the court in an opinion in which it examined the authorities at considerable length, held to its former opinion.

Later, in the case of South Penn Oil Company vs. Mc-

Intire, 44 W. Va., 296, the court reaffirmed the doctrine laid down in Wilson vs. Youst, supra, and cited again the language given from Stoughton's Appeal, 88 Pa. St., 198. Still later, in the case of Carter vs. Tyler County Court, 45 W. Va., 806, a case arising over the right to tax oil and gas leases, the Supreme Court of West Virginia said:

> "While the oil remains in the cavities of the rocks **in situ**, this court has held in Wilson vs. Youst, (43 W. Va., 826), and Williamson vs. Jones, (39 W. Va., 231), that it is part of the realty. The lessee may drill the well to the sand or rock in which the oil is contained, but the oil does not change its character from realty to personalty, or any portion of its ownership until it is brought to the surface, and then seven-eighths of it becomes the property of the lessee."

Still later, in the case of Preston vs. White, 57 W. Va., 278, the same court, through Brannon, P. J., held to the same effect.

These West Virginia decisions, which stand unreversed, absolutely conclude argument as to the nature of the ownership of natural gas in that state. The West Virginia view is in full accord with the decisions of this court.

In Brown vs. Spillman, 155 U. S., 665, 669, Mr. Justice Shires said:

> "Petroleum gas and oil are substances of a peculiar character, and decisions in ordinary cases of mining, for coal and other minerals which have a fixed **situs**, can not be applied to contracts concerning them without some qualifications. **They belong to the owner of the land, and are a part of it**, so long as they are on it or in it, or subject to his control,

but when they escape and go into other land, or come under another's control, the title of the former owner is gone. If an adjoining owner drills his own land and taps a deposit of oil or gas, extending under his neighbor's field, so that it comes into his well, it becomes his property. Brown vs. Vandergrift, 80 Penn. St., 142, 147; Westmoreland Nat. Gas Co.'s Appeal, 25 Weekly Notes of Cases, (Penn.), 103."

The nature of the land owner's property in natural gas, and the distinction between the cases involving on the one hand things which are owned by no one, such as wild animals and flowing water, and, on the other hand, things which are the subjects of private ownership, has not anywhere been better stated than by the late Chief Justice White in the case of Ohio Oil Company vs. Indiana, 177 U. S., 190, 208, 210.

This court upheld the constitutionality of the statute of the State of Indiana prohibiting the owner of any natural gas or oil well to permit the gas or oil to escape and waste for a longer period than two days after gas or oil had been struck in the well. In the opinion Mr. Justice White said:

"If the analogy between animals **ferae naturae** and mineral deposits of oil and gas, stated by the Pennsylvania court and adopted by the Indiana court, instead of simply establishing a similarity of relation, proved the identity of the two things, there would be an end of the case. This follows because things which are **ferae naturae** belong to the 'negative community.' In other words, are public things subject to the absolute control of the state, which, although it allows them to be reduced to possession, may at its will not only regulate but wholly forbid their future taking. Geer vs. Connecticut, 161 U. S.,

519, 525. But whilst there is an analogy between animals **ferae naturae** and the moving deposits of oil and natural gas, there is not identity between them. Thus, the owner of land has the exclusive right on his property to reduce the game there found to possession, just as the owner of the soil has the exclusive right to reduce to possession the deposits of natural gas and oil found beneath the surface of his land. The owner of the soil can not follow game when it passes from his property; so, also, the owner may not follow the natural gas when it shifts from beneath his own to the property of some one else within the gas field. It being true as to both animals **ferae naturae** and gas and oil, therefore, that whilst the right to appropriate and become the owner exists, proprietorship does not take being until the particular subjects of the right become property by being reduced to actual possession. The identity, however, is for many reasons wanting. In things **ferae naturae** all are endowed with the power of seeking to reduce a portion of the public property to the domain of private ownership by reducing them to possession. **In the case of natural gas and oil no such right exists in the public. It is vested only in the owners in fee of the surface of the earth** within the area of the gas field. This difference points at once to the distinction between the power which the lawmaker may exercise as to the two. In the one, as the public are the owners, every one may be absolutely prevented from seeking to reduce to possession. No divesting of private property, under such a condition, can be conceived because the public are the owners, but the enacting by the state of a law as to the public ownership is but the discharge of the governmental trust resting in the state as to property of that character. Geer vs. Connecticut, supra. On the other hand, as to gas and oil, the **surface proprietors** within the gas field all have the right to reduce to possession the gas and oil beneath. They **could not be absolutely deprived of this right which belongs to them without a taking of private**

property. * * * Viewed, then, as a statute to protect or to prevent the waste of the common property of the surface owners, the law of the State of Indiana which is here attacked because it is asserted that it devested private property without due compensation, in substance, is a statute protecting private property and preventing it from being taken by one of the common owners without regard to the enjoyment of the others."

The above was approved, and much of the language of Mr. Justice White was quoted in the opinion of this court in the case of West vs. Kansas Natural Gas Co., 221 U. S., 229. Every court in which the question has arisen has taken a similar view. The following text writers confirm our statements. Thornton on Oil and Gas, Sections 18, 19, 20; White on Mines and Mining Remedies, Section 62, p. 223; Snyder on Mines, Section 1170, p. 954.

Since the question has been directly determined by the Supreme Court of Appeals of West Virginia, and by this court, we shall not trouble the court with the further authorities, which are numerous and uniform.

The distinction between the case at bar and the case of Hudson Water Company v. McCarter, 209 U. S., 349, in which this court held that the State of New Jersey might, by valid enactment, forbid the transportation of the water of a river flowing within the State of New Jersey, for consumption in a city in another state, is as obvious as the distinction made by Mr. Justice White in the case of Ohio Oil Company vs. Indiana, supra, between the rights of the state in wild game and natural gas. The language of the court in the Hudson water case itself

distinguishes this case from that. Mr. Justice Holmes said at page 356 of that case:

> "It is fundamental, and we are of opinion that the private property of riparian proprietors can not be supposed to have deeper roots."

But the private property in natural gas has been held by all courts to be as deeply rooted as that in any other property. The statute in question here does not seek to limit the right of owners to take gas from the earth. It fully permits the complete reduction of the gas to private ownership and possession, but it only seeks to limit the right of the private owner and possessor to transport the gas in interstate commerce. Certainly natural gas, lawfully taken from the earth and placed in containers, and for decades recognized as a proper subject of interstate transportation, and always held to be, even when in place in the earth, the subject of private ownership and possession, can be no more properly brought within the rule of the Hudson Water Company case than can oil or coal or iron or copper or any other natural resource. It will hardly be contended that the right of the owner of coal or iron or oil to raise and deal with this property can be qualified by the state by limiting that right to the use of it inside the state. The difference between these cases and those of wild animals and flowing water is that the state is the owner, if it chooses to be so, of the wild animals and flowing water, since they have no private owner, and hence may transfer that ownership upon terms fixed by itself. The state is nowhere, certainly not in West Virginia, thought to be the owner of coal, or oil or gas in

place, hence there is no opportunity to attach conditions upon the acquisition of title. The state can control the use, within the limits of its police power, but it can not, by the exercise of this power, prevent interstate commerce. The language of Mr. Justice Holmes at page 357 of the opinion in Hudson Water Co. vs. McCarter, 209 U. S., 349:

> "It finds itself in possession of a great public good. What it has it may keep, and give no one a reason for its will,"

can not be made applicable, since the state has it not, unless we are prepared to say that the state has all things which are within its borders and may prevent their exportation,

> "And give no one a reason for its will."

No one would claim this to be the law.

In the case of West vs. The Kansas Natural Gas Company, 221 U. S., 229, Mr. Justice McKenna, delivering the opinion of the court, said, at page 259, in distinguishing the case of Hudson Water Co. vs. McCarter, supra:

> "That principle was that the 'interest of the public of a state to maintain the rivers that are wholly within it substantially undiminished, except by such drafts upon them as the guardian of the public welfare may permit for the purpose of turning them to a more perfect use.' And this principle was emphasized as the one determining the case, and the opinion expressed that it was 'quite beyond any rational view of riparian rights that an agreement of no matter what private owners could sanction the diversion of an important stream outside the boundaries of the state in which it flows. The private right to appropriate is subject not only to the rights of land owners, but to the initial limitation that it

may not substantially diminish one of the great foundations of public welfare and health.'

It is hardly necessary to say that there was no purpose in the case to take from property its uses and commercial rights, or to assimilate a flowing river and the welfare which was interested in its preservation to the regulation of gas wells, or to take from the gas when reduced to possession the attributes of property decided to belong to it in Ohio Oil Co. v. Indiana, and recognized in Lindsley v. Natural Carbonic Gas Co. Indeed, pains were taken to put out of consideration a material measure of the benefits of a great river to a state. And surely we need not pause to point out the difference between such a river, flowing upon the surface of the earth, and such a substance as gas, seeping invisible through sands beneath the surface."

There is nothing, then, in the character of natural gas, which permits it to be considered as a thing apart, and to be placed, together with its owners and those who desire to consume it, outside the protection of the commerce clause of the constitution.

III.

NATURAL GAS WHEN REDUCED TO POSSESSION IS A COMMODITY WHICH BELONGS TO THE OWNER OF THE LAND, AND MAY BE THE SUBJECT OF BOTH INTRASTATE AND INTERSTATE COMMERCE.

Extended argument upon this point is rendered unnecessary by the statement made in division X. on page 36 of the answer of the defendant, which we here quote:

"While this defendant admits that gas is or may be an article of interstate commerce, yet this defend-

ant denies that gas placed in mains or pipes by public service gas companies, is either in interstate commerce or a legitimate article of interstate commerce, unless and until it has reached the point where it is no longer subject to the public service in West Virginia, and the duties imposed by law upon public service gas companies have been observed and performed by them; and denies that the requirement of the performance or observance of the duties owed by such companies is an interference with interstate commerce or a burden thereon."

In the case of West v. Kansas Natural Gas Co., 221 U. S., 229, supra, the first paragraph of the syllabus is as follows:

"Natural gas when reduced to possession is a commodity which belongs to the owner of the land and may be the subject of both intrastate and interstate commerce."

The opinion of the court in that case reviews the authorities upon this question, calling attention especially to the Indiana cases of State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Min. Co., 120 Ind., 575, 6 L. R. A., 579, 2 Inters. Com. Reps., 758, 22 N. E., 776; Manufacturers Gas and Oil Co. v. Indiana Natural Gas & Oil Co., 155 Ind., 545, 53 L. R. A., 134, 58 N. E., 706, 21 Mor. Min. Rep., 102, and Jamieson v. Indiana Natural Gas & Oil Co., 128 Ind., 555, 12 L. R. A., 652, 3 Inters. Com. Rep., 613, 28 N. E., 76, which the court in the West case discusses at pages 256-258 of 221 U. S. Reports. The view of the first Indiana case, State v. Indiana, etc., Co., 120 Ind., 575, **supra,** had been earlier approved by this court in the case of Ohio Oil Co. v. Indiana, 177 U. S., 190,

where this court in an opinion by Mr. Justice White approved the same, saying:

> "In State v. Indiana, Etc., Co., 128 Ind., 575, a law of the State of Indiana which made it unlawful for any person to conduct natural gas beyond the state, and imposing penalties for so doing, was assailed as unconstitutional because repugnant to the commerce clause of the Constitution of the United States. The court held the statute to be void for the asserted clause. The property in natural gas when reduced to actual possession was decided to be like any other property, and therefore the subject of commerce, and within the protection of the Constitution of the United States."

In Haskell v. Kansas Natural Gas Co., 224 U. S., 217, (1912), this court, in refusing to modify the decree in the case of West v. Kansas Natural Gas Co., **supra,** said:

> "The original proceeding was brought to enjoin the officers of the State of Oklahoma from preventing the carriage in interstate commerce beyond the lines of the state of natural gas which had been severed from the earth by the owners of such gas, and particularly to enjoin enforcement of a certain statute of the state passed in 1907 * * * This court held that natural gas after severance is a commodity which might be dealt in like other products of the earth, as coal and other minerals, and is a legitimate subject of interstate commerce; and that no state by such laws as were involved in the case can prohibit its transportation in interstate commerce beyond the lines of that state * * *. (Page 228.)
>
> "As we have said, this court in its decision affirmed the right of the complainants in the conduct of interstate commerce, to take natural gas out of the state and declared that a state could not prohibit the transportation of such product beyond its bor-

ders and that the legislative act in question was an act the main purpose and effect of which were to prohibit the exercise of lawful rights secured by the federal constitution."

In Pennsylvania Gas Company v. Public Service Commission of New York, 252 U. S., 23, (1920), this court, affirming the decision of the New York Court of Appeals, 225 N. Y., 397, said:

> "We think that the transmission and sale of natural gas produced in one state, transported by means of pipe lines and directly furnished to consumers in another state is interstate commerce within the principles of the cases already determined by this court. West v. Kansas Natural Gas Co., 221 U. S., 229; Haskell v. Kansas Natural Gas Co., 224 U. S., 217; Western Union Telegraph Co. vs. Foster, 247 U. S., 105. * * *
>
> "In the instant case the gas is transmitted directly from the source of supply in Pennsylvania to the consumers in the cities and towns of New York and Pennsylvania, above mentioned. Its transmission is direct, and without intervention of any sort between the seller and the buyer. The transmission is continuous and single, and is, in our opinion, a transmission in interstate commerce, and therefore subject to applicable constitutional limitations which govern the states in dealing with matters of the character of the one now before us."

In the case of Landon, Receiver, v. Public Utilities Commission of Kansas, 242 Fed., 658, the court said:

> "Reverting to the character of the business transacted by the receiver, it is to be noted, (a) that the shipment is started on its journey from one state to another; (b) with the purpose it shall be delivered to a consumer; (c) that it moves continuously from

a point of shipment in one state to the consumer in another state; (d) that it is moved part of the way in the pipe lines of the distributing company, whether as agent of the receiver or as connecting carrier is immaterial; (e) the destination of the shipment is intended at the time of the shipment to be beyond the state, although the name of the particular consumer for any specific portion of the gas shipped is not known; (f) there is no stoppage in transportation; (g) the title to the gas remains in the receiver until delivery to the ultimate consumer.

"In substance and effect there are continuing orders by the consumers to the receiver through the distributing company to supply them with gas from the Oklahoma fields. Such transactions have the character of interstate commerce at their inception and this character continues until final delivery. Crenshaw v. Arkansas, 227 U. S., 389, * * * and cases cited. Even though the shipment is started before a definite order for a specific amount is given, still the continuous and usual course of business determines the character of the shipment. Swift & Co. v. United States, 196 U. S., 375. * * *; Grand Union Tea Co. v. Evans, (D. C.), 216 Fed., 79."

This court, in Public Utilities Commission vs. Landon, 249 U. S., 236, reversed the decision of the Circuit Court of Appeals last cited upon the ground that the interstate character of the transportation ceased upon the sale and delivery of the natural gas to the local distributing companies in the city and state where the gas was to be consumed. This court, in that case, said, however:

"That the transportation of gas through pipe lines from one state to another is interstate commerce may not be doubted. Also, it is clear that as part of such commerce the receivers might sell and deliver gas so transported to local distributing companies free from unreasonable interference by the state. Ameri-

can Express Co. v. Iowa, 196 U. S., 133, 143; Oklahoma v. Kansas Natural Gas Co., 221 U. S., 229; Haskell v. Kansas Natural Gas Co., 224 U. S., 217, * * *. See also Haskell vs. Cowham, 187 Fed., 403."

The same question came before the Court of Chancery of New Jersey in the case of Benedict v. Columbus Construction Company, 49 N. J. Eq., 23, and was similarly decided. See to the same effect Cooley on Constitutional Limitations, 7 ed., 858; Prentice & Egan, on the Commerce Clause of the Federal Constitution, 195.

Every court, then, which has passed upon this matter has determined that natural gas is a commercial commodity and that its transportation in pipe lines, which is the only practicable method of transporting it, is, if those lines cross state boundaries, interstate commerce. The statement of the defendant state, then, on page 36 of its answer, as follows:

> "Yet this defendant denies that gas placed in mains or pipes by public service gas companies is either in interstate commerce or a legitimate article of interstate commerce, unless and until it has reached the point where it is no longer subject to the public service in West Virginia, and the duties imposed by law upon public service gas companies have been observed and performed by them,"

is so completely contrary to the established law upon the subject that one would desire to wait until counsel for the defendant had suggested some legal reason for this striking proposition before making an argument upon the subject. At this point, however, the statement seems to be simply wrong. If gas is a commodity and as such is a proper subject of interstate commerce, then it must

follow that the law of West Virginia, made either by statute or judicial decision, and whether it purports to be an exercise of police power or not, can not convert a physical commodity, which has always been held to be a subject of interstate commerce, and which is still moving, or which persons still desire to move, across state lines, into a thing which is not a legitimate article of interstate commerce. Western Union Telegraph Co. vs. Foster, 247 U. S., 105; Western Union Telegraph Co. vs. Pendleton, 122 U. S., 347, 359; Leisy vs. Hardin, 135 U. S., 100; Savage vs. Jones, 225 U. S., 501; Western Union Telegraph Co. vs. Brown, 234 U. S., 542, 547; Vandalia Coal Co. vs. Commission, 268 Fed., 572.

IV.

THE ACT IN QUESTION CONSTITUTES A REGULATION OF INTERSTATE COMMERCE.

(a) Purpose of the Commerce Clause.

One of the principal contentions of the complainant in this case is that the act of the State of West Virginia, in question here, is unconstitutional because it is in violation of Clause 3 of Section 8 of Article I of the Constitution of the United States, the so-called "commerce clause." It becomes pertinent, therefore, to refer briefly to the historical background of the commerce clause, and the history of its adoption and interpretation.

The causes leading to the adoption of the Commerce Clause were well stated by Mr. Justice Johnson of this

court in his concurring opinion in the case of Gibbons v. Ogden, 9 Wheaton, 1, in which opinion he stated that, upon the return of peace following the War of the Revolution, the sympathies which had bound the states together during the period of the war dissolved and the states, finding themselves in full control over their own commerce, enacted iniquitous laws and impolitic measures from which grew up a conflict of commercial relations destructive of the domestic harmony of the states and fatal to their commercial interests abroad. He stated that this commercial anarchy was the immediate cause that lead to the Constitutional Convention and that the adoption of the Commerce Clause was recognized at the time as removing from the states the power to enforce these conflicting commercial regulations, as proved by the fact that such regulations, which existed by statute in every state, were permitted to drop lifeless without even the formality of a repeal.

Chief Justice Marshall, in the case of Brown vs. Maryland, 12 Wheaton, 419, said:

> "The oppressed and degraded state of commerce previous to the adoption of the constitution can scarcely be forgotten. It was regulated by foreign nations with a single view to their own interests; and our disunited efforts to counteract their restrictions were rendered impotent by want of combinations. Congress, indeed, possessed the power of making treaties; but the inability of the federal government to enforce them had become so apparent as to render that power in a great degree useless. Those who felt the injury arising from this state of things, and those who were capable of estimating the influence of commerce on the prosperity of nations,

perceived the necessity of giving the control over this important subject to a single government. It may be doubted whether any of the evils proceeding from the feebleness of the federal government contributed more to that great revolution which introduced the present system than the deep and general conviction that commerce ought to be regulated by congress. It is not, therefore, matter of surprise that the grant should be as extensive as the mischief, and should comprehend all foreign commerce and all commerce among the states. To construe the power so as to impair its efficacy would tend to defeat an object, in the attainment of which the American public took, and justly took, that strong interest which arose from a full conviction of its necessity. What then is the just extent of a power to regulate commerce with foreign nations, and among the several states? This question was considered in the case of Gibbons v. Ogden, (9 Wheat. Rep., 1), in which it was declared to be complete in itself, and to acknowledge no limitations other than are prescribed by the constitution. The power is co-extensive with the subject on which it acts, and can not be stopped at the external boundary of a state, but must enter its interior."

In the case of Cook v. Pennsylvania, 97 U. S., 574, this court reviewed the history of the constitutional convention with particular reference to the interstate commerce clause, and stated in its opinion that:

"A careful reader of the history of the times which immediately preceded the assembling of the convention which framed the American constitution can not fail to discover that the need of some equitable and just regulation of commerce was among the most influential causes which led to its meeting."

And still later in Lehigh Valley Co. v. Pennsylvania, 145 U. S., 192, Mr. Chief Justice Fuller said:

> "The conflict between the commercial regulations of the several states was destructive to their harmony and fatal to their commercial interest abroad, and this was the mischief intended to be obviated by the grant to the congress of the power to regulate commerce with foreign nations and among the states."

And in Cook vs. Marshall County, 196 U. S., 261, Mr. Justice Brown said:

> "The power of congress to regulate commerce among the states is perhaps the most benign gift of the constitution. Indeed, it may be said that without it the constitution would not have been adopted. One of the chief evils of the confederation was the power exercised by the commercial states of exacting duties upon the importion of goods destined for the interior of the country or for other states. The vast territory to the west of the Alleghanies had not yet been developed or subdivided into states, but the evil had already become so flagrant that it threatened an utter dissolution of the confederacy. The article was adopted that all of the states of the Union might have the benefit of the duties collected at the maritime ports, and to relieve them from the embarrassing restrictions imposed upon the internal commerce of the country."

In his dissenting opinion in the case of Austin vs. Tennessee, 179 U. S., 343, Mr. Justice Brewer said:

> "Second only to the power 'to collect taxes' and 'to borrow money' is the power given to congress by Section 8, Article 1 of the constitution 'to regulate commerce with foreign nations, and among the several states, and with the Indian tribes.' Thus next in order, as though next in importance to the

power of maintaining itself by taxation and borrowing money, is the power to regulate commerce between the states, as well as between the United States and foreign nations."

(b) The Early Judicial Decisions Interpreting the Commerce Clause.

Not until 1824 was there any important judicial determination bearing upon the commerce clause of the constitution. In that year the well known case of Gibbons vs. Ogden, 9 Wheaton, 1, 6 L. Ed., 23, involving the question of the right of the New York legislature to grant an exclusive right of navigation of the waters within the jurisdiction of the State of New York with boats propelled by fire or steam, was decided. In that case this court unanimously reversed the New York court and held the act of the legislature of New York to be void because in conflict with the federal constitution. The principles there laid down by Chief Justice Marshall, speaking for the court, formed the foundation upon which the whole structure of judicial determination with reference to the commerce clause has been built. In that case commerce was defined as being a more general term than traffic, and as including intercourse between nations and states, and comprising every form of commercial relation between the various states.

> "It (commerce) described the commercial intercourse between nations and parts of nations in all its branches and is regulated by prescribing rules for carrying on that intercourse."

This decision frankly recognized that the power does not extend to commerce conducted **entirely within the states**, but asserted that the protection of the commerce clause does not halt at state lines, when applied to foreign and interstate intercourse; that the control of Congress over interstate commerce is absolute and knows no limitation. It was, on the other hand, recognized that such legislation as quarantine laws, health laws and inspection laws, being in the general description of police powers, still belong to the states, even though they might indirectly affect interstate commerce. The question of whether the jurisdiction of the Congress over interstate commerce was so complete that, even in the absence of action by congress, the states could not in any way regulate it, was not decided, although the point was strenuously argued by distinguished counsel. Chief Justice Marshall said, however:

> "It has been contended by the counsel for the appellant, that as the word to 'regulate' implies in its nature full power over the thing to be regulated, it excludes, necessarily, the action of all others that would perform the same operation on the same thing. That regulation is designed for the entire result, applying to those parts which remain as they were as well as to those which are altered. **It produces a uniform whole, which is as much disturbed and deranged by changing what the regulating power designs to leave untouched as that on which it has operated.** There is great force in this argument, and the court is not satisfied that it has been refuted." (Bold type ours.)

Mr. Justice Johnson, in his concurring opinion in that case, said that the power to regulate foreign commerce

is necessarily exclusive in the federal government since the states are entirely unknown to foreign nations and that, since the language which grants the power over interstate commerce is the same as that which grants the power as to foreign commerce, the power over interstate commerce is also necessarily exclusive.

This point, left undecided in Gibbons vs. Ogden, has been the basis of much of the later litigation involving the commerce clause.

In the case of Brown vs. Maryland, 12 Wheaton, 419, (1827), this court said, although the statement was not required for the decision:

> "The power claimed by the state (the power to impose a license tax upon importers for the privilege of selling goods), is in its nature in conflict with that given to congress."

The case was, however, put expressly upon the ground that congress had expressly authorized importation by imposing a duty upon the article in question, and that hence the statute of Maryland was in conflict with the act of congress and not merely with the general power of congress given it by the commerce clause.

In the case of New York vs. Miln, 11 Peters, 102, the court refused to pass upon the question of whether the mere constitutional grant of the power to congress was, in the absence of action by Congress, exclusive of state action, although the subject was fully argued. The court was said to have been hopelessly divided upon this question. See the statement of Mr. Justice Wayne, 7 Howard, at 423 (the passenger cases).

In Pierce vs. New Hampshire, 5 Howard, 504, (one of the license cases, 1846), this question, which had been reserved in the preceding cases, came squarely before the court for decision. Here again the court was divided, but Mr. Justice Woodbury, for the first time, enunciated the rule which has since become well established. He said, substantially, that, with regard to a regulation which reaches all of the states, the power over commerce, "must, of course, be exclusive," but that there are many local matters concerning which the concurrent and auxiliary actions of the states is permissible. At page 624 of 5 Howard, he said:

> "There is much in connection with foreign commerce which is local within each state, convenient for its regulation and useful to the public, to be acted on by each till the power is abused or some course is taken by congress conflicting with it. Such are the deposit of ballast in harbors, the extension of wharves into tide water, the supervision of the anchorage of ships, the removal of obstructions, the allowance of bridges with suitable draws, and various other matters that need not be enumerated, beside the exercise of numerous police and health powers, which are also by many claimed upon different grounds."

The question was next raised in the Passenger Cases, 7 How., 282, and again Mr. Justice Woodbury, in his dissenting opinion, adhere to the views stated by him in the License Cases and said that, as to "matters of exterior, general and uniform cognizance" the power of congress may be exclusive, and as to such matters the silence of congress is to be respected and obeyed as much as its

action, that in other cases, such as affected any mere local or subordinate matter within the limits of a state, the silence of Congress is rather an invitation for the states to legislate upon it.

In the well known case of Cooley vs. Port Wardens, 12 Howard, 310, the view stated by Mr. Justice Woodbury in the license and passenger cases, was at last made the ground of the decision. Mr. Justice Curtis, in delivering the opinion of the court, said:

> "The diversities of opinion, therefore, which have existed on this subject have arisen from the different views taken of the nature of this power. But when the nature of a power like this is spoken of, when it is said that the nature of the power requires that it should be exercised exclusively by congress, it must be intended to refer to the subjects of that power, and to say they are of such a nature as to require exclusive legislation by congress. Now, the power to regulate commerce, embraces a vast field, containing not only many, but exceedingly various subjects, quite unlike in their nature; some imperatively demanding a single uniform rule, operating equally on the commerce of the United States in every port; and some, like the subject now in question, as imperatively demanding that diversity, which alone can meet the local necessities of navigation. Either absolutely to affirm, or deny that the nature of this power requires exclusive legislation by congress, is to lose sight of the nature of the subjects of this power, and to assert concerning all of them what is really applicable but to a part."

This decision is now the established rule. It is, in substance, that the states may exercise powers as to merely local matters, which exercise may have full operation until it is circumscribed by congressional action. In such

cases the inaction of Congress is to be taken as an indication that, until congressional action, the states may freely deal with such local matters. However, in matters admitting or requiring uniform regulation throughout the country or affecting states other than the one which is assuming to legislate, the inaction of congress is to be taken as a declaration of its will that commerce shall be "free and unrestricted."

(c) Development of the Rule of Cooley vs. Port Wardens. Cases in Which the Power of Congress is Exclusive.

The authoritative statement of the rule in the case of Cooley vs. Port Wardens, supra, still left much opportunity for dispute as to the "nature of the subjects of this power," and the litigation since that time has largely centered upon the proper classification of the power sought to be exercised, and the determination whether it was one which required uniformity of rule, or one which admitted diversity of rule. A helpful statement of the rule was made by Mr. Justice Brown in the case of Covington, etc., Bridge Co. vs. Kentucky, 154 U. S., 204, where he said:

> "The adjudication of this court with respect to the power of the states over the general subject of commerce are divisible into three classes: First, those in which the power of the state is exclusive; second, those in which the states may act in the absence of legislation by congress; third, those in which the action of congress is exclusive and the states cannot interfere at all."

The third class of cases, under the rule of Covington Bridge Company vs. Kentucky, supra, embraces "those in which the action of Congress is exclusive and the states cannot interfere at all." It is fairly obvious that the word "action" as used in the quoted clause, means "power," for the **inaction** of Congress, within this class of cases has always been held to be just as effective as its action.

There are many adjudication of this court which place certain cases definitely inside this third class, where "the states cannot interfere."

In the case of Welton vs. State of Missouri, 91 U. S., 275, 279, the constitutionality of a statute of Missouri, which imposed a license tax upon persons who sold goods which were the "growth," "product" or "manufacture" of another state was attacked. No license was required for selling similar goods which were produced within the state. The Supreme Court held that this statute was in conflict with the power of Congress to regulate interstate commerce. In the opinion Mr. Justice Field said:

> "It will not be denied that that portion of commerce with foreign countries and between the states **which consists in the transportation and exchange of commodities is of national importance, and admits and requires uniformity of regulation.** The very object of investing this power in the general government was to insure this uniformity against discriminating state legislation. * * *
>
> The power which insures uniformity of commercial regulation must cover the property which is transported as an article of commerce from hostile or interfering legislation, **until it has mingled with and**

become a part of the general property of the country, and subjected like it to similar protection, and to no greater burdens. If, at any time before it has thus become incorporated into the mass of property of the state or nation, it can be subjected to any restrictions by state legislation, the object of investing the control in the congress may be entirely defeated. * * *

The fact that Congress has not seen fit to prescribe any specific rules to govern interstate commerce does not affect the question. Its inaction on this subject, when considered with reference to its legislation with respect to foreign commerce, is equivalent to a declaration that interstate commerce shall be free and untrammelled. As the main object of that commerce is the sale and exchange of commodities, the policy thus established would be defeated by discriminating legislation like that of Missouri."

In the case of Railroad Company v. Husen, 95 U. S., 465, 469-470, this court had under consideration a statute of the State of Missouri which prohibited importation of certain kinds of cattle into the State of Missouri during a certain period of the year. The court held the act was an attempted regulation of interstate commerce and was void, saying that the transportation of property from one state to another is undeniably interstate commerce, and that any interference with that transportation is necessarily beyond the power of the states. The court further said:

"The Missouri statute is a plain interference with such transportation, an attempted exercise over it of the highest possible power, that of destruction. * * The object and effect of the statute are, therefore, to obstruct interstate commerce, and to discriminate between the property or citizens of one state and

> that of citizens of other states. * * * **Transportation is essential to commerce, or rather it is commerce itself, and every obstacle to it, or burden laid upon it by legislative authority, is regulation.**"

In the case of Hall vs. De Cuir, 95 U. S., 485, 488, this court held a statute providing that carriers of passengers should give all persons equal privileges without discrimination on account of race or color, unconstitutional as applied to a steamboat carrying passengers in and out of a state. It was there said:

> "But we think it may safely be said that state legislation, which seeks to **impose a direct burden** upon interstate commerce, **or to interfere directly with its freedom,** does encroach upon the **exclusive power** of Congress. The statute now under consideration, in our opinion, occupies that position. It does not act upon the business through the local instrument to be employed after coming within the state, but directly upon the business as it comes into the state from without **or goes out from within.**"

In County of Mobile v. Kimball, 102 U. S., 691, 697, Mr. Justice Bradley, delivering the opinion of the court said that, among the subjects which are national in their character and "admit and require uniformity of regulation affecting alike all the states," is "all that portion of commerce with foreign countries or between the states which exists in the transportation, purchase, sale and exchange of commodities." The learned justice further said, speaking of this subject:

> "Here there can of necessity be only one system or plan of regulation, and that congress alone can prescribe. **Its non-action in such cases with respect to**

any particular commodity or mode of transportation is a declaration of its purpose that the commerce in that commodity, or by that means of transportation, shall be free. There would, otherwise, be no security against conflicting regulations of different states, each discriminating in favor of its own products and citizens and against the products and citizens of other states. And it is a matter of public history that the object of vesting in congress the power to regulate commerce with foreign nations and among the states was to insure uniformity of regulation against conflicting and discriminating state legislation."

In Brown vs. Houston, 114 U. S., 622, Mr. ustice Bradley said, upon this point:

"The power to regulate commerce among the several states was granted to congress in terms as absolute as is the power to regulate commerce with foreign nations. If not in all respects an exclusive power, if in the absence of congressional action the states may continue to regulate matters of local interest only incidentally affecting foreign and interstate commerce, such as pilots, wharves, harbors, bridges, tolls, freights, etc., still, according to the rule laid down in Cooley vs. Philadelphia Wardens, 53 U. S., 12, How. 299, 319 (13:996, 1004), the power of congress is exclusive whenever the matter is national in its character or admits of one uniform system or plan of regulation, and is certainly so far exclusive that no state has power to make any law or regulation which will affect the free and unrestrained intercourse and trade between the states, as congress has left it, or which will impose any discriminating burden or tax upon the citizens or products of other states coming or brought within its jurisdiction."

In Leisy vs. Hardin, 135 U. S., 100, 108, this court declared unconstitutional a statute of the state of Iowa prohibiting the importation of intoxicating liquors within its territory.

In the opinion, Chief Justice Fuller said:

> "Hence, inasmuch as **interstate commerce, consisting in the transportation, purchase, sale and exchange of commodities, is national in its character, and must be governed by a uniform system, so long as Congress does not pass any law to regulate it, or allowing the states so to do, it thereby indicates its will that such commerce shall be free and untrammelled.** * * *."

The learned justice further said that a state has no power to define the articles of interstate commerce; that if such power existed it might be selfishly used by a state for the promotion and benefit of its own interests, and that the commercial anarchy and confusion which were sought to be avoided by the adoption of the Commerce Clause of the constitution would soon result from the "diverse exertions of power by the several states of the Union."

In Western Union vs. James, 162 U. S., 650, Mr. Justice Peckham said:

> "In regard to these matters relating to commerce which are **not of a nature to be affected by locality**, but which necessarily ought to be the same over the whole country, it has been frequently held that the silence of Congress upon such a subject, over which it has unquestioned jurisdiction, was equivalent to a declaration that in some respects commerce should be free and unregulated by any statutory enactment."

In the Minnesota Rate Cases, 230 U. S., 352, 57 L. Ed., 1511, 33 Sup. Ct., 729, the court has recently restated the rules which were developed through the cases from which we have quoted, and others. This court there said, speaking through Mr. Justice Hughes:

> "If a state enactment **imposes a direct burden upon interstate commerce**, it must fail regardless of Federal legislation. The point of such an objection is not that Congress has acted, but that the state has directly restrained that which in the absence of federal regulations should be free. If the acts of Minnesota constitute **a direct burden** upon interstate commerce, they would be invalid without regard to the exercise of federal authority touching the interstate rates said to be affected. On the other hand, if the state, in the absence of federal legislation, would have had the power to prescribe the rates here assailed, the question remains whether its action is void as being repugnant to the statute which Congress has enacted.
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> * * * * * * * * * *
>
> The general principles governing the exercise of state authority when interstate commerce is affected are well established. The power of Congress to regulate commerce among the several states is supreme and plenary. It is 'complete in itself, may be exercised to its utmost extent, and acknowledges no limitations, other than are prescribed in the Constitution.' (Gibbons vs. Ogden, 9 Wheat., 1, 19 L. Ed., 23.) The conviction of its necessity sprang from the disastrous experiences under the Confederation when the states vied in discriminatory measures against each other. In order to end these evils, the grant in the constitution conferred upon Congress an authority at all times adequate to secure the freedom of interstate commercial intercourse from state control and to provide effective regulation of that intercourse as the national interest may demand. * *
>
> The grant in the Constitution of its own force, that

is, without action by Congress, established the essential immunity of interstate commercial intercourse from the direct control of the states with respect to those subjects embraced within the grant **which are of such a nature as to demand that if regulated at all their regulation should be prescribed by a single authority.** It has repeatedly been declared by this court that **as to those subjects which require a general system of uniformity of regulation the power of Congress is exclusive.** In other matters, admitting of diversity of treatment according to the special requirements of local conditions, the states may act within their respective jurisdictions until Congress sees fit to act, and when Congress does act the exercise of its authority over-rides all conflicting state legislation."

(Bold type ours in the above quotations.)

Thus the rules have been worked out in the decisions. The interdiction of the commerce clause is against state legislation which lays a direct burden upon interstate commerce, "or imposes restrictions, either by way of taxation, discrimination, or regulation, upon commerce between the states." Covington, etc., Bridge Co. vs. Kentucky, supra.

(d) The Application of the Rule That as to Those Subjects "Which are of Such a Nature as to Demand that if Regulated at all, Their Regulation Should be by a Single Authority" the Power of Congress is Exclusive, to the Act in Question.

The application of this rule to the legislation here drawn in question is, in our judgment, plain. The language of Mr. Justice Woodbury in the Passenger Cases, 7 Howard, 282, seems to us to fit the instant case with remarkable exactness. We quote again that language:

> "So far as reasons exist to make the exercise of the constitutional power exclusive, as on matters of **exterior, general and uniform cognizance,** the construction may be proper to render it exclusive."

It is difficult to see how any regulation, the effect of which is to determine the proportionate shares and rights of consumers of natural gas in five states, including the plaintiff state, can be anything except a "matter of exterior, general and uniform cognizance." Neither the legislature nor the courts of West Virginia have the power to determine the rights of the citizens of Cleveland, Columbus, Cincinnati, and the other approximately three hundred cities and towns in the plaintiff state, if the statement made in Cohen vs. Virginia, 6 Wheaton, 264, that

> "in all commercial regulations we are one and the same people"

is still the law of the land.

Again, the language of the court in the case of **Cooley** vs. Port Wardens, 12 Howard, 310, as follows:

> "But when the nature of a power like this is spoken of, when it is said that the nature of the power requires that it should be enforced exclusively by congress, it must be intended to refer to the subjects of that power, and to say that they are of such a nature as to require exclusive legislation by congress. * * * Some imperatively demanding a single uniform rule, operating equally on the commerce of the United States in every port; * * *."

This language again covers the situation presented by the instant case, the transportation interstate of a product which is the subject of public utility service, and in which over three and one-half millions of people in the plaintiff state according to well recognized rights of public utility consumers, have a right and an interest. This is not a matter which can be said to permit diversity of rule in the different states, through which the lines carrying this public utility product happen to pass.

It is obvious that if each of such states has the power to make its own rules, no matter what may be their effect upon the interstate transportation of gas, or upon the rights and property of consumers of gas located beyond their jurisdiction, the matter will at once take this shape; that the state in which the gas is produced will take all that it "desires" for all purposes; that the state through which the transporting lines next pass will take all that it "desires" for all purposes; that the states lying beyond will take what is left, if any, in the order of their location. The evidence in the case at bar shows conclusively that, within a short period from the time that an act

such as the act in question should become effective and be enforced, if such an act is ever permitted to be enforced, all of the gas will be taken by the first state, namely the state in which the gas is produced. Thus, we would be reduced again to the condition which existed before the constitution, when the only governing principle would be that of state selfishness, which would soon be adopted by every state with reference to its most valuable products as a justifiable retaliatory policy.

> "And yet we have said 'in matters of foreign and interstate commerce there are no state lines.'"
>
> West vs. Kansas Natural Gas Company, supra.

The statute in question herein not only regulates but lays a direct prohibition and restriction upon the interstate transportation of natural gas. It imposes upon the owners of this commodity, obligations with reference to the disposition of it, the natural and necessary effect of which would be to prevent its transportation from the State of West Virginia. The owners of natural gas are ordered, by the provisions of the statute, to sell their commodity inside the state, which is a method, not very indirect, of telling them that they must not transport it outside the state.

This is the most primitive and most obvious form of violation of the commerce clause. The cases hereinbefore quoted from show that this court has always held that, "state legislation which seeks to impose a direct burden upon interstate commerce or to interfere directly with its freedom, does encroach upon the exclusive power of

Congress;" Hall vs. DeCuir, 95 U. S., 485, 488; and that "all that portion of commerce with foreign countries or between states which consists in the transportation, purchase, sale and exchange of commodities" admits and requires uniformity of regulation. The prohibition of commerce attempted by this act is so gross that it almost baffles argument. The act does not merely **regulate** commerce according to the ordinary meaning of the word regulate. It **prohibits** commerce, and the only material question of fact is, "How much of this commodity will, under the act, be prohibited from moving in interstate commerce, and how much, if any, will be permitted to move." We believe that this is a true statement of the problem presented by this statute, and that this court has never been confronted with a state law which, when stripped of its verbiage, attempted a more direct violation of the commerce clause of the constitution.

As to the question of how much gas would be prevented from moving in interstate commerce by this act, the evidence in the case clearly shows that the immediate effect of the enforcement of the act would be to prevent a considerable proportion of the amount of gas now moving in interstate commerce from continuing so to move, since it is proved that all of the gas companies which now transport gas in interstate commerce are obliged to apportion their inadequate supply between their intra-state and interstate consumers and hence could not furnish "a supply of gas reasonably adequate for the purposes of" consumers inside the State of West Virginia without, to a corresponding extent, subtracting from the sup-

ply which is now moving in interstate channels. The statute, in its second section, would further reduce the amount moving in interstate commerce by requiring such owners to furnish gas to other persons not now being furnished, but who may desire to connect with the lines of the owners, and secure a supply, even though the owners of the gas have never held themselves out as being willing, and are not in fact able, to serve them, and this gas would also have to be subtracted from the part now moving interstate.

The evidence shows (Record, p. 216) that the gas appropriated by the statute from these interstate companies must come from either of two places on the pipe line system: (a) by a connection to an intake line between the compressing stations and the wells, in which case it will cause a shutting down of the station in order to permit gas to accumulate in the intake line sufficient pressure to give the desired service, and thus wholly interrupt and prohibit the export of gas from that station; or (b) by a connection to the line discharging from the compressing station towards the state of export, in which case it will divert and diminish the supply so moving interstate.

The evidence further shows, that the ability to secure a supply of this valuable fuel would immediately produce a vastly increased demand inside the State of West Virginia, which would have to be met by further subtractions from the gas now moving interstate, and that these demands would in a short time, consume all of the supply of gas, and leave practically none at all to move across the state lines. The effect upon interstate

commerce then of these regulations and restrictions would be direct, and clearly within the rule of the cases cited. It would create the commercial anarchy and confusion so happily discarded by the commerce clause of the constitution. The answer admits (pages 30 and 31) and the evidence shows that the owners of this gas have been fulfilling their duty as public servants, to the best of their ability, by apportioning their supply among their consumers, without reference to state lines. Consumers in all the states have shared in the advantages, and in the hardships incident to inadequate supply, without discrimination, according to recognized rules of public utility duties. This, of itself, is a fair explanation of the **inaction of Congress** upon this matter, and it is doubtful whether congressional action could better the situation, but the fact remains that the power which could control this interstate movement of natural gas has seen fit to remain inactive, and therefore its movement must be "free and untrammeled." If the owners of this gas should, of their own volition, seek to discriminate against any of the states here interested, it may be assumed that relief from the Congress would not be sought in vain, nor long delayed.

We conclude, then, upon this point, **that the subject in question is one of general cognizance, requiring uniform regulation, if any, and hence the attempted prohibition and regulation by the State of West Virginia must fail.**

V.

EVEN A POLICE REGULATION MUST BE ABSOLUTELY IMPARTIAL AND NON-DISCRIMINATORY AS BETWEEN INTERSTATE AND INTRASTATE TRANSACTIONS.

Even though the field sought to be covered by state legislation is within the second class, as defined by this court in the case of Covington Bridge Company vs. Kentucky, 154 U. S., 204, supra, viz., those cases in which the states may, in the absence of legislation by Congress, act, nevertheless it may also lie within the scope of an important corollary to that rule, and the legislation may yet be void. The corollary is that any state regulation though prima facie local in its nature, must not be so drawn or applied as to operate as a discrimination against interstate commerce. Numerous cases have applied this rule, or recognized its existence.

In Ward v. Maryland, 12 Wallace, 418, the Maryland statute required all traders to apply for a license and pay a fee which in the case of a resident was graduated from twelve dollars to one hundred and fifty dollars, according to the value of the stock, but in the case of a non-resident selling imported goods, the fee was fixed at three hundred dollars. The statute was held void, the majority of the court basing their decision on the equal privileges and immunities clause while the minority concurred upon the additional ground of the commerce

clause. In the course of the majority opinion it was said that the statute

> "either works a complete prohibition of all commerce from the other states in goods to be sold by sample within the limits of the described district, or at least creates an unjust and onerous discrimination in favor of the citizens of the state enacting the statute."

In Woodruf v. Parham, 75 U. S., 123, the court expressly upheld a tax of the city of Mobile, but only because it was uniform and imposed alike upon all property within the city. The court expressly said, however:

> "There is **no attempt to discriminate injuriously against the products of other states, or the rights of their citizens**, and the case is not, therefore, an attempt to fetter commerce among the states, or to deprive the citizens of other states of any privilege or immunity possessed by citizens of Alabama. **But a law having such operation would**, in our opinion, be an infringement of the provisions of the constitution which relate to those subjects, and therefore, void."

The case of Weldon v. Missouri, 91 U. S., 275, is in point. There the court reviewed a statute of Missouri imposing a peddler's license tax upon persons going from place to place to sell wares not the product or manufacture of the state and not imposing a like tax upon the sale of similar articles, the growth, product, or manufacture of Missouri. This was a discrimination and the act imposing the tax was held bad, Mr. Justice Field saying:

> "Imposts operating as an absolute exclusion of the goods would be possible, and all the **evils of discriminating state legislation, favorable to the interests of**

one state and injurious to the interests of other states and countries, which existed previous to the adoption of the constitution might follow, and the experience of the last fifteen years shows would follow from the action of some of the states."

In Guy v. Baltimore, 100 U. S., 434, an ordinance of the ity of Baltimore imposing wharfage dues upon vessels rriving from other states and not upon those from other arts of the state, was before the court for review. The ourt held the ordinance unconstitutional. Mr. Justice larlan, in delivering the opinion, said:

"It must be regarded as settled that no state can, consistently with the federal constitution, impose upon the products of other states brought therein for sale or use, or upon citizens because engaged in the sale therein, or the transportation thereto, of the products of other states, more onerous public burdens or taxes than it imposes upon the like products of its own territory. * * * Under the authority of the state, it may also exact wharfage fees, equally, from all who use its improved wharves, provided such charges do not exceed what is fair remuneration for the use of its property. But it cannot employ the property it thus holds for public use so as to hinder, obstruct or burden interstate commerce in the interest of commerce wholly internal to that state."

Another case is that of Walling v. Michigan, 116 U. S., 46. There the state had passed a law imposing a specific ax on persons engaged in the sale of liquors to be shipped nto the state without imposing a like tax on persons sell- ng liquors manufactured in the state. The court held

this a clear discrimination. In the course of the opinion Mr. Justice Bradley said:

> "A discriminating tax imposed by a state, **operating to the disadvantage of the products of other states** when introduced into the first mentioned state, is, in effect, a regulation in restraint of commerce among the states, and as such is a usurpation of the power conferred by the constitution upon the congress of the United States."

In the case of Minnesota v. Barber, 136 U. S., 313, the state of Minnesota passed a law, the title of which declared it to be passed for the protection of the public health, and hence a police measure. It required the inspection of all cattle, sheep and swine slaughtered for human food. This inspection was to be made four hours before the slaughter of the animal. Any person selling the meat of animals not so inspected was punished. The law on its face applied to every one without regard to his selling meats from animals raised in the state or animals brought in. The court declared it to be one thing to exclude from its limits cattle, sheep or swine actually diseased or meats by their condition unfit for use, but an entirely different thing to interdict the sale of meat from animals not slaughtered in the state. The act was held unconstitutional.

As another instance of the non-discriminatory treatment which the Supreme Court exacts of a state when it attempts to deal even with matters embraced in the second class, we refer to the case of Brimmer v. Redman, 138 U. S., 78. The court had before it an act of Virginia passed undoubtedly under its police power, for its pre-

amble recited the fact that unwholesome meats were being sold in Virginia and then declared it unlawful to sell in the state any fresh meats which had been slaughtered one hundred miles or over from the place at which it was offered for sale, except and until it had been inspected and approved by inspectors provided for by the act. The act also imposed the duty upon all persons before offering for sale any meats so slaughtered to apply to the inspectors to have the same approved. The court declared the act a **discrimination against meats from other states** and unconstitutional. Mr. Justice Harlan said:

> "Undoubtedly, a state may establish regulations for the protection of its people against the sale of unwholesome meats, provided such regulations do not conflict with the power enforced by the constitution upon congress, or infringe rights granted or secured by that instrument. But it may not, under the guise of exerting its police power, or of enacting inspection laws, **make discriminations against the products and industries of some of the states in favor of the products and industries of its own or of other states.** The owner of the meats here in question, although they were from animals slaughtered in Illinois, had the right under the constitution, to compete in the markets of Virginia, upon terms of equality, with the owners of like meats, from animals slaughtered in Virginia or elsewhere within one hundred miles from the place of sale. Any local regulations which, in terms or by its necessary operation, denies this equality in the markets of a state, is, when applied to the people and products or industries of other states, a direct burden upon commerce among the states, and therefore void. * * * Nor can this statute be brought into harmony with the constitution by the circumstances that it purports to apply alike to the citizens of all the states, including Virginia; for a burden imposed by a state upon inter-

> state commerce is not to be sustained simply because the statute imposing it applies alike to the people of the state enacting such a statute."

In Darnell & Son v. Memphis, 208 U. S., 113, the state statute was held void which imposed a tax on persons not residing within the state who engaged in selling imported liquor while no tax was imposed on those selling domestic liquors. The court said that while the state had taxed articles imported from another state after the same had become massed with the general property within the state this rule had—

> "always expressly excluded the conception that a state could, without directly burdening interstate commerce, discriminate against such property by imposing upon it a burden of taxation greater than that levied upon domestic property of a like nature."

In Voight vs. Wright, 141 U. S., 62, the State of Virginia had passed a law requiring an inspection of all flour brought into the state and imposing a fee therefor, and providing for **no inspection of home flour**, was declared to be a discrimination against the products and industries of other states in favor of its own, and so unconstitutional and void.

No argument is needed to show that the rules governing interstate commerce apply as well to that entering as that leaving the territory of a state. Upon this a well-known writer (Cook on the Commerce Clause, Section 61), expresses himself as follows:

> "Although the question of the validity of restrictions imposed under authority of a state more fre-

quently arises with reference to transportation out of the state, it seems clear enough that, so far as concerns such question, there is no substantial distinction between transportation into and transportation out of the state, whether of property or of persons."

This court has, in a recent case, confirmed the statement of this author. In the case of West vs. Kansas Natural Gas Co., 221 U. S., 229, supra, Mr. Justice McKenna, in delivering the opinion of the court declaring invalid a statute of Oklahoma which restricted the **exportation** of natural gas, said, 221 U. S., at 262:

> "This discrimination is beyond the power of the state to make. As said by the Court of Appeals in the eighth circuit, no state can, by action or inaction, prevent, unreasonably burden, **discriminate against**, or directly regulate, interstate commerce, or the right to carry it on."

See also Coe vs. Errel, 116 U. S., 517.

VI.

THE STATUTE OF WEST VIRGINIA DISCRIMINATES AGAINST INTERSTATE COMMERCE IN NATURAL GAS.

The manifest intent of the statute is that the wants of consumers in West Virginia shall be fully satisfied out of the supply of gas available, in preference to the consumers in other states. Its necessary effect is that the consumers in other states can obtain only what is left after the wants of West Virginia consumers are fully met. The consequence of the enforcement of the statute will be

not merely a reduction of the total amount of gas available for consumers outside of the state by the amount diverted to consumers within the state but such irregularity and uncertainty in the supply available for outside consumers as will in large measure forthwith and eventually altogether make it impracticable for them to continue the use of natural gas.

The intent of the statute appears (1) from a consideration of the nature and conditions of the business to which it applies, (2) from the history of the events attending the enactment of the statute and (3) from the averments of the answer interposed by the State of West Virginia.

(1) The system of pipe lines is a natural development. Companies organized for the distribution of natural gas in centers of population have sought their supply further and further afield as the local supply has become exhausted or, by reason of increased demand, has become inadequate. The owners of gas producing territory have sought more remote markets for the gas which they have produced in excess of the requirements of the markets nearer at hand. The growth of the system has been substantially independent of state lines, the most available fields or most favorable markets being sought without reference to their location upon either one or the other side of a state line. In some cases the same company distributes gas in two or more states. In other cases the companies in one state turn over gas for distribution in other states. There are a multitude of contracts and relations between the companies, which have grown up in the ordinary course of business development and which have been hereinbefore referred to.

In the course of events West Virginia has become a great source of supply for the other states. There has been no discrimination against her in those cases where gas has been taken out of the state by public service corporations operating both within and without the state; the customers within and without the state have been treated alike. In nearly all of the contracts under which West Virginia gas has been sold by West Virginia companies to other companies for distribution, the contracts of sale have reserved a preference for the domestic consumers of the selling companies. The business is regulated by principles that are the outgrowth of the peculiarities of the business. Inasmuch as the demand for domestic consumption, that is to say, for heating houses and other domestic uses, varies enormously from one season of the year to another and even from day to day and the demand for domestic purposes must always be met if the business is to continue, a preference is always given to domestic consumption over industrial consumption. If the weather is very cold or there is any other cause of shortage, the industrial consumption is cut down or cut off in order that the domestic consumption may be maintained. This principle has prevailed throughout West Virginia, Pennsylvania and Ohio.

The production of natural gas and the capacity of the transportation systems are not more than sufficient generally to meet the domestic demand in periods of cold weather. As an economic proposition, it would be impossible to make them so. The consequence is that everywhere in periods of very cold weather, all available gas

is necessary to supply the domestic consumption. When the West Virginia statutes declares that the wants of West Virginia consumers, industrial and miscellaneous as well as domestic, shall be fully supplied at all times, the necessary meaning is that in periods of cold weather the wants of West Virginia consumers must be supplied at the expense of consumers in other states because, (a) there is no source from which the gas can be obtained except by a curtailment of the amount going into other states and (b) because if the first section of the statute does not mean this it adds nothing to the existing public service law. See the West Virginia Public Service Act, Sections 4, 5, 7 and 23, found on pages 55, 56, 57 and 67, respectively, of the defendant's answer. See also Carnegie Natural Gas Co. vs. Swiger, 72 W. Va., 557, 46 L. R. A., N. S., 1073.

(2) The circumstances preceding and attending the enactment of the statute may properly be referred to to show its intent. The testimony of Governor Cornwell of West Virginia (Record, pp. 1195, 1196), hereinbefore referred to, shows that the agitation for this statute began with the manufacturers and other consumers around Clarksburg, West Virginia, and that with the approach of cold weather, the season during which the gas companies have great difficulty in furnishing an adequate supply of gas even for domestic consumers, these manufacturers sought to have relief from the shortage of the gas supply for manufacturing purposes, by the enactment of this statute. It is apparent, then, that those who sought the enactment of the law, and the legisla-

ture which enacted the law, must have intended that the manufacturing interests of West Virginia should be furnished an adequate supply of natural gas at the expense even of domestic consumers in other states. The discrimination, then, which is apparent in the language of the statute, is equally apparent in its history and the circumstances surrounding its enactment.

(3) The answer declares that the purpose of the statute is to provide for the requirements of the inhabitants of West Virginia. It declares whatever effect the enforcement of the statute has on the inhabitants of other states is direct and incidental. The answer also, however, declares that there is a shortage of natural gas in periods of cold weather; that the situation has to be met by a curtailment either of the use to which gas is put or of the area over which it is distributed; that the inhabitants of West Virginia have a prior claim upon gas originating in West Virginia and, in effect, that the statute is enacted to enforce this prior claim.

The consequence of the enforcement of the statute will, of course, be that on cold days when the West Virginia domestic consumption will rise to its peak the industrial consumption in West Virginia will not be cut down or cut off but will continue at the expense of the domestic consumption in other states. But the effect of this will not be limited to depriving Pennsylvania and Ohio of the amount of additional gas consumed in West Virginia. If the effect were only to retain for use within the state ten per cent. of the gas now going out of the state, this would probably be enough to completely ruin the busi-

ness of distributing gas for domestic purposes outside of the state. The reason is that this ten per cent. would all be retained during a few days of great severity and the domestic service which would be liable to fail in severe weather would therefore be useless in all weathers.

That the fulfilment of the requirements laid down in the statute in question would be at the expense of the gas consumers in other states now dependent upon West Virginia gas for their supply, is shown conclusively by the determination of the Public Service Commission of West Virginia in its decision of the case of Kelly Axe Mfg. Co. vs. United Fuel Gas Company, P. U. R. A. 289. At page 294 of this report the Commission said of the defendant, The United Fuel Gas Company, which is, as appears from the record in this case, one of the largest producers and transporters of natural gas in West Virginia:

> "The defendant delivers its gas to its consumers in West Virginia and to the distributing companies in Ohio through one system of pipe lines and from the same gas fields in West Virginia. It appears from the record that the defendant has a sufficient production or supply of natural gas in the State of West Virginia to furnish a reasonably adequate supply of gas to all of its consumers in the State of West Virginia. It does not affirmatively appear from the record that the defendant has a sufficient supply or production of gas in the State of West Virginia to furnish a reasonably adequate supply of gas to all of its consumers in West Virginia without interfering with the supply of gas demanded of the defendant for the consumption of the distributing companies in the State of Ohio."

The purpose of the statute, as disclosed on its face and by the averments of the answer, is to regulate interstate commerce in natural gas to the advantage of West Virginia and at the expense of the other states. It gives to all industrial consumers in West Virginia and also to local public service companies which have not maintained their sources of supply an option to be exercised at any time upon the gas otherwise available for distribution in other states.

The principle of the entire statute is the full supply of the wants of the residents of West Virginia at the expense of the residents of other states. The statute deals with an industry in which the available supply of gas is distributed by the different agencies concerned among their customers, without regard to state lines and according to equitable principles that have become generally established. It seeks to establish in place of this method of distribution a scheme by which the residents of West Virginia will in every respect have a preferential right in West Virginia gas.

There is no doubt that the West Virginia statute is intended to work a discrimination in favor of the inhabitants of West Virginia and there is no doubt that its practical effect would be to place the inhabitants of other states at a very great disadvantage in comparison with West Virginia residents. Instead of a system under which consumers of natural gas everywhere bear their share of any shortage, according to equitable principles, the statute would establish a system by which the entire hardship due to a shortage must be borne by the inhab-

itants of other states to the exoneration of the inhabitants of West Virginia. Because the statute intends and in its practical operation would bring about a discrimination against interstate commerce, it is void as a direct burden upon such commerce. It is not necessary to the position of the complainants to maintain that the statute in its practical operation would entirely prohibit the exportation of gas from West Virginia, as was the case with the statute under consideration in West v. Kansas Natural Gas Co., 221 U. S., 229, nor is it necessary for the plaintiffs to maintain that the regulation of interstate commerce in natural gas is so exclusively within the domain of congress as to render void every state action in any way affecting such commerce. The fact that the statute works an intentional and substantial discrimination condemns it equally whether or not the discrimination is in degree equivalent to prohibition. The same element of intentional and substantial discrimination makes it unnecessary to consider just where the line is to be drawn between what a state may and may not validly do in the way of regulations incidentally affecting interstate commerce in natural gas.

In Pennsylvania Gas Co. v. Public Service Commission, 252 U. S., 23, it was held that the Public Service Commission of New York, in the absence of legislation by congress, had jurisdiction over the rates charged to local consumers by a public service company bringing in its gas from another state. But there is no question that the action of the Public Service Commission would have been void had it sought to compel the company to pre-

fer its New York consumers over its consumers in other states.

On page 33 of the answer the defendant admits that the enforcement of the statute will "indirectly and incidentally diminish" the supply of gas transported to Ohio, unless the production of gas be increased, which the pleadings admit and the evidence shows to be impracticable. The naive suggestion is made at this point in the answer that the answer to the question, "Whether or not the quantity thereof transported to, or for use in Ohio or any other state will be appreciably decreased will depend in a large degree upon the apportionment of the gas transported from West Virginia by said seven companies among the several states, **other than West Virginia**, desiring to consume the same." This is another way of saying that, after West Virginia has secured her needs and "desires" she is quite willing that the state which has the next chance at the supply may adopt similar measures to secure her wants.

> "And yet we have said that 'in matters of foreign and interstate commerce there are no state lines.'"
>
> West vs. Kansas Natural Gas Co., supra.

The defendant's answer again admits the discriminatory character of the legislation, on page 37 of the answer. In the face of the language of the act in question, which, in Section 1, requires an adequate supply,

> "whether for domestic, industrial, or other consumption, **within this state,**"

and in Section 2 requires gas companies to extend their

territory by making connections with other companies which they have never served nor held themselves out to serve, the answer suggests to the State of Ohio that with reference to the inadequacy of supply which exists and will be suggested by the discrimination in favor of west Virginia,

> "The remedy therefore must be the contraction by internal regulation of the State of Ohio, of the territorial scope of service of distribution and of the number of its consumers."

Defendant's answer, page 37. The discrimination is deliberate, intentional, but accompanied with humanitarian suggestions as to how to avoid its inevitable consequences.

The statute does not lay down any general rule of public service duty. It requires that owners and transporters of gas disregard all known rules of public service duty. Its discriminatory purpose and effect are obvious in the following provisions:

1. It does not make nearness to the source of production the test as to whether a consumer or community shall have a preferred right to a gas supply. It makes state lines the controlling thing. All persons and communities **inside the state** shall be fully supplied before any gas is transported outside the state. Distance is immaterial, and the state line is made the point of division between those whose rights are preferred and those whose rights are disregarded. It will be noted that, so far as persons and communities inside the state are concerned, the test of the right to service is, by the second

section of the statute, made to depend upon the ability of the gas company to adequately supply its present consumers and communities inside the state, and no new consumers need be connected unless there is a surplus.

2. Priority of time of connection with the lines of the gas company gives no right whatever to companies or consumers or communities located **outside the State of West Virginia. Inside the state**, as we have just pointed out, priority of connection with the lines gives an absolute priority of right to service and no new communities or consumers need be connected unless there is a surplus beyond an adequate supply for present consumers.

3. All consumers "**within this state**" are entitled to have their wants and "**desires**" fully supplied for every purpose "whether for domestic, industrial or other consumption," before even the most preferred class of consumers, namely, the domestic consumers, outside the state are entitled to a single foot of gas. It will be observed here that this discrimination is in complete violation of what West Virginia herself recognizes as public utility duty. From the testimony of Mr. Lewis, a member of the Public Service Commission of West Virginia (record, page 1298), it is shown that by the rule of the Public Service Commission of West Virginia, in case of a shortage, domestic consumers are preferred and industrial consumers are shut off. That is the rule, then, "**within the state.**"

These discriminations show clearly that it was not the purpose, and will not be the effect, of the statute in question to lay down any rule of public service duty generally

applicable "with eyes blinded to state lines." In every application of the statute, the duty laid down ends at the state lines, and, by consequence, requires the contrary treatment by these companies of their consumers beyond the state lines.

We conclude, then, upon this point, that, even though the statute in question should be deemed to be of such a nature that it would fall within the general scope of class 2, according to the classification made by this court in the case of Covington Bridge Co. vs. Kentucky, 154 U. S., 204, nevertheless, it is clearly unconstitutional because its whole purpose and effect is to discriminate against the movement of natural gas in interstate commerce and the rights and privileges of consumers of natural gas, located outside the boundaries of West Virginia, the discrimination being made to depend solely upon the location outside the state.

No gas company could comply with this statute, without locating at the point where its lines cross the state lines, a means for the physical stoppage of the flow of natural gas. Its duties with reference to two consumers, neighbors, would be entirely different, if those neighbors were on opposite sides of the state line, and the only method by which the gas company could observe the provisions of the statute would be by installing a gate or valve in its lines between these two consumers so that it could supply the intrastate consumer adequately for all purposes "whether for domestic, industrial or other consumption," before his neighbor across the state line would be entitled to a foot of gas. It should be noted that

o claim is made that this statute is a conservation meas-
ıre. It is not, of course, since its enforcement would re-
ıuire that the producing gas companies, in order to com-
ly with its provisions, and at the same time attempt to
ıeet their legal obligations and public service duties to
heir millions of consumers in states other than West
irginia, and to protect investments worth hundreds of
illions of dollars in those states from practically im-
ıediate destruction, should produce gas from all of their
serve territory as rapidly as possible. The consequence
ould be, of course, a wasteful orgy of gas consumption
hich would in a very short time completely consume
ıe available supply, and the sooner destroy millions of
ollars in value of property both inside and outside the
tate of West Virginia.

VII.

HE STATES HAVE NO RIGHT TO DEFINE THE SUBJECTS OF INTERSTATE COMMERCE, BUT THAT DEFINITION MUST BE MADE BY THE COURT, IN ACCORD WITH THE GENERAL UNDERSTANDING OF THE COMMERCIAL WORLD.

In the first paragraph of Section X. of the answer of
e State of West Virginia appears the following lan-
ıage:

> "While this defendant admits that gas is or may be an article of interstate commerce, yet this defendant denies that gas placed in mains or pipes by public service gas companies, is either in interstate commerce or a legitimate article of interstate commerce,

> unless and until it has reached the point where it is no longer subject to the public service in West Virginia, and the duties imposed by law upon public service gas companies have been observed and performed by them; and denies that the requirement of the performance or observance of the duties owed by such companies is an interference with interstate commerce or a burden thereon."

This statement of the answer shows that the legislation in question is an attempt on the part of West Virginia to define, in accordance with its own peculiar views, the proper articles of interstate transportation. This is an expedient which has been often tried, in order to evade the commerce clause of the constitution, but it has always failed, as this must fail, since it would amount to a nullification of this clause.

In the case of Bowman vs. R. Co., 125 U. S., 465, this court held that the question whether an article is or is not subject of commerce is to be determined by the usages of the commercial world, and does not depend upon the declaration of any state. In that case it was held that the State of Iowa could not forbid the transportation of liquor into its territory notwithstanding the prohibition laws of that state. Mr. Justice Matthews, in the opinion in that case, said:

> "Can it be supposed that, by omitting any express declarations on the subject, congress has intended to submit to the several states the decision of the question in each locality of what shall and what shall not be articles of traffic in the interstate commerce of the country? If so, it has left to each state, according to its own caprice and arbitrary will, to discriminate for or against every article grown, pro-

duced, manufactured, or sold in any state, and sought to be introduced as an article of commerce into any other. If the State of Iowa may prohibit the importation of intoxicating liquors from all other states, it may also include tobacco, or any other article, the use or abuse of which it may deem deleterious. It may not choose, even, to be governed by considerations growing out of the health, comfort, or peace of the community. Its policy may be directed to other ends. It may choose to establish a system directed to the promotion and benefit of its own agriculture, manufactures, or arts of any description, and prevent the introduction and sale within its limits of any or all articles that it may select as coming into competition with those which it seeks to protect. The police power of the state would extend to such cases, as well as to those in which it was sought to legislate in behalf of the health, peace and morals of the people. In view of the commercial anarchy and confusion that would result from the diverse exertions of power by the several states of the Union, it cannot be supposed that the constitution or congress has intended to limit the freedom of commercial intercourse among the people of the several states."

* * *

The doctrine of the Bowman case has been approved in Leisy v. Hardin, 135 U. S., 100, and Long vs. Michigan, 135 U. S., 161. See also Adams vs. Kentucky, 214 U. S., 218. The fact that this and other courts have repeatedly held natural gas to be a legitimate object of commerce and that it is regarded as a desirable commodity by all persons who can get it, and that all of the litigation upon the matter in the various courts has been caused by a desire to keep this valuable commodity, and to restrict the exportation of it, while in no case has there been any

effort to prevent the importation of it, clearly stamp natural gas as a legitimate commercial commodity. It can not be classed with diseased animals and meats, contraband of commerce, while states are striving for the right to share in it.

VIII.

THERE IS NO PUBLIC SERVICE DUTY OWED TO THE CONSUMERS INSIDE THE STATE OF WEST VIRGINIA WHICH JUSTIFIES THIS LEGISLATION PREVENTING OR RESTRICTING THE INTERSTATE TRANSPORTATION OF GAS.

It is claimed, on page 36 of the defendant's answer, the language of which has been hereinbefore quoted, that the fact that the possessors of gas, inside the state will be, under the act in question, burdened with a statutory duty to give a preference to consumers "within the state," and that therefore only such amount of gas as may remain after that duty is fulfilled is the legitimate subject of interstate commerce. This claim assumes the constitutionality of the legislation, and seeks to justify the restriction upon interstate commerce by pointing to the statute, when the validity of the statute is the whole question in this litigation.

It cannot be seriously claimed, even if there would be any advantage in so claiming, that the statute in question is merely declaratory of the common law relating to public service duty. One of the chief objects of the common law of public service was the prevention of dis-

crimination by a public service company. The act in question **requires discrimination** against the consumers outside the state, and seriously punishes a refusal to discriminate against them. The discriminatory nature of the statute has been discussed by us more fully in Division VIII. of this brief, **supra.**

The case of Vandalia Coal Co. et al. vs. Special Coal and Food Commission of Indiana et al., 268 Fed., 572, decided on Nov. 27, 1920, by the District Court for the District of Indiana, consisting of Baker and Page, circuit judges, and Anderson, district judge, bears strongly upon this question. The first two paragraphs of the syllabus of that case are as follows:

> "The Indiana Coal and Food Commission law and orders issued thereunder, requiring coal mines which had contracted to deliver their coal outside the state to sell the same to concerns within the state, is an interference with interstate commerce, and an interlocutory injunction will issue against its enforcement.
>
> Orders of the Indiana Special Coal and Food Commission requiring coal mines to deliver coal to specified concerns within the state, which impair contract obligations of coal mines which had otherwise contracted for their output, are unconstitutional, and will be temporarily enjoined."

The opinion of the court in that case shows that the court assumed, for the purposes of the decision, that the distribution of coal could be regulated by the state substantially as a public utility, yet the court holds that such regulation can not be permitted to interfere with

the right of the owners of coal to transport it beyond the state if they so desired. The court said, in its opinion:

> "First. That the operation of the statute, as indicated by the orders of the commission, is a direct interference with interstate commerce. When the coal is severed from the ground it becomes an article of commerce, and the owner of that commodity, under the commerce clause of the federal constitution (Article 1, Section 8), which recognizes no state lines, has the right, so far as the state is concerned, to sell and to contract to sell his entire output to citizens of other states. The orders are also an interference with interstate commerce by reason of the showing in the bill that the output of three of the five mines contracted to the Pennsylvania Company, an interstate carrier, under a contract meeting the approval of the Interstate Commerce Commission, which approval carries an implied finding of fact that the coal, so used, is directly consumed in, or in aid of, intertsate commerce."

The preliminary assumption made by the court puts the case on all fours with the case at bar. It was a case of an attempt by the state, in the exercise of its powers of regulation over a public utility enterprise to require that enterprise to fully supply all the demands of consumers inside the state, for its product, thus preventing the transportation out of the state of so much of its product as should be demanded inside the state. Thus it appears that state line barriers can not be erected under the guise of requiring adequate service from a public service corporation. The supposed self-interest which would demand that residents of Indiana be given a favored position with reference to the coal produced in that state, and the residents of West Virginia be given a favored posi-

tion with reference to the natural gas produced in that state, is an aggravated form of the same supposed self-interest which has prompted the enactment of every piece of legislation held invalid by this court as in conflict with the commerce clause of the constitution.

The Vandalia Coal Co. case, supra, involving the statute of Indiana, is significant in another respect. This court, in the case of West vs. Kansas Natural Gas Co., supra, decided in 1911, said:

> "The statute of Oklahoma recognizes it to be a subject of intrastate commerce, but seems to prohibit it from being the subject of interstate commerce, and this is the purpose of its conservation. In other words, the purpose of its conservation is, in a sense, commercial, the business welfare of the state, as coal might be, or timber. Both of those products may be limited in amount, and the same consideration of the public welfare which would confine gas to the use of the inhabitants of a state would confine them to the inhabitants of a state. If the states have such a power, a singular situation might result. Pennsylvania might keep its coal, the northwest its timber, the mining states their minerals. And why may not the products of the field be brought within the principle? Thus enlarged, or without that enlargement, its influence on interstate commerce need not be pointed out. To what consequence does such power tend? If one state had it, all states have it; embargo may be retaliated by embargo, and commerce will be halted at state lines. And yet we have said that 'in matters of foreign and interstate commerce, there are no state lines.'"

The language quoted was prophetic. It scotched the tendency to build commercial barriers out of the doctrine of conservation, but now the same tendency arises, to

build a commercial barrier out of a supposed duty of a public utility enterprise to serve adequately all of its consumers who happen to live on one side of a state boundary line, disregarding all others. The consequences of this doctrine, should it prevail, would be fully as bad as the ones pointed out in the West case, **supra**. When it is remembered that more and more enterprises which have been in the past free from public regulation, are now made by legislation the subject of such regulation, which practically puts them within the field of so-called public service companies, it is apparent that the statute involved in this case is as perilous to the doctrine that we are one country, commercially, as were the statutes interdicted by this court in any of the epoch-making cases involving the commerce clause. Shall the latest weapon created to serve state self-interest, "the adequate performance of a public service duty," be permitted to prevail against the principles which have withstood the most ingenious attacks since the constitution was adopted?

The possibility that many enterprises now not regulated may be lawfully brought within the field of public service enterprises is well shown by the language of this court in the case of German Alliance Insurance Company vs. Lewis, 233 U. S., 389, where this court reviewed the cases from Munn vs. Illinois, 94 U. S., 113, and commented upon all of them as follows:

> "The cases need no explanatory or fortifying comment. They demonstrate that a business, by circumstances and its nature, may rise from private to be of public concern, and be subject, in consequence, to governmental regulation. The underlying

> principle is that business of certain kinds hold such a peculiar relation to the public interest that there is superinduced upon it the right of public regulation."

The field has been farther extended since that time and will no doubt be still farther extended as the public interest demands. But it is obvious that if the statute in question here shall prevail, a dire consequence may follow from each such extension, which involves the subject matter or the facilities for interstate commercial intercourse.

The numerous cases in this court involving the question of the right of a state to compel the stopping of interstate trains are in accord with this view. A number of such statutes have been upheld upon the specific ground that they required no more than adequate local service, to which the communities inside the state are, of course, as much entitled as communities outside the state, since the railroad has held itself out to serve all communities where stations are established. L. S. & M. S. Ry. vs. Ohio, 175 U. S., 285; Mo. Pac. Ry. vs. Kas., 216 U. S., 262. It will be observed, however, that the rendering of adequate local service by such a utility as a railroad, as to which there are no physical limitations which prevent the expansion of its facilities as the demands upon it increase, need not at all interfere with its adequate rendering of interstate service. The railroad can handle the local service by local trains, if there is a reasonable demand for such service, and this court has held in numerous cases that if a sufficient local and connecting service is supplied by local trains, then interstate trains may not

be compelled to make stops which would unduly interfere with interstate transportation. Ill. C. Ry. v. Illinois, 163 U. S., 142; Cleveland, etc., Ry. v. Illinois, 177 U. S., 514; Miss. R. Com. v. I. C. Ry., 203 U. S., 335; Atlantic C. Line v. Wharton, 207 U. S., 328; Herndon v. Chicago, etc., Ry., 218 U. S., 135. In these cases the adequate rendering of local service is an aid to interstate commerce rather than an interference with it. However, in the case of a product limited in quantity, such as natural gas, and as to which, unlike a railroad, additional intrastate service cannot be furnished except directly at the expense of interstate service, then certainly there will be no preferential right given to a consumer simply because he happens to be located inside, rather than outside, the boundary line of a particular state. The same rule would doubtless be applied to the railroad cases, if a case should arise in which the rendition of full intrastate service would prevent the rendition of equivalent interstate service. In the case of Miss. R. R. Com. vs. Ill. Cent. R. R., 203 U. S., 335, Mr. Justice Peckham, delivering the opinion of the court, said, with reference to the two conflicting claims:

> "Both claims are to be considered, and after the wants of the residents within a state or locality through which the road passes have been adequately supplied, **regard being had to all the facts bearing upon the subject,** they ought not to be permitted to demand more, at the cost of the ability to successfully compete with its rivals in the transportation of interstate passengers and freight."

Among the "facts bearing upon the subject" in the case now before the court, as shown by the record, are

these: that there is an insufficient amount of natural gas to supply the "desires" of all persons "within the state" and out, who are drawing upon the lines of these companies and have legal rights to do so; that restrictions must be made; that communities not now on the lines can not, in justice to the consumers already being served, be connected; that in the cold weather the available supply should be given to the domestic consumers, and, even they should, if necessary, be required not to use it for their main heating plants. The legislature of West Virginia "had no regard" for these pertinent facts, but by this act seeks to coerce the gas companies to furnish to **the extent of the supplies of gas produced in West Virginia,**" a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial, or otherwise, for which gas is consumed or desired to be consumed, * * * in this state.

The most casual reading of these railroad cases shows that the "desires" of the patrons of the railroads having intrastate facilities have no bearing upon the case. Their **reasonable needs** are, however, to be supplied, if in so doing the railroad is not disabled from similarly serving its patrons beyond the state.

IX.

EMINENT DOMAIN—THE FACT THAT THE COMPANIES WHICH TRANSPORT GAS IN INTERSTATE COMMERCE HAVE EXERCISED THE RIGHT OF EMINENT DOMAIN WITHIN THE STATE OF WEST VIRGINIA, OR HAVE ACCEPTED FRANCHISES OR OTHER PRIVILEGES TO WHICH ONLY PUBLIC SERVICE CORPORATIONS ARE ENTITLED, DOES NOT AMOUNT TO A DEDICATION OF THEIR ENTIRE SUPPLY OF GAS TO THE USE OF THE PUBLIC INSIDE THE STATE OF WEST VIRGINIA.

It is claimed, in the fifth division of the defendant's answer, that since the gas companies which transport natural gas which now moves in interstate commerce have claimed and exercised the right of eminent domain in the State of West Virginia and other franchises and special rights which were and are granted only to public service companies, by and under the laws of West Virginia, gives to the public within the State of West Virginia a preferential right in the gas produced and transported by these companies. This can not be the law. The practice of these companies was exactly the same at the time they were granted these rights, privileges and franchises, as is their practice now. The law of West Virginia, then, as does the law of all other jurisdictions, grants these rights to public service companies, as such

at least if they are furnishing a part of their product or service to consumers inside the jurisdiction which grants these rights. It is not necessary, as is conclusively shown by the fact that these companies have been granted these rights by the State of West Virginia, that both termini of their lines or all lines connected with them and served by them, lie inside the state. The Supreme Court of Appeals of the State of West Virginia adjudicated this matter in the recent case of Carnegie Natural Gas Co. vs. Swiger, 72 W. Va., 557, at 572, 46 L. R. A., ns., 1073. Miller, J., delivering the opinion of the court, said:

> "But it is argued that but few persons are or will be served in West Virginia by the proposed pipe line; that most of the gas is and will be transported into Pennsylvania; that the petitioner is a corporation under the laws of Pennsylvania, and that its principal business is to produce gas and transmit it into that state, and that the sovereign right of eminent domain is properly limited to the service of the people of the state where the power is invoked. While the petitioner is a foreign corporation, it avers and proves its authority to do business in this state. Having obtained authority to do business here, Sec. 30, Chap. 54, Code 1906, confers upon it the same rights, powers and privileges, and imposes upon it the same duties and liabilities, and subjects it to the same rules and regulations, as domestic corporations. Floyd v. National Loan and Invest. Co., 49 W. Va., 327, 54 L. R. A., 536, 87 Am. St. Rep., 805, 38 S. E., 653. Section 24, Chapter 52, of the code provides that 'such company shall, for the purpose of transporting natural gas, oils and water, be considered and held to be a common carrier, and subject to all the duties and liabilities of such carriers under the laws of this state.' The petition avers, and the evidence shows, that petitioner is serving many persons in this state with gas. True, but few at present are

being served by the particular line in question, but it avers and proves its willingness to serve all persons applying, subject to its proper rules and regulations. It avers and proves that it has fixed reasonable prices and rates for such service. If the petitioner is serving the people of West Virginia with gas, and all who apply, as it avers and proves, it can not be denied the right of eminent domain because it serves the people in another state into which its pipe lines go. There is not a particle of evidence in the case showing or tending to show, that petitioner has ever neglected its duty toward the people of this state. That but few are shown to be taking gas from the particular line sought to be extended through defendant's land is of little consequence. The petitioner is seeking business. Practically the same objections were interposed to the rights of the petitioner in Pittsburgh Hydro-Electric Co. v. Liston, and were met in the same way that we have met them here."

The duty of these gas companies, then, under the law of West Virginia, is the ordinary public service duty to serve adequately all consumers which it has held itself out to serve, either by its practice or by lawful contracts made in that behalf, to the extent of its available supply of the produce furnished. This duty does not begin nor end at state boundary lines. The right of a consumer beyond the boundaries of the State of West Virginia, but on the lines of the company, is just as much entitled to be protected under the public service law as is the right of a consumer inside the State of West Virginia.

X.

NATURAL GAS IS IN INTERSTATE COMMERCE IF IT IS IN THE COURSE OF TRANSPORTATION TO ANOTHER STATE, ALTHOUGH IT IS MINGLED WITH GAS WHICH IS NOT INTENDED TO BE TRANSPORTED OUT OF THE STATE.

It may be contended that, since most of the gas companies in West Virginia which own and transport the gas which is furnished to consumers in Ohio and other states, also supply gas direct to consumers, or in some instances to distributing companies, inside the State of West Virginia, none of the gas which is transported by these companies is in the course of transportation in interstate commerce. We believe that such a contention, if made, would be so obviously unsound as to hardly require an answer, but, out of an abundance of caution, we discuss the matter at this point.

In the case of Swift & Co. vs. United States, 196 U. S., 375, Mr. Justice Holmes made this statement of fundamental principles:

> "Commerce among the states is not a technical legal conception, but a practical one, drawn from the course of business. When cattle are sent for sale from a place in one state, with the expectation that they will end their transit, after purchase, in another, and when in effect they do so, with only the interruption necessary to find a purchaser at the stockyards, and when this is a typical, constantly recurring course, the current thus existing is a current

> of commerce among the states, and the purchase of the cattle is a part and incident of such commerce. What we say is true at least of such a purchase by residents in another state from that of the seller and of the cattle."

In the case of Ohio R. R. Commission vs. Worthington, 225 U. S., 101, 106, 108, (1912), the facts were that coal was being transported by the defendant in error from a coal field in Ohio to the ports of Huron and Cleveland on Lake Erie, from which points the bulk of the coal was to be carried by lake vessels to ports in other states or in Canada. The Ohio Railroad Commission claimed that transportation, as far as the lake ports, was intrastate, and hence fixed the freight rates for this transportation. The court held that the act of the Ohio commission was void, as an attempted regulation of interstate commerce, and Mr. Justice Day, at page 108 of the report, said:

> "It is true, as argued by the learned counsel for the commission, that this coal may be accumulated in large quantities at Huron, and only taken out of the accumulated lots from time to time, when it is to be put upon vessels and shipped out of the state; but it must always be remembered that this 70 cent rate applies solely to such coal as is in fact placed upon vessels for carriage to beyond the state points, and as the Circuit Court said, **the substance of things is not changed by the fact that a small part may be unloaded at one of the Ohio islands in Lake Erie.** The situation then comes to this, that the rate put in force is applicable only to coal which is to be carried from the mine in Ohio to the lake, there placed upon vessels and thence carried to upper lake ports beyond the state. By every fair test the transportation of this coal from the mine to the upper lake ports is an interstate carriage, intended by the parties to be

such, and the rate fixed by the commission, which is in controversy here, is applicable alone to coal which is thus, from the beginning to the end of its transportation, in interstate carriage, and such rate is intended to and does cover an integral part of that carriage, the transportation from the mine to the Lake Erie port, the placing upon the vessel and the trimming or distributing in the hold, if required, so that the vessel may complete such interstate carriage."

On page 106 of the same case, Mr. Justice Day said:

"It appears that all the coal shipped at the lake cargo rate remains on the cars of the complainant until unloaded into a vessel, unless it should be diverted en route and devoted to some other purpose, but in that case the lake cargo rate does not apply. For instance, if it should be diverted to commercial use at Huron, the rate on commercial coal, which is $1 a ton, would govern.

There is testimony to the effect that when the coal leaves the mines it is not known in what vessel it will be loaded, nor to what particular ultimate destination it will go, and that sometimes such coal is sold and vessels arranged for after the coal is at Huron, but it is subject to demurrage charge if it remains on the cars beyond a specified time."

The Worthington case goes much farther than is required by the facts of the instant case. In the Worthington case the normal course of transportation was for the bulk of the coal to be transported interstate, but there were no contracts or other obligations which in fact fixed its destination beyond the boundaries of the State of Ohio. The owners of the coal had the full right, as far as appears, to divert the coal to local uses, and in practice, some of it was so diverted. Nevertheless, the nor-

mal course of transportation was interstate, and the commerce was held to have that status.

This court has held in the cases of Texas and N. O. R. R. vs. Sabine Tram Co., 227 U. S., 111, (1913), and R. R. Commission of La. vs. Texas and Pacific Ry. Co., 229 U. S., 336, (1913), that, when shipments are made to a port, of goods which are in fact, and in the regular course reshipped to a foreign destination, the goods are in interstate commerce, although the bills of lading are local and the goods will have to be reshipped to their foreign destination.

In the case of Texas and N. O. R. R. Co. vs. Sabine Tram Co., supra, Mr. Justice McKenna said, at page 130 of the opinion:

> "The lumber was ordered, manufactured and shipped for export * * * and the shipment was not an isolated one, but typical of many others which constituted a commerce amounting in the year 1905 to 14,667,670 feet of lumber and in the year 1906, 39,554,000 feet. Nor was there a break in the sense of the interstate commerce law and the cited cases, in the continuity of the transportation of the lumber to foreign countries by the delay and its trans-shipment at Sabine."

The applicability of this language to the instant case is striking. Here the gas is produced, compressed and shipped for export. The exportation is a constantly recurring process, amounting to billions of cubic feet of gas per year. By every practical conception of the term "interstate commerce" the transportation of this gas is interstate.

And the interstate character of the gas so moved is not

changed though it is, in the state of its production, mingled with gas which is not intended to be transported out of the state or when in the state of its destination it is intermingled with gas of local production.

In the case of People ex rel. Pennsylvania Gas Co. v. Saxe, 229 N. Y., 446, the Court of Appeals held that a franchise tax measured by gross earnings, from all sources within the state, could not be imposed upon the business of a Pennsylvania gas company in transporting gas from Pennsylvania into New York and mingled with gas of local production before delivery. The court held the business corresponding to the amount of the foreign gas to be interstate commerce, upon authority of Pennsylvania Gas Co. v. Public Service Comm., 225 N. Y., 397; 252 U. S., 23; Ratterman vs. W. U. Tel. Co., 127 U. S., 411.

Again, in the case of R. R. Commission of Louisiana vs. Texas and Pacific Ry. Co., 229 U. S., 336, **supra**, Mr. Justice McKenna said, after citing the cases bearing upon this question:

> "The principle enunciated in the cases was that it is the essential character of commerce, not the accident of local or through bills of lading, which determines federal or state control over it. And it takes character as interstate or foreign commerce when it is actually started in the course of transportation to another state or to a foreign country."

In the case of Public Utilities Commission vs. Landon, 249 U. S., 236, at 245, Mr. Justice McReynolds, in the course of the opinion, said:

> "Interstate commerce is a practical conception and what falls with it must be determined upon consider-

ation of established facts and known commercial methods."

In Western Union Telegraph Company vs. Foster, 247 U. S., 105, (1918), where the point involved was whether stock quotations from the New York Stock Exchange delivered in Boston were in interstate commerce until their receipt at the broker's office in the latter city, Mr. Justice Holmes says, at page 113:

> "If the normal, contemplated and followed course is a transmission as continuous and rapid as science can make it from exchange to broker's office, it does not matter what are the stages or how little they are secured by covenant on bond. * * *
>
> Practice, intent and the typical course, not title, or niceties of form, were recognized as determining the character * * *.
>
> It is admitted that the transmission from New York to Massachusetts by the telegraph company was interstate commerce. If so, it continued such until it reached 'the point where the parties originally intended that the movement should finally end.' Illinois Central R. R. Co. v. Louisiana R. R. Commission, 236 U. S., 157, 163."

In the case of Rearick vs. Pennsylvania, 203 U. S., 507, Mr. Justice Holmes, delivering the opinion of the court, said:

> "'Commerce among the several states' is a practical conception not drawn from the 'witty diversities' (Yelv. 33) of the law of sales. Swift & Co. v. United States, 196 U. S., 375, 398, 399. The brooms were specifically appropriated to specific contracts, in a practical, if not a technical sense. Under such circumstances, it is plain that, wherever might have been the title, the transport of the brooms for the

purpose of fulfilling the contracts was protected commerce."

The fact that in some cases the title to the gas changes in the course of the transportation from West Virginia into Ohio, does not prevent the transportation from being considered as interstate commerce. This principle was set forth by this court in Swift & Co. vs. United States, 196 U. S., 375, hereinbefore quoted from, in which case Mr. Justice Holmes, delivering the opinion of the court, said, at pages 398, 399:

> "Taking up the latter objection first, commerce among the states is not a technical legal conception, but a practical one, drawn from the course of business. When cattle are sent for sale from a place in one state, with the expectation that they will end their transit, after purchase, in another, and when in effect they do so, with only the interruption necessary to find a purchaser at the stockyards, and when this is a typical, constantly recurring course, the current thus existing is a current of commerce among the states and the purchase of the cattle is a part and incident of such commerce. What we say is true at least of such a purchase by residents in another state from that of the seller and of the cattle. And we need not trouble ourselves at this time as to whether the statute could be escaped by any arrangement as to the place where the sale in point of law is consummated. See Norfolk & Western Ry. v. Sims, 191 U. S., 441."

See also Gulf, Colorado and Sante Fe Ry. Co. vs. Texas, 204 U. S., 403, (1907).

The evidence in this case shows that more than 80 per cent. of the natural gas which enters the lines of the companies which transport gas interstate, is in fact and in

practice taken across the state lines, the remainder, of course, being distributed inside the state. (Record, p. 997). Those percentages are practically fixed by the contracts of these companies with consumers and other companies inside and outside the State of West Virginia, and by their public service obligations inside and outside the state.

The conception that, of a given mass of gas, 80 per cent. of the mass is in interstate commerce, and the other 20 per cent. is in intrastate commerce, is in no sense more difficult to grasp than the conception that of a given tank of oil, or mass of gas, or tract of land, or block of securities, 80 per cent. of the same is owned by A and the other 20 per cent. is owned by B; yet this conception of undivided ownership has been familiar to our law from its beginning.

If interstate commerce is, as this court has frequently said, a "practical conception," no tribunal can say of a mass of gas, of which in fact 80 per cent. is en route interstate, that none of the mass is in interstate commerce. Such a determination would be at best a "witty diversity" which should not be allowed to control important commercial relations.

XI.

THE ACT IN QUESTION IS VOID BECAUSE IT IMPAIRS THE OBLIGATIONS OF CONTRACTS IN VIOLATION OF SECTION 10 OF ARTICLE 1 OF THE CONSTITUTION OF THE UNITED STATES.

The proof in this case establishes that there are a large number of valid and existing contracts between the State of Ohio and corporations and natural persons who are citizens and residents of that state, which entitle them to a supply of natural gas, either for their own use or for further distribution to the public inside the State of Ohio, and of which contracts the public within said state are the beneficiaries. It also appears from the record that practically all of the municipalities within the State of Ohio are served with natural gas pursuant to contracts made between the municipalities and gas companies under the provisions of Sections 3982 and 3983 of the General Code of Ohio. (Record, p. 590.)

All of these contracts would be immediately impaired, and many of them rendered impossible of performance to any practicable extent, by the enforcement of the act in question. These contracts were all valid and lawful when made, many of them, as we have noted, being made by political subdivisions of the state, pursuant to express statutory authority of the complainant state. The contracts under which gas is furnished by the large inter-

state companies of West Virginia to other companies for distribution in this state uniformly recognize the established rules of public utility duty, by providing for a preferred service to domestic consumers, both in West Virginia and in Ohio in case of a shortage of supply adequate for all classes of consumers, and by providing for a fair apportionment of the available supply among the several communities to which the gas is to be transported. We are aware of the doctrine of this court enunciated in the case of Hudson Water Co. vs. McCarter, 209 U. S., 349, at 357, that

> "One whose rights, such as they are, are subject to state restriction, cannot remove them from the power of the state by making a contract about them. The contract will carry with it the infirmity of the subject matter. Knoxville Water Co. vs. Knox, 189 U. S., 434, 438; Manigault vs. Springs, 199 U. S., 473, 480. But the contract, the execution of which is sought to be prevented here, was illegal when it was made."

The contracts shown by the evidence in this case, however, had no infirmity when made. They were contracts looking to a provision of a supply of gas to maintain a valuable public service. They make no discrimination, they amount simply to agreements to produce and supply an amount of gas, so long as it can be produced and supplied, which will justify the other contracting party in making expenditures which will provide facilities for the service of natural gas to communities. They offend against no public utility duty which either party to them owes. They offend only in that they agree to give

natural gas to companies for use outside the State of West Virginia. Upon no theory, except one which assumes the legality of legislation which discriminates against interstate commerce, can they be said to have any infirmity which permits of their being destroyed.

Even assuming the right of a state, as an original proposition, to restrain the exportation of commodities in interstate commerce, nevertheless it could not under our constitutional limitations permit such exportation while expensive channels and facilities for such exportation are being established and contracts are made and property is acquired which depends for its whole value solely upon such continued exportation, and then, suddenly, and without any provision for compensation of losses caused thereby, change its policy and forbid such exportation. Rebbins vs. Los Angeles, 195 U. S., 223. Such legislation does not strike at a practice deemed harmful by the legislature, but seeks, for the supposed good of the state, to take the contracts and property of others for the benefit of its own residents. This it cannot do, under our constitutional limitations, without making compensation. The statute in question makes no provision whatever for compensation, nor could it validly do so, as to contracts and property outside the state. Pine vs. Mayor of City of New York, 103 Fed., 337; Holyoke Water Power Co. v. Connecticut River Co., 52 Conn, 570; Farnum v. Canal Corp., 1 Summ., 46, Fed. Cas. 4, 675; U. S. vs. Ames, 1 Woodb. & M. 76, Fed. Cas. 14, 441; Rutz v. City of St. Louis (CC), 7 Fed., 438.

In spite of the facts, alleged in the defendant's an-

swer, at pages 9 and 10 thereof, that charters or certificates of admission granted by the State of West Virginia to corporations are subject to the express statutory right of the legislature of said state to alter any charter and to alter or repeal any law applicable to the said corporations, nevertheless the contracts and property rights of these artificial persons are not entirely without constitutional protection. Miller vs. State, 15 Wall., 478, at 498; Adirondack Ry. vs. New York State, 176 U. S., 335. This court has recently held in R. R. Co. vs. Commission of Wisconsin, 237 U. S., 220:

> "We would be very averse to deciding that without explicit declaration, every general law of the state applicable to corporations is enacted as an amendment to their charters. * * * It is one thing to decide that corporations are subject to the police power of the state, and quite another to hold that every general law is an amendment to their charters."

This is shown conclusively by the fact that the legislation is equally applicable to "persons" and "firms" as to "corporations." See Section VII of the act.

XII.

THE ACT IN QUESTION IS IN VIOLATION OF THE FOURTEENTH AMENDMENT OF THE CONSTITUTION OF THE UNITED STATES IN THAT IT DEPRIVES THE STATE OF OHIO, AND MANY OF ITS CITIZENS AND RESIDENTS, OF PROPERTY WITHOUT DUE PROCESS OF LAW.

The enforcement of the statute in question here, would, as is shown by the evidence hereinbefore discussed, destroy property of the plaintiff state and her citizens to the value of millions of dollars, by rendering that property worthless by cutting off the supply of gas. This amounts to a violation of the rights of the plaintiff and her citizens under the Fourteenth Amendment:

> "Nor shall any state deprive any person of life, liberty or property, without due process of law, nor deny to any person within its jurisdiction the equal protection of the law."

There is neither reason nor authority for holding that the clause relating to life, liberty or property, is limited to the protection of persons within the jurisdiction of the state. It was obviously intended to protect them everywhere from the effects of acts done under state authority. For example, lower riparian owners upon a stream which passes across a state line are not at the mercy of the upper state. The upper state could not validly authorize the impairment of their rights, hence

anyone, even an officer of the upper state, who undertook to impair their rights would be restrained or held liable. In the case of Pine vs. Mayor, etc., of City of New York, 103 Fed., 337, it was so held, and the court, Shipman, circuit judge, in his opinion said:

> "The statutes of the state of New York do not undertake to give power to condemn land for public purposes which is situate in another state, and if they undertook to confer such power they would be ineffective. Holyoke Water Power Co. v. Connecticut River Co., 52 Conn., 570; Farnum v. Canal Corp., 1 Summ. 46, Fed. Cas. No. 4, 675; U. S. v. Ames, 1 Woodb. & N. 76, Fed. Cas. No. 14441; Rutz v. City of St. Louis (C. C.), 7 Fed., 438. Neither is there a Connecticut statute which authorizes the City of New York to exercise any rights of eminent domain over land in Connecticut."

The decree of the Circuit Court was affirmed by the Circuit Court of Appeals, 112 Fed., 98. That decree was reversed in this court, New York City vs. Pine, 185 U. S., 93, 22 Supt. Ct., 592, 46 L. Ed., 820, but only upon the ground that the plaintiff was guilty of laches in not earlier pressing his claim for injunction instead of compensation.

See the discussion in 8 Harvard Law Review, 136, by G. B. French and J. Smith, of the question of "Power to divert an interstate river."

The authorities just cited show further that a state cannot exercise the power of eminent domain to take or damage property which is outside the jurisdiction of the state, but that question is of no importance here since the statute in question makes no provision for compensation

for the destruction which it would, if enforced, inevitably cause. We are faced, then, by the bald situation of a state, by direct legislative action, seeking to do that which, by its natural and inevitable consequences would destroy or damage property of large value, without the slightest provision for compensation. It is a plain case of a violation of the fourteenth amendment. It could hardly be contended that the state could, validly, within its own jurisdiction provide that the supply of gas which is now, and for many years past has been, conveyed and served to one of its communities, should be cut off from that community and served to another exclusively, the first community being allowed to receive only the surplus which was not desired by the second community. The plain violation of all rules of public service, and the destruction of property which such a law would cause, would clearly make it invalid. It would, we believe, not be valid even though it carried a provision for compensating the persons whose property was damaged, since one public service can not be destroyed by eminent domain simply to set up another of the same kind. And yet the State of West Virginia is seeking, by the act in question, to destroy property and public service in vast amount, because they lie outside the State of West Virginia, in order to improve the condition of consumers inside the state. The destruction of property which would admittedly result from the enforcement of this statute renders this legislation offensive to the fourteenth amendment.

The statement made in Division VII, on page 32, of

the defendant's answer, that the losses and inconveniences, if any, which may result from the enforcement of this act, are and will be **damnum asque injuria** is but an argument in a vicious circle. Such argument would justify any destructive legislation. Of the numerous cases holding that legislation which results in the destruction of innocuous property is invalid under the fourteenth amendment, we cite the following: Eubank vs. Richmond, 226 U. S., 137; Dobbins vs. Los Angeles, 195 U. S., 223.

XIII.

THE VALIDITY OF THE ACT MUST BE DETERMINED FROM ITS LANGUAGE AND ITS NECESSARY OPERATION AND EFFECT.

The proofs taken in this case show conclusively that the necessary operation and effect of the statute, if enforced, will be to divert to intrastate uses, large quantities of gas which is now being transported from the State of West Virginia into the State of Ohio and other states. The fact that the enforcement of the statute would be harsh and inequitable, and would cause great suffering, inconvenience, and financial loss to the gas consumers outside the State of West Virginia, for the sake of rendering an adequate supply of natural gas to be grossly used in manufacturing industries in West Virginia, and misused in carbon black plants there, might lend some countenance to the contention that the statute would not be enforced to bring about such consequences. The answer

of the defendant on page 40, however, admits that it is its intention to enforce the statute and to impose the penalties therein provided, in case of its violation. However, even though the State of West Virginia should deny its intention to enforce the statute, nevertheless the established rules of construction require that a statute be construed according to its reasonable interpretation, with no regard to any disclaimer on the part of the state enacting it, of its intention to enforce it.

Mr. Justice Harlan, in Western Union Telegraph Company vs. Kansas, 216 U. S., 1, in delivering the opinion of the court which declared unconstitutional an act of the State of Kansas, said:

> "But it is said that none of the authorities cited are pertinent to the present case, because the state expressly disclaims any purpose by the statute in question to obstruct or embarrass interstate commerce, but seeks only to prevent the telegraph company from entering the field of domestic business in Kansas without its consent, and without conforming to the requirements of its statute. But the disavowal by the state of any purpose to burden interstate commerce can not conclude the question as to the fact of such a burden being imposed, or as to the unconstitutionality of the statute as shown by its necessary operation upon interstate commerce. If the statute, reasonably interpreted, either directly or by its necessary operation, burdens interstate commerce, it must be adjudged to be invalid, whatever may have been the purpose for which it was enacted, and although the company may do both interstate and local business. This court has repeatedly adjudged that in all such matters the judiciary will not regard mere forms, but will look through forms to the substance of things. Such is an established rule

of constitutional construction, as the cases abundantly show."

Mr. Chief Justice Marshall, in Brown vs. Maryland, 12 Wheaton, 419, said, concerning such a contention:

> "We are told that such wild and irrational abuse of power is not to be apprehended, and is not to be taken into view, when discussing its existence. All power may be abused; and if the fear of its abuse is to constitute an argument against its existence, it might be urged against the existence of that which is universally acknowledged, and which is indispensable to the general safety. The states will never be so mad as to destroy their own commerce, or even to lessen it.
>
> We do not dissent from these general propositions. We do not suppose any state would act so unwisely. But we do not place the question on that ground."

See also Bethlehem Motors Corporation v. Flynt, Advance Opinions 1921, page 687, Supreme Court Reporter, July 1, 1921, page 571, in which case it was practically admitted that the statute in question, even if it attempted a discrimination, would in practice be "futile." On this point Mr. Justice McKenna said, concerning this argument of the attorney general of the state:

> "May we accept his view of it, that is, regard the condition as a mere brutum fulmen, imposing no condition or burden, against the decision of the Supreme Court of the state? The court has assumed its efficacy and regarded it as a legal condition. * * * We are unable to concur in this conclusion. It is a perilous power to concede to the state, and it is immediately manifest that it can be exerted to prevent all commerce of those corporations (or other corporations) with the state except as the commerce

> might be through direct personal purchases and importations. In other words, the power can be exerted to exclude the products of those corporations, and every other corporation, if they have, or it has, agents in the state."

The answer of the State of West Virginia does deny that the statute was passed for the purpose of preventing the transportation of gas beyond the borders of West Virginia. (Answer, pages 38, 39). The operation and effect of the statute, however, and not the intention with which it was enacted, have always been held to be the controlling factors.

In the case of Kansas City Railway Co. vs. Kansas, 240 U. S., 227, at page 231, Mr. Justice Hughes, in delivering the opinion of the court, said:

> "And, further, in determining whether a tax has such a direct relation to interstate commerce as to be an exercise of power prohibited by the commerce clause, our decision must regard the substance of the exaction—its operation and effect as enforced—and can not depend upon the manner in which the taxing scheme has been characterized."

See also to the same effect: Looney vs. Crane, 245 U. S., 178, at 187; St. Louis Street Ry. Co. vs. Arkansas, 235 U. S., 350, 362.

In Galveston, etc., Ry. Co. vs. Texas, 210 U. S., 217, at page 227, Mr. Justice Holmes said:

> "Neither the state courts nor the legislatures, by giving the tax a particular name or by the use of some form of words, can take away our duty to consider its nature and effect. If it bears upon commerce among the states so directly as to amount to a regu-

> lation in a relatively immediate way, it will not be saved by name or form. Stockard v. Morgan, 185 U. S., 27, 37; Asbell v. Kansas, 209 U. S., 251, 254, 256."

In the case of Western Union Telegraph Company vs. Foster, 247 U. S., 105, **supra**, Mr. Justice Holmes, in delivering the opinion of the court, holding unconstitutional and void an order of the Public Service Commission of Massachusetts, said:

> "Acts generally lawful would become unlawful when done to accomplish an unlawful end. United States v. Reading Co., 226 U. S., 324, 357, and a constitutional power can not be used by way of condition to attain an unconstitutional result. Western Union Telegraph Co. v. Kansas, 216 U. S., 56; Sioux Remedy Co. v. Cope, 235 U. S., 197, 203. The regulation in question is quite as great an interference as a tax of the kind that repeated decisions have held void. It can not be justified 'under that somewhat ambiguous term of police powers.' Western Union Telegraph Co. v. Pendleton, 122 U. S., 347, 359; Leisy v. Hardin, 135 U. S., 100; Savage v. Jones, 225 U. S., 501, 520; Western Union Telegraph Co. v. Brown, 234 U. S., 542, 547."

The language used here and the cases supporting it are applicable to the instant case. The consequences of the act in question, as shown by the evidence, would be the prohibition or restriction of interstate commerce, the destruction of property, and the impairment of contracts. These unlawful consequences must, under the rule of the above decisions, ivalidate the statute, regardless of the avowals in the defendant's answer that its only purpose is to require adequate service by public service companies.

CONCLUSION.

By direction and authority of the legislature and the governor of the State of Ohio, this action is brought, seeking to repeal what it regards as an illegal attack upon its rights. While this statute is drawn with great ingenuity, its purpose and effect are obvious. The useful and unoffending property of the state, and the property of those whom the state is bound to protect, worth many millions of dollars, is threatened with destruction. The state's right, and the rights of her citizens and residents to continue to receive natural gas—the cheapest, cleanest and most convenient fuel known for domestic purposes, and upon which fuel they have become accustomed to rely—are threatened with abrupt extinguishment. Contracts, lawful and commended by all when made, for they represented a development highly valuable to the State of West Virginia, and now free from complaint except that their performance still requires the transportation of natural gas out of the State of West Virginia, are threatened with impairment and nullification. These, in the main, will be the consequences of the statute complained of, if it is held to be valid.

The fact that the State of West Virginia is willing to bring down all of these consequences upon a sister state, in fact all states that adjoin her, solely for the commercial advantage of having an adequate supply of gas for gross and wasteful use in industrial plants and for misuse

201

in carbon black plants, to the deprivation of natural gas for even domestic purposes beyond her state lines, might so justifiably awaken sentiments of resentment in the state so treated, that attempts at retaliation would be expected to follow. This natural consequence of such a law as the one here drawn in question is so obvious that no state, except one highly favored with natural resources, as is the State of West Virginia, would hazard its enactment. However, spurred by her declared self-interest, the State of West Virginia has enacted this remarkable law and is here defending its constitutionality upon the ground that it may require at all times an adequate service by public utilities to all consumers within the territory of West Virginia, regardless of consequences of those across her state lines. This court is asked to discover some magic force and authority in the words "adequate service" which the court has never been able to discover in the words "police power," "state rights," "conservation" or words of similar import, and which shall be made to over-ride the provisions of the constitution of the United States.

The fact that the defendant state may regard itself as so favorably situated that it can "live unto itself alone," granting no favors and asking none, fortunately, does not determine the rights of the State of Ohio. The framers of the constitution were well aware, from their observation of "state" nature, that the states could not and would not give up their powers of making war, of embargo, entering into treaties and diplomatic negotiations with one another, unless they were given in return posi-

tive legal guaranties which would remove the ordinary causes of friction and strife among the several states. These guaranties, so required, were provided by the constitution. That document as interpreted by this court, positively secures to the State of Ohio its rights herein asserted. These rights are deliberately violated by the statute in question. This violation clearly entitles this complainant to the relief prayed for in its bill of complaint.

The State of Ohio further believes that a decision upholding the statute in question would not only cause great inconvenience and suffering, destroy property, contracts and other rights which it is her duty to protect, but would, when pursued to its natural conclusion, seriously endanger the Union itself, by creating a condition of commercial anarchy. The situation is no less critical than that which confronted this court in the earlier cases, now regarded as epoch making, and in which cases, it is now agreed, erroneous decision would have brought disaster. The wisdom and soundness of those decisions have been proven by long experience under them. We believe that a decision upholding this statute would be a departure from and repudiation of the basic principle of those cases and be an abrupt turning backward.

Confident that this, the Supreme Court of the states united under and subject to the constitution, will decree continued maintenance of those basic principles, by holding void this statute, that we may go on, as in the

past, in matters of commerce one and the same people and without reference to state lines.

Respectfully submitted,

JOHN G. PRICE,
Attorney General of Ohio.

E. E. CORN,
Special Counsel.

FREEMAN T. EAGLESON,
R. G. ALTIZER,
Of Counsel.

THERE HAS BEEN NO DISCRIMINATION AGAINST CONSUMERS IN WEST VIRGINIA.

The testimony taken bearing upon the question of whether the gas companies operating in West Virginia have discriminated against their West Virginia consumers shows that such discrimination has not taken place. The average domestic consumer in Charleston, West Virginia, in the year 1919, used 175,000 cubic feet of gas for the year. The average domestic consumer in the city of Cincinnati, Ohio, for the same year, used 84,000 cubic feet of gas; the average domestic consumer in the city of Portsmouth, Ohio, during the same year used 137,000 cubic feet of gas. (Record, page 368).

The testimony of the witness, Anderson, at page 823 of the record, is as follows:

> "A. The average annual consumption per domestic consumer for the year 1918, for the different states, is as follows:
>
> West Virginia ..... 164.89 thousand cubic feet
> Pennsylvania ..... 124.34 thousand cubic feet
> Ohio ..... 110.65 thousand cubic feet
> Kentucky ..... 87.21 thousand cubic feet
> Indiana ..... 78.25 thousand cubic feet
> 22 other states..... 91.80 thousand cubic feet"

The true situation is shown graphically by Pennsylvania Exhibits 42, 43, 44 and 45, prepared by the witness, Wyer, and appearing at pages 1594 to 1597 of the record herein. Copies of these exhibits are inserted herein and show conclusively that the average consumption in West Virginia is and has been much greater than in Ohio.

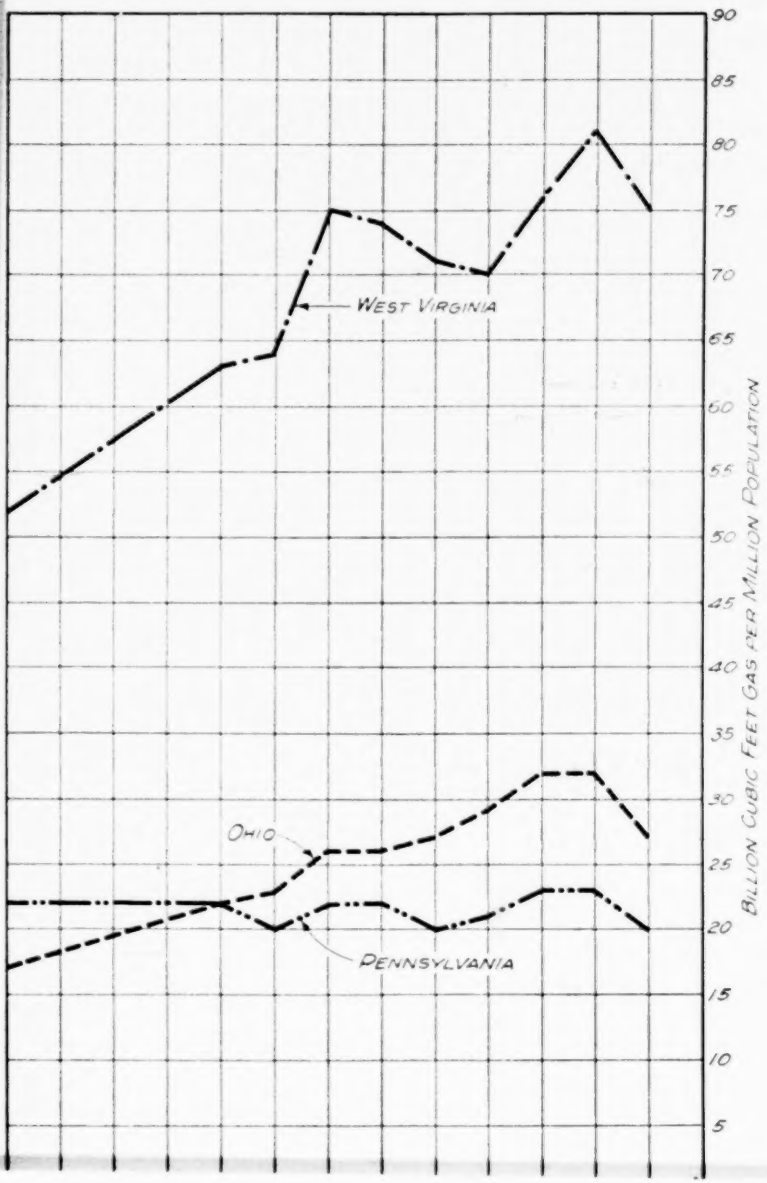
PENNSYLVANIA EXHIBIT 42.

Offered at p. 897 of Printed Record by Witness Wyer.

Billion Cu. Ft. of Natural Gas Consumption Per 1,000,000 Population for West Virginia, Ohio, and Pennsylvania.

BILLION CUBIC FEET NATURAL GAS CONSUMED PER MILLION POPULATION IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

The population data were furnished by the Bureau of the Census and the natural gas data by the United States Geological Survey.



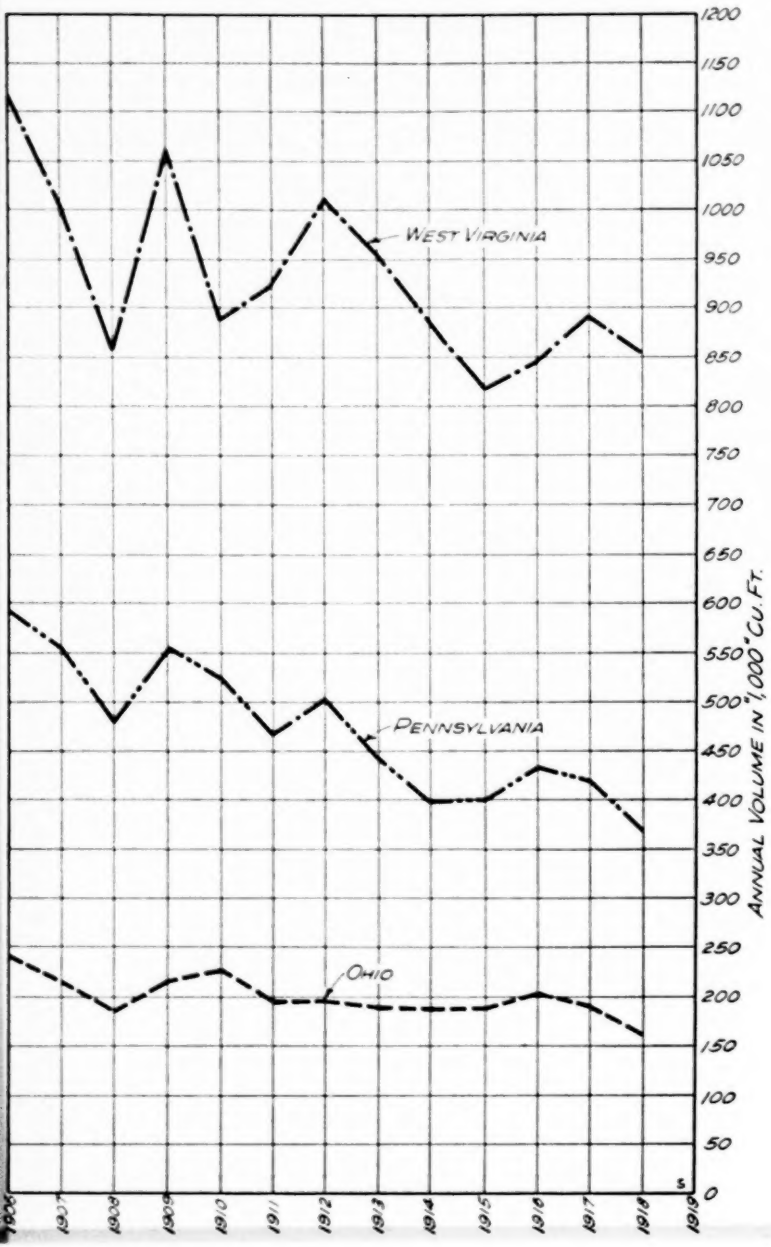
PENNSYLVANIA EXHIBIT 43.

Offered at p. 897 of Printed Record by Witness Wyer.

Total Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio, and Pennsylvania.

TOTAL NATURAL GAS CONSUMED ANNUALLY PER DOMESTIC CONSUMER IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

Based on data compiled by the United States Geological Survey.



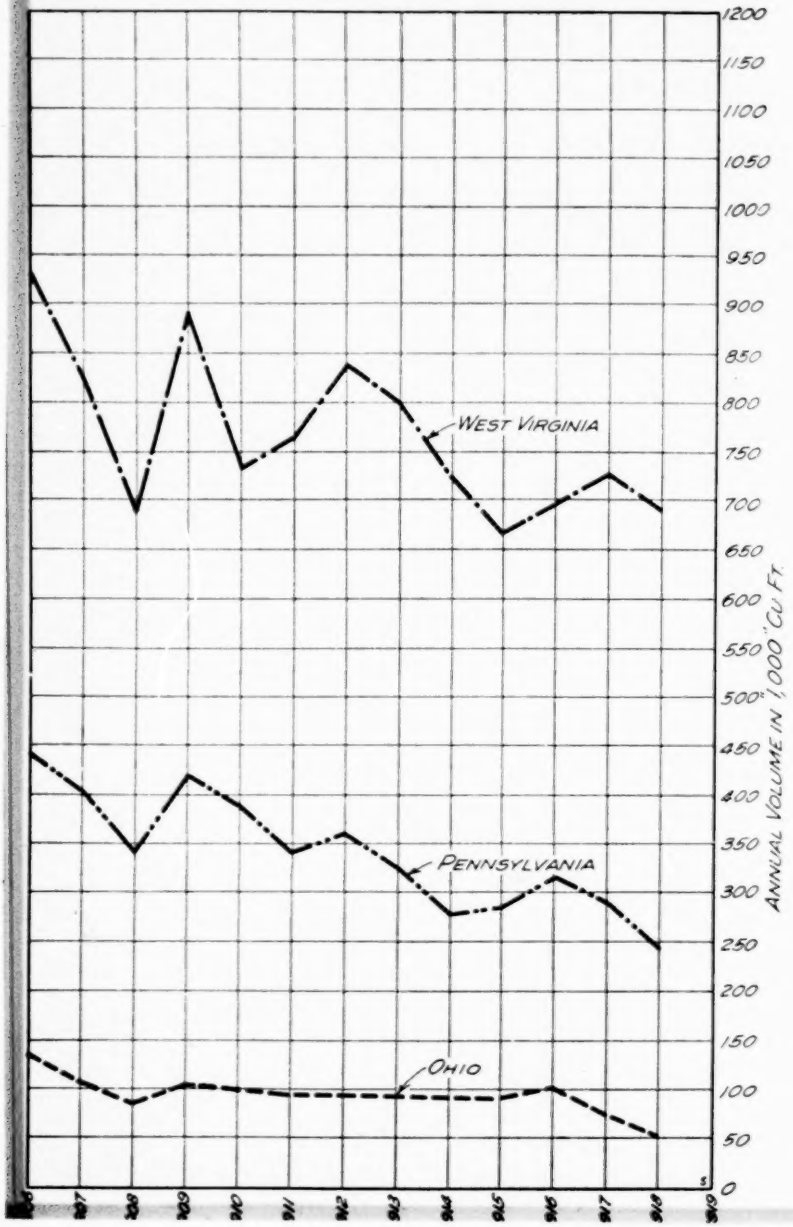
PENNSYLVANIA EXHIBIT 44.

Offered at p. 897 of Printed Record by Witness Wyer.

Industrial Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania.

INDUSTRIAL NATURAL GAS CONSUMED ANNUALLY PER DOMESTIC CONSUMER IN WEST VIRGINIA, OHIO AND PENNSYLVANIA

Based on data compiled by the United States Geological Survey.



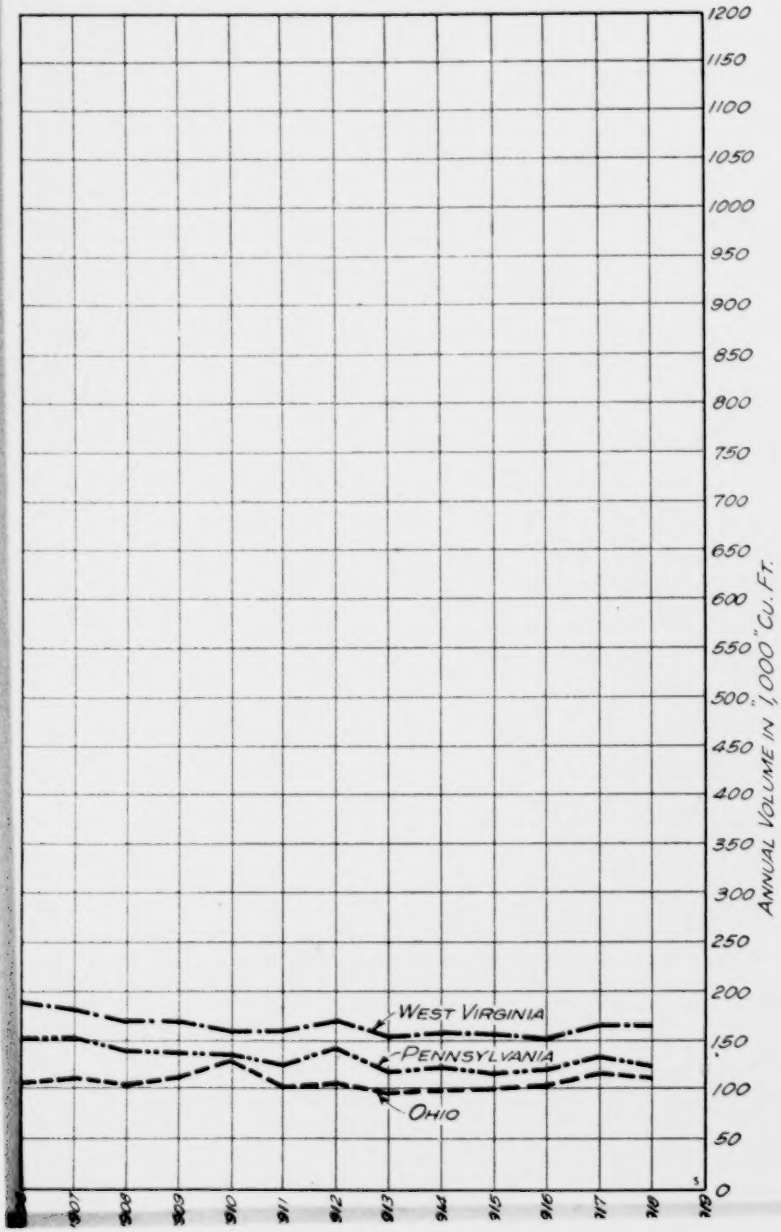
PENNSYLVANIA EXHIBIT 45.

Offered at p. 898 of Printed Record by Witness Wyer.

Domestic Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio, and Pennsylvania.

DOMESTIC NATURAL GAS
CONSUMED ANNUALLY PER DOMESTIC CONSUMER
IN
WEST VIRGINIA, OHIO AND PENNSYLVANIA

Based on data compiled by the United States Geological Survey.



There is no support whatever in the testimony for the proposition that gas consumers in West Virginia on the lines of these interstate gas companies have not received at least their full proportionate share of the total supply of gas. In fact, the contract between The Hope Natural Gas Company and The East Ohio Gas Company, being Pennsylvania Exhibit 19, and appearing at page 1544 of the record herein, provides, in its seventh paragraph, that the domestic consumers of the Hope Company in West Virginia shall be at all times supplied in full by the Hope Company in preference to consumers of the companies outside the state to which the Hope Company sells gas.

The contracts between The Hope Natural Gas Company and The Peoples Natural Gas Company, Pennsylvania Exhibit 17, (record, p. 1524); the contract between The Hope Natural Gas Company and The Northwestern Ohio Natural Gas Company, Pennsylvania Exhibit 16, (record, p. 1509); the contract between The Mountain State Gas Company and The River Gas Company, Pennsylvania Exhibit 20, (record, p. 1554); the contract between The Hope Natural Gas Company and The Fayette County Gas Company, Pennsylvania Exhibit 21, (record, p. 1560); the contract between The United Fuel Gas Company and The Ohio Fuel Supply Company, West Virginia Exhibit 38, (record, p. 1761), all provide specifically for a preference for the domestic consumers in West Virginia upon the lines of the supplying company or upon the lines of other companies in West Virginia furnished gas by the supplying company. These companies, then, are now giving a preference to West Virginia domestic consumers.

PRESENT STATUS OF THE AVAILABLE GAS SUPPLY—DECLINE AND SHORTAGE.

There is no dispute as to the present lack of an adequate supply of natural gas and that this inadequacy extends to all the communities throughout the plaintiff states.

It is due to a decline in the old fields, not now supplemented by new discoveries; the gas operators do not know where to turn for new fields. It is also due to the increasing demand through the natural growth of prosperous communities served in all the states involved, and to the enormous demand during war years when the supply was drained by a continuous delivery night and day to industrial plants, pursuant to orders of the United States government. (Record, pp. 333, 334).

Natural gas is not used only for cooking and hot water heating as is manufactured gas, but is used generally for house heating in grates, stoves and furnaces which in communities using manufactured gas are heated with coal. This fact contributes much to the very great peak load demand which falls upon the natural gas company when cold weather begins. On cold days when the consumer lights his grate, stove and furnace, the demand is from fifteen to eighteen times the demand on warm days. The necessity of conserving gas with which to meet the peak demands, at morning, noon and evening for cooking purposes, is imperative. It is on these cold days that a withdrawal or diminution of the gas supply would cause

extreme suffering, for many communities and thousands of consumers have no substitute heating appliances or substitute fuel. (Quay, 29; Sullivan, 211; Tonkin, 423-421; Angle, 553-562; Reed, 524).

Much of defendant's testimony is made up of statistics to show what proportion of West Virginia gas produced is exported as compared with volumes consumed in the State. As corrected by figures given by witness, Robinson, page 1380, it appears that in 1919, 36 per cent. of the West Virginia production was used in the State and 64 per cent. exported to five other states.

These figures show annual volumes; to get a daily demand it does not follow that the annual volume can be divided by 365 days; on the contrary, the whole issue of this case is focused not upon an average daily or yearly volume, but upon the **cold day** demand. The proof is conclusive that were West Virginia by this statute to obtain a reasonably adequate supply for all its inhabitants and industries, either the entire supply will be taken and the consumer in Pennsylvania and Ohio will get no gas; or such part of the supply will be taken that the service for Pennsylvania and Ohio, for any class of consumers, is completely broken down, and in either case the citizens of those states are the victims of discrimination.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1921.

15-16

Number ~~17~~ Original

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COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Brief on Behalf of Complainant.

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INDEX

PAGE

Statement of Questions Involved..... 2

The Statute in Controversy..... 3

Issues Tendered by the Pleadings and Contentions of Respective Parties..... 6

Introductory Statement and short Review of Facts 17

Argument and Legal Propositions..... 37

I. Gas Reduced to Possession an Article of Commerce 41

II. Gas Not Property of the State..... 43

III. Gas Transmission through Pipe Lines Between States is Interstate Commerce..... 44

IV. Gas Transmission National in Character Requiring Uniform Regulation..... 47

V. The Purpose and Effect of Statute is to Prohibit Transmission of Gas out of State 57

VI. Discrimination Against Consumers in Other States the Declared Purpose of the Statute 69

VII. (a) Statute not Sustainable Because it Purports to Regulate a Public Utility. 94

VII. (b) Statute not Sustainable Because Quantity, Destination, Consignee, unknown at Inception of Transportation, etc. 104

VII. (c) Statute not Sustainable Because of any Alleged Police Power..... 112

VII. (d) Statute not Sustainable Because of any Alleged Corporate Franchise Regulation by West Virginia..... 117
VII. (e) Statute not Sustainable even if it applies equally to Domestic and Non-resident Persons, to Interstate and Intrastate Commerce..... 120
VII. (f) Statute not Sustainable Because some of these Companies do Local Business 123
VII. (g) Statute not Sustainable Because not Affecting Companies not Public Service Companies in West Virginia. 125
VIII. Repugnancy to Commerce Clause of Constitution not cured by Possibility that State and Commission may exer-exercise Forbearance..... 128
IX. Statute Cannot be Upheld Without Compelling Courts to so Remodel as to be Speculative Legislation 129
X. Statute Impairs Obligation of Contracts. 131
XI. Statute Abridges Privileges or Immunities 138
XII. Statute Deprives Companies of Property without Due Process of Law..... 143
Appendix 149

Index of Cases Cited.

	PAGE
Adirondack Ry. Co. v. New York, 176 U. S. 335	136
Allen v. Pullman Co., 191 U. S. 171	124
Allgeyer v. Louisiana, 165 U. S. 578	145
Almy v. California, 65 U. S. (24 How.) 169	63
American Express Co. v. Iowa, 196 U. S. 133	64, 65
Atch., T. & S. F. R. Co. v. Denver, etc. R. Co., 110 U. S. 677	98
Benedict v. Columbus Constr. Co., 49 N. J. Eq. 23	62, 114
Berea College v. Kentucky, 211 U. S. 45	136
Bethlehem Motors Corp. v. Flynt, 16 U. S. Adv. Reps., 1920-21, 687	87
Bowman v. R. R. Co., 125 U. S. 465	64, 65, 86, 117
Brennan v. Titusville, 153 U. S. 289	117
Brown v. Maryland, 12 Wheat. 419	63, 128
Buck Stove Co. v. Vickers, 126 U. S. 205	64
Carondelet Canal Co. v. Louisiana, 233 U. S. 362	136
Cayle's Case, 8 Coke 32	96
Central Stock Yards Co. v. L. & N. R. Co., 192 U. S. 568	99
Chy Lung v. Freeman, 92 U. S. 295	63
City of Jamestown v. Penna. Gas Co., 264 Fed. 1009	88
Connolly v. Sewer Pipe Co., 184 U. S. 540	140
Corwin v. Indiana & Ohio Oil &Gas Mining Co., 120 Ind. 575	45, 51, 61, 114, 120, 129
Cotting v. Stock Yards Co., 183 U. S. 79	141
County of Mobile v. Kimball, 102 U. S. 691	54

Covington, etc. Bridge Co. v. Kentucky, 154 U. S. 204 ..... 46, 64
Crandall v. Nevada, 73 U. S. 35 63
Crenshaw v. Arkansas, 227 U. S. 389 117
Crutcher v. Kentucky, 141 U. S. 47 ..... 64, 117, 124
Fidelity Title & Trust Co. v. Kansas Nat. Gas Co., 219 Fed. 614 100
Galveston, H. etc. Ry. Co. v. Texas, 210 U. S. 217 121
Gloucester Ferry Co. v. Penna., 114 U. S. 196 ..... 46, 53, 63
Gulf, Colo. & S. F. Ry. Co. v. Texas, 204 U. S. 403 109
Guy v. Baltimore, 100 U. S. 434 85
Hall v. DeCuir, 95 U. S. 485 ..... 63, 65, 123
Hanley v. Kansas City So. R. Co., 187 U. S. 617 45
Haskell v. Cowham, 187 Fed. 403 ..... 51, 105, 114, 118, 120, 143
Haskell v. Kansas Nat. Gas Co., 224 U. S. 217 ..... 50, 61, 105, 114, 118
Henderson v. Mayor, 92 U. S. 259 ..... 63, 112, 115
Hoyt v. Chicago, B. & Q. R. Co., 93 Ill. 601 99
Ill Cent. R. Co. v. Behrens, 233 U. S. 473 123
Ill. Cent. R. Co. v. Louisiana R. R. Comm., 236 U. S. 157 107
International Paper Co. v. Mass., 246 U. S. 135 121
International Text Book Co. v. Pigg, 217 U. S. 91 64
Interstate Com. Comm. v. Delaware, L. & W. R. Co., 216 U. S. 531 100
Kansas City So. Ry. Co. v. Kaw Valley Drainage Dist., 233 U. S. 75 ..... 110, 112
Kansas Nat. Gas Co. v. Haskell, 172 Fed. 545 ..... 43, 105, 144

Landon, Recr. v. Pub. Util. Comm., 242 Fed. 658 105
Leisy v. Hardin, 135 U. S. 100..... 54, 64, 117, 146
Leloup v. Mobile, 127 U. S. 640..... 123
L. & N. Ry. Co. v. Eubank, 184 U. S. 27.... 64, 65, 126
L. & N. Ry. Co. v. Stock Yards Co., 212 U. S. 132 146
Lyng v. Michigan, 135 U. S. 161..... 64
Manufacturers Gas & Oil Co. v. Indiana Nat. Gas & Oil Co., 155 Ind. 545..... 43, 45, 61, 114
Miller v. State, 15 Wall. 478..... 136
Minnesota Rate Cases, 230 U. S. 352..... 119, 122
Minnesota v. Barber, 136 U. S. 313..... 64, 65, 117, 121
Murray v. Pub. Util. Comm., 27 Idaho 603..... 99
McCall v. California, 136 U. S. 104..... 64
New Orleans Gas Co. v. Louisiana Lighting Co., 115 U. S. 650..... 116
Northern Pac. Ry. Co. v. No. Dakota, 236 U. S. 585 ..... 98, 99
Ohio Oil Co. v. Indiana, 177 U. S. 190..... 43
Ohio R. R. Comm. v. Worthington, 225 U. S. 101 121, 124
Oklahoma v. Kansas Nat. Gas Co., 221 U. S. 229..... 43, 50, 59, 62, 84, 90, 105 110, 113, 118, 120, 143
Oklahoma v. Wells, Fargo & Co., 223 U. S. 298 129
Penna. Gas Co. v. Pub. Serv. Comm., 252 U. S. 23 ..... 44, 50, 51, 108
Penna. R. R. Co. v. Clark Coal Co., 238 U. S. 456 107
People ex rel. Penna. Gas Co. v. Pub. Serv. Comm., 196 N. Y. App. Div. 514..... 97
Phila. & Reading R. Co. v. Hancock, 253 U. S. 284 123
Phila. Steamship Co. v. Penna., 122 U. S. 326.... 121
Pittsburgh & W. Va. Gas Co., v. Nicholson, 105 S. E. 784..... 102

Pittsburgh, C. & St. L. Ry. Co. v. Morton, 61 Ind. 539 99
Pittsburgh, etc. Ry. Co. v. Viers, 115 Ky. 526 99
Pub. Serv. Comm. v. American Lighting Co., 67 N. J. Eq. 122 96
Pub. Util. Comm. v. Landon, 249 U. S. 236 ..... 45, 50, 106, 108
Railroad Comm. v. Tex. & Pac. Ry. Co., 229 U. S. 336 ..... 107, 122
Railroad Co. v. Brewing Co., 223 U. S. 70 117
Railroad Co. v. R. R. Comm. of Wis., 237 U. S. 220 135
Railroad Co. v. Covington, 235 U. S. 537 64
Railroad Co. v. Husen, 95 U. S. 465 ..... 63, 116
Railroad Co. v. Jacobson, 179 U. S. 287 100
Railroad Co. v. Penna., 15 Wall. 232 52
Reagan v. Farmers Loan & Trust Co., 154 U. S. 362 141
Rearick v. Penna., 203 U. S. 507 64
Robbins v. Shelby Dist., 120 U. S. 489 ..... 63, 121
Savage v. Jones, 225 U. S. 501 117
Scott v. Donald, 165 U. S. 58 87
Sioux Remedy Co. v. Cope, 235 U. S. 197 ..... 87, 119
So. Covington & Cinc. St. Ry. Co. v. Covington, 235 U. S. 537 ..... 65, 124
State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co., 120 Ind. 575 ..... 45, 51, 61, 114, 120, 129
State Freight Tax Case, 15 Wall. 232 ..... 52, 63, 65, 121, 123
Swift & Co. v. U. S., 196 U. S. 375 109
Terminal Co. v. Interstate Com. Comm., 219 U. S. 498 106
Texas & . O. R. R. v. Sabine Tram Co., 227 U. S. 111 121

The Passenger Cases, 7 How. 286..... 63
United Fuel Gas Co. v. Hallinan, 835 Oct. Term 1920..... 110
Wabash v. Illinois, 118 U. S. 557..... 63, 65, 121
Walling v. Michigan, 116 U. S. 446..... 86, 117
Welton v. Missouri, 91 U. S. 275..... 52, 85
West Un. Tel. Co. v. Foster, 247 U. S. 105.. 64, 101
West. Un. Tel. Co. v. Kansas, 216 U. S. 1 ..... 65, 117, 119, 124, 128
West. Un. Tel. Co. v. Pendleton, 122 U. S. 347 117
West. Un. Tel. Co. v. Speight, 254 U. S. 17.... 15
Woodruff v. Parham, 75 U. S. 123..... 63
Wyman, Pub. Serv. Corp..... 95, 97

IN THE

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OCTOBER TERM, 1921.

Number 17—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Brief on Behalf of Complainant.

Questions Involved.

The State of West Virginia in its Answer calls the statute in controversy the "Adequate Gas Supply Act."

Its avowed purpose is to compel all companies, including those engaged in interstate transportation and sale of natural gas, to deliver to West Virginia consumers "domestic, industrial and otherwise" an adequate supply, before they are allowed to transport and deliver any gas to any consumer, either domestic, industrial or others, in any other State.

Does such a statute discriminate against citizens of other States, interfere with and burden interstate commerce, impair the obligation of contracts, deprive citizens of Pennsylvania, Ohio and other States, of their property without due process of law, and deny to the citizens of other States than West Virginia the equal protection of its laws?

The Statute in Controversy.

The statute is entitled:

"House bill No. 59. A bill in relation to persons, firms and corporations engaged in the furnishing or required by law to furnish natural gas for public use within this State, to provide remedies for the enforcement of this Act and penalties and punishment for violation thereof, and to extend the jurisdiction of the Public Service Commission and of the courts of this State with respect thereto."

The provisions of the statute particularly involved in this controversy are as follows (the underscore is ours):

"SECTION 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this state, shall to the extent of his supply of said gas produced in this state, (whether produced by such person or by any other person), furnish for public use within the territory of this state, and for the use of the public and every part of the public within the territory of this state, in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this state, and

for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates."

"SECTION 2. That in case any person engaged in furnishing, or required by law * * * to furnish natural gas for public use within this state, * * * shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the terirtory in this state served by such person, then and in that event the public service commission shall have authority * * * to order any other person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency. * * * And whenever * * * the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such person having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections * * * Provided, however, that no person shall * * * be ordered to furnish natural gas to any other per-

son so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this state; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person * * * if and when the said person having said excess shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe shall actually furnish, to the consumers within said territory a reasonably adequate supply of natural gas."

SECTION 3. Confers jurisdiction on the public service commission of the state.

SECTION 4. Provides for complaints by persons aggrieved to the public service commission.

SECTION 5. Provides for penalties for violation of Act.

SECTION 6. Provides for recovery of damages for violations of Act.

SECTION 7. Defines persons.

SECTION 8. Provides that sections are separable.

SECTION 9. Repeal of conflicting laws.

The statute in full is printed as Exhibit "A" in the Appendix to this brief on page 149.

The Issues Tendered by the Pleadings and the Contentions of the Respective Parties.

The avowed purpose of the State of West Virginia, by the statute in controversy, and the legal machinery by which it proposes to compel those companies engaged in the interstate transportation of natural gas, to discriminate in favor of West Virginia consumers, and to prohibit such companies from transporting gas out of the State, until after an adequate supply has been delivered to all classes of consumers, domestic, industrial and others, in the State of West Virginia, is set forth with brutal frankness in the Answer filed in this case by the State of West Virginia.

On page three of the Answer, in Paragraph III, it is stated:

> "This defendant says that the facts, circumstances and conditions existing before, at the time of and since the passage of said statute and the evils sought to be remedied thereby were and are among others as in this Answer hereafter alleged, and the intention and purpose of the legislature of West Virginia in the passage of said statute were and are as in this Answer hereafter alleged."

The Answer in said Paragraph, and those following, proceeds to give the history of the development of the natural gas industry in the State of West Virginia. It traces the development of the transportation and sale of gas to other States. It shows how the gas was first disposed of to local communities, and as the quantities found increased, markets in other states were

sought and pipe lines built and the gas was transported and sold in such other States, and that this has continued for many years and admits that "in addition to their business of supplying gas to the public of West Virginia," the large companies "after the construction of their respective pipe line systems aforesaid also engaged and are still engaged in the business of transporting gas to or for consumption in other States."

The Answer then sets forth that while in the inception of the interstate business the production of gas in West Virginia was increasing and there was a large surplus for export and this continued for many years, that this production gradually declined and consumers in West Virginia did not obtain "a reasonably adequate supply of gas." The Answer claims that the shortage of gas supplied to the people of West Virginia "was and is caused by the transportation to or for consumption in other States," and the companies failed to supply a "reasonably adequate service to the public of West Virginia," or "to the local gas companies engaged in the service of said public, under the pretext that they were and are prevented from so doing by the necessities of the gas-consuming populations of said other States."

In Paragraph VI, page 30, the Answer continues:

> "Under these circumstances an issue arose between the State of West Virginia and the people thereof on the one side, and said seven companies on the other. On the one hand it was insisted by said State and its people that they were entitled to a reasonably adequate gas supply * * * . On the other hand it was insisted by said seven companies, as they still do insist, that they were and are unable to render additional service or furnish additional gas in West Virginia, either directly to

the public or to the local gas companies therein, because of the alleged necessities of the people of said other States and the contracts aforesaid. And said seven companies further contended as they still do contend, that their gas is private property, which they were and are entitled to dispose of when, where and as they choose, and that they owed no higher duty to the State of West Virginia or the people thereof than to the other States and their gas consuming population.

Confronted with the foregoing, among other, facts, circumstances and conditions, and in the light thereof, the Legislature of West Virginia, at its session of 1919, in the exercise of its police and other powers, enacted the statute complained of in the bill of complaint."

And again in Paragraph IX, page 33, of said answer, the State of West Virginia says:

"While this defendant admits that gas is or may be an article of interstate commerce, yet this defendant denies that gas placed in mains or pipes by public service gas companies, is either in interstate commerce or a legitimate article of interstate commerce, unless and until it has reached the point where it is no longer subject to the public service in West Virginia, and the duties imposed by law upon public service gas companies have been observed and performed by them; and denies that the requirement of the performance or observance of the duties owed by such companies is an interference with interstate commerce or a burden thereon."

And again in Paragraph XV, page 37, of said answer, the State of West Virginia says:

"This defendant admits that among the persons, firms and corporations to which said statute is applicable, and to whom it was designed to apply, are all those who, being engaged in the supply of gas to the public of West Virginia, are also engaged in the transportation of gas into Pennsylvania and other States * * *"

The paragraph continues:

"And this defendant says that the West Virginia gas of the persons, firms and corporations in said statute mentioned, required for the reasonably adequate supply of the public in West Virginia, is affected with the use or interest of said public, which is superior and prior to any introduction thereof into interstate commerce, and that this public use or interest cannot be destroyed or limited by the attempt or desire of said persons, firms or corporations to engage in interstate commerce. * * * This defendant * * * admits that the effect of said statute will be to give to all of the consumers in West Virginia, in said statute mentioned, to the extent of the gas therein mentioned, a reasonably adequate supply of gas, and says that said gas is affected with the use or interest of said public of West Virginia as in this answer before alleged."

The answer says in the same paragraph at page 40:

"This defendant admits that many of the gas companies have withdrawn, or attempted to withdraw, altogether their industrial classification, and do not hold themselves out as willing to supply industrial consumers. But this defendant denies that the gas companies supplying gas to the public in West Virginia did or do have the right to

withdraw their industrial classification or service, except to the extent necessary to furnish a reasonably adequate supply of gas to the domestic consumers of West Virginia * * *"

Complainant contends that said statute in terms or by necessary operation:

(a) prohibits the transportation of natural gas from West Virginia into Pennsylvania, Ohio and other States, until all of the consumers in West Virginia, "domestic, industrial or otherwise," shall have obtained an adequate supply;

(b) authorizes and empowers the appropriation, for the use of West Virginia consumers, of natural gas which is already in transit in interstate commerce, to consumers in Pennsylvania, Ohio and other States, while in course of transportation through pipe lines passing through portions of West Virginia into Pennsylvania, Ohio, and other States;

(c) authorizes this appropriation in transit without the consent of the owner or transporter, or any contract therefor, and without any agreement as to the amount thereof that will be taken, the terms and conditions under which the same will be taken, or the rates that will be paid therefor;

(d) prevents contracts being made for a supply of gas to be transported from West Virginia into Pennsylvania, Ohio and other States, because the companies will not know nor be able to estimate, from time to time, what if any gas they will be permitted by said State of West Virginia so to transport and to sell, nor the periods during which they will be permitted to transmit and sell;

(e) discriminates against consumers in Pennsylvania, Ohio and other states by giving to all consumers

in the State of West Virginia, domestic, industrial, or other, a preferential or prior right over consumers in other States, without regard to or consideration for the life, health, convenience, comfort, financial losses and property rights of consumers in such other States, or their contracts of purchase of said gas or the rights, duties and obligations of the transporter under contracts made for the sale and delivery thereof;

(f) will increase the demand for gas by consumers in West Virginia so as to appropriate all the gas produced in West Virginia, or at least deplete the supply for such interstate delivery to such an extent that but a small proportion of the gas now being transported from West Virginia into Pennsylvania, Ohio and other States, will be available for such transportation, not enough to justify the continuance of the industry;

(g) requires a reasonably adequate supply to all consumers in West Virginia, industrial and others as well as domestic, and if such gas is needed to make up the deficit of any company supplying gas to consumers of any kind in West Virginia, compels companies to make up such deficit with the gas in transit to consumers in other States by taking the same out of the pipe lines conducting said gas into such other States;

(h) provides that all industrial consumers and others, as well as domestic consumers, in West Virginia, shall be adequately supplied before even domestic consumers in Pennsylvania, Ohio and other States, can get any gas from West Virginia;

(i) will compel every natural gas company in West Virginia to extend its lines and deliveries coincident with the boundaries of the State, and spread its business blanket-like over the whole State even though

by carefully prepared charter limitations and by the previous course of dealing the particular gas company had expressly limited the locality it purposed to supply;

(j) would appropriate so large a proportion of the natural gas now obtained or that could be obtained from West Virginia as to make it impractical, if not impossible, to transport any gas whatever out of said State, and would destroy interstate transportation of gas.

The Bill of Complaint and the Answer define the paramount issues between the parties to this suit substantially as follows:

Complainant contends that the transmission of natural gas from the producing wells of West Virginia to consumers in Pennsylvania, Ohio, and other States, through pipe lines crossing and recrossing State lines, is interstate commerce, and the effect of the so-called "Adequate Gas Supply Act" of West Virginia is to burden and interfere with and practically prohibit and prevent such transmission of natural gas from West Virginia to such other States, and to discriminate in favor of West Virginia consumers and against consumers in other States.

West Virginia contends: that because this natural gas is produced in West Virginia; because public service corporations of West Virginia are transporting the same; because of the obligations of these public service companies to the public of West Virginia; and because this gas is affected with the use or interest of such public which is superior and prior to any introduction of said gas into interstate commerce, therefore if the citizens of West Virginia want this gas, the State of West Virginia has the right to force such companies to deliver an adequate

supply thereof to consumers in West Virginia, before any of such gas can be taken out of the State, by the private owners thereof, for delivery to consumers in other States.

This naive contention of West Virginia is founded upon the assumption that natural gas produced in West Virginia, though it has been reduced to possession by the owner, though it has become an article of commerce, though it has been committed to interstate commerce, nevertheless, that gas is affected with the use or interest of the public of West Virginia which is superior and prior to the right of the owner to market his gas in interstate commerce.

The State of West Virginia vouchsafes no explanation of the "divinity" that doth "hedge" this gas, nor yet what power dread hath drawn "the awful circle" thereabout, so that if this nation "set but a foot within that holy ground" the penalty of paralysis of power is imposed.

Another direct issue between Complainant and Defendant is upon the claim of the State of West Virginia that so unlimited is the power of the State over its public service companies engaged in the transmission, sale and delivery of natural gas that notwithstanding limitations in charters and the long continued and approved course of dealing thereunder whereby companies had limited the territory it purposed to supply, nevertheless the State could compel such companies to cover the whole State and all the inhabitants thereof, natural and artificial, and give to all such inhabitants, natural and artificial, including competitive gas companies, an adequate supply of gas, before taking any of said gas out of the State.

An analysis of the statute will further demonstrate the correctness of the foregoing dissection of the claims of the State of West Virginia, as well as other fatal defects in said statute. Such analysis will be found at page 155 appendix hereto.

Counsel respectfully invite the attention of this Court to a digest of the evidence, printed in a separate volume and herewith submitted, comprising 298 pages.

This digest includes not only the evidence taken on direct examination by the complainant, but the cross-examination of complainant's witnesses, and the evidence taken by the defendant . References are given to the pages of the record.

The testimony has been collated and digested under the following headings:

1. Description of Witnesses as Experts, their experience, their opportunities for obtaining information, and the contrast in these respects of the witnesses for complainant and the witnesses for defendant.

2. Historical and Descriptive outline of development of and operating methods employed in the Natural Gas Industry of West Virginia. The discovery of Natural Gas and development of Natural Gas Fields was incident to oil development, and at first gas was of no value, there being no market for same.

3. The Later Development of the Natural Gas Fields of West Virginia was made by the great Interstate Transporting Companies for the purpose of obtaining gas to be transmitted to market in other States, which markets had been sought so as to give value to the natural gas produced in West Virginia.

4. The Amount of the Investment of the companies producing gas in West Virginia and transporting it to other States, in obtaining and carrying leases, drilling wells and laying pipe lines, &c.

5. The Exportation of Natural Gas from West Virginia to other States as carried on by the Gas Companies operating in that State, showing the lines of transmission, the movement of gas through the lines, and the operation Interstate and as one system or unit.

6. The Operation and Effect of the West Virginia statute will be to appropriate to the use of West Virginia Consumers Gas already in course of transmission from West Virginia to other States, and destroy the market for the product of the Gas Companies, render their plants valueless, and paralyze their business.

7. The Operation and Effect of the West Virginia statute will be not only to impair, but will destroy at times, the contracts between the Gas Companies and other companies and consumers, domestic and industrial, and the States of Pennsylvania and Ohio, and the United States Government, and will at all times make said contracts unenforceable, and make the other parties thereto cancel the same.

8. The Operation and Effect of the West Virginia statute will be to absolutely prohibit at times, during periods of cold weather, the transmission of Gas from West Virginia into Pennsylvania, Ohio or other States, and thus drive consumers off the line altogether and for the whole year.

9. The Effect of the Operation of the West Virginia statute will be a discrimination in favor of the citizens

of West Virginia and against the citizens of Pennsylvania and Ohio and other States, who are dependent upon the gas exported to them for fuel for heat and light by the Companies producing gas in West Virginia, and such residents of Pennsylvania, Ohio and other States, both domestic and industrial consumers, will suffer pecuniary loss, and the lives, health, safety, comfort and convenience of domestic consumers will be affected.

10. The States of Pennsylvania and Ohio, in their sovereign capacity, in and through their hospitals, insane asylums, public schools, penal institutions, and charitable institutions, and through the various political subdivisions of said States, such as cities, boroughs, &c., are consumers of Natural Gas, and have contracts for the supply thereof, and are dependent upon the use of Natural Gas exported from West Virginia for heat and light, and will be seriously affected by the operation of the West Virginia statute as to the lives, health, safety, comfort and convenience of wards and dependents in such institutions, and in such cities, boroughs, &c., and will further be subjected to great pecuniary loss.

11. Gas Companies in West Virginia are public service corporations, operating under franchises and exercising the right of eminent domain.

12. The Relation of the Hope Natural Gas Company, Pittsburgh & West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and The Manufacturers Light & Heat Company, to other producers of Gas and Gas Companies operating in West Virginia, and the respective holdings of wells, leases, production, the amount of gas exported by said companies, miles of pipe lines owned, &c.

Introductory Statement.

Before argument and citation of authorities upon the legal propositions, it will serve a useful purpose to take a general view of the development of the natural gas industry in West Virginia, and the effect of the enforcement of the statute in controversy upon the gas companies and upon consumers in other states. All of this is more fully and graphically shown by the evidence.

Details of fact, quotations from and reference to the evidence, will be found in the "Digest." There is little or no conflict between the evidence of the complainant and the defendant. On all the important questions there is no conflict at all. In fact the Answer of the defendant admits substantially all that is necessary to make complainant's case.

The South Penn Oil Company, in the latter half of the last century, had taken up large blocks of leases in the State of West Virginia, and had drilled the same for the development of the oil deposits. In its early operations it drilled many dry holes and a number of gas wells. Other operators did the same, but abandoned the wells when they obtained gas. The South Penn Oil Company, however, tubed and cased their gas wells and shut them in. They were confronted with the problem—what to do with the gas from these wells. The South Penn Oil Company, after a number of gas wells had been drilled by this corporation, acquired the Flaggy Meadow Gas Company, to take over these gas wells and supply several small West Virginia towns and also supply fuel for the drilling and pumping of wells of the South Penn Oil Company. (Digest p. 21; Record p. 18; Digest p. 34; Record pp. 322-4; Digest p. 42; Record pp. 340-1).

About 1894, the South Penn Oil Company, having obtained further gas wells in other sections of the State, the same stockholders organized the Mountain State Gas Company. The Mountain State Gas Company took over some of these gas wells and undertook to supply some of the river towns in West Virginia, such as Sistersville and Parkersburg. It was found, however, that the number of gas wells obtained by these three companies, the South Penn Oil Company, the Flaggy Meadow Gas Company, and the Mountain State Gas Company, was increasing to such an extent that the companies were obliged to seek some other market to take the gas thus produced, as there was not sufficient demand in West Virginia, and accordingly the Hope Natural Gas Company and the East Ohio Natural Gas Company were formed, by the same interests, to take over these properties and obtain an outlet for this gas, there being no market for the same in West Virginia. The markets first sought were certain cities in Ohio, then later cities in Pennsylvania and other States. (Digest p. 34; Record pp. 322-4; Digest p. 41; Record pp. 325, 331-2; Digest p. 42; Record pp. 341-2).

Lines were laid from Massillon, Canton, Akron and other Ohio cities to the Ohio River, where they connected with the lines of the Hope Company, and gas was transmitted to the Ohio towns and sold there, no measurements being made along the lines and not until the gas reached the ultimate consumer. Later the lines of the East Ohio Company were extended to Cleveland, and other and larger lines were laid from Cleveland to the Ohio River, where they connected with other and larger lines which had been laid by the Hope Company, and gas was transmitted and sold in Cleveland, without any measurements at intermediate points and not until the gas reached the ultimate consumer. Later extensions

of lines or other lines were laid to other Ohio cities such as Columbus, Cincinnati, etc. by these or other companies. The Peoples Natural Gas Company in Pennsylvania was also purchased by the same interests and lines were laid by this company to the West Virginia state line to connect with the Hope Company lines there, and also to Brave Station in Pennsylvania to connect with the Hope Company lines at that point, and gas was delivered both at the state line and in Pennsylvania by the Hope Company to the Peoples Natural Gas Company. The Peoples Company supplied a number of Pennsylvania cities and towns. (Digest pp. 42-3; Record pp. 424-7).

During this same period T. N. Barnsdall was another heavy operator in West Virginia. He was drilling for oil, and in many instances found gas. Some of this territory of Barnsdall's interlocked with the territory of the South Penn Oil Company. When in 1898 the Hope Natural Gas Company was formed, or shortly thereafter, these gas interests of Barnsdall were transferred to this company. Prior to that time Barnsdall was supplying gas to quite a number of towns in Ohio, and after the consolidation of his interests as above stated with the Hope Company, the Reserve Gas Company was then formed by the same interests to take over many of the holdings of the Hope and Barnsdall companies. The Barnsdall interests were subsequently transferred to the Union Natural Gas Corporation. At practically the same time the Connecting Gas Company was formed by the same interests that formed the Reserve Company, to transport the gas from the Ohio River where it was taken by the Reserve Company's lines to two points,—Sugar Grove, in Ohio, where the Union Natural Gas Corporation received it for transmission and delivery,—and the other at Wheeler, in Ohio, where the Northwestern

Ohio Natural Gas Company received the gas belonging to the Hope Company, and transmitted and delivered the same through its own system in Ohio to various cities, including the city of Toledo. This plan of operation has been followed by the respective organizations from that date to the present time. (Digest p. 35; Record pp. 322-4).

Substantially all of these companies, however, after their organization, became active in securing additional gas territory and additional gas wells, both by drilling and purchasing, and, when the demand for gas increased, began the purchase of gas from other operators. (Digest pp. 44-6, 49, 53, 54; Record pp. 186-8, 521-4, 683-5, 719).

These companies, as well as others that were formed by other parties, from time to time, such as the Pittsburgh & West Virginia Gas Company, the United Fuel Gas Company, the Columbia Gas & Electric Company, the Carnegie Natural Gas Company, The Manufacturers Light & Heat Company, the Eastern Oil Company, The Logan Natural Gas Company, The Fayette Gas Company, Ohio Fuel Company, Northwestern Ohio Natural Gas Company, and many others, produced gas in West Virginia, or purchased it from other companies engaged in its production in West Virginia, and for years have been supplying West Virginia gas not only to the centers of population in West Virginia, but to large cities such as Pittsburgh, Johnstown, Altoona, McKeesport, and New Castle, in Pennsylvania, Cleveland, Cincinnati, Columbus and Toledo, in Ohio, Louisville, Ky., and Indianapolis, Ind., and the large number of towns and cities in Pennsylvania named on pages 6 to 9, of the Bill of Complaint of the Commonwealth of Pennsylvania, and to a large number of cities and towns in Ohio and other States. (Digest

pp. 212-233 and see references to Record there cited, which are so numerous that inserting them here would interrupt the continuity of the reading).

The number of cities and towns in States adjacent or contiguous to West Virginia dependent almost entirely upon West Virginia for their natural gas supply is substantially as follows:

In Pennsylvania	about	300
Ohio,	"	300
Kentucky,	"	25
Indiana,	"	15
Maryland,	"	14

Among these are some of the largest cities in these states. (Digest, pp. 234-5; Record, pp. 907-8; Digest, p. 236; Record, p. 904).

The number of domestic consumers in Pennsylvania is substantially 400,000, or counting five to a family, approximately a population of 2,000,000; in Ohio about 725,000, or a population of 3,625,000; in Kentucky about 75,000, or a population of 375,000; in Indiana about 15,000, or a population of 75,000; and in Maryland about 10,000, or a population of 50,000. (Digest, p. 235; Record, p. 908).

The States in which the activities of the larger natural gas companies taking gas from West Virginia and other States are conducted, are as follows:

Hope Natural Gas Company. Pennsylvania, Ohio and West Virginia. (Digest, pp. 79, 80; Record, pp. 204, 205, 297, 298).

Reserve Gas Company. Pennsylvania, Ohio and West Virginia. (Digest, pp. 79, 80; Record, pp. 186, 189, 974).

Connecting Natural Gas Company. Pennsylvania, Ohio, Kentucky and West Virginia. (Digest, pp. 83, 84; Record, pp. 318, 364).

East Ohio Gas Company. Ohio. (Digest, p. 88; Record, pp. 564, 570, 975, 1599).

Columbia Gas & Electric Company. West Virginia, Kentucky and Ohio. (Digest, pp. 84, 85; Record, pp. 374-6, 392, 876, 1584).

Logan Natural Gas Company. Indiana, Ohio and West Virginia. (Digest, p. 91; Record, pp. 750-8, 764-72, 1709).

Fayette Natural Gas Company. Pennsylvania and West Virginia. (Digest, p. 80; Record, pp. 534, 554).

Pittsburgh & West Virginia Natural Gas Company. Pennsylvania and West Virginia. (Record, pp. 514, 515).

The Manufacturers Light & Heat Company. Pennsylvania, Ohio and West Virginia. Digest, p. 74; Record, pp. 615, 616).

Carnegie Natural Gas Company. Pennsylvania and West Virginia. (Digest, p. 95; Record, pp. 876, 890-2, 1587).

Eastern Oil Company group of companies. Maryland and West Virginia. (Digest, pp. 93, 94; Record, pp. 892, 893).

Natural Gas Company of West Virginia. West Virginia, Pennsylvania and Ohio. (Digest, p. 90; Record, pp. 741-2, 746, 1566).

United Fuel Gas Company. West Virginia, Kentucky and Ohio. (Digest, pp. 84-5; Record, pp. 374-6, 392, 876, 1584).

The Philadelphia Company. Pennsylvania and West Virginia. (Digest, p. 87; Record, p. 876, 1586):

Ohio Fuel Supply Company. Ohio and West Virginia. (Digest, pp. 88, 89; Record, pp. 651-8, 874, 1601).

Peoples Natural Gas Company. Pennsylvania. (Digest, pp. 79, 80; Record, pp. 186-90, 1509).

Northwestern Ohio Natural Gas Company. West Virginia and Ohio. (Digest, p. 89; Record, p. 651).

The Hope, Reserve, Connecting, Peoples and East Ohio, are the only companies that are in any manner affiliated or have any connection with the so-called Standard Oil interests. The other twelve companies in the foregoing list and many others have no such connections. All of these companies are in competition with one another (if located and operating in the same territory) in leasing, drilling, &c. (Digest, pp. 282-4; Record, pp. 1302-3, 12, 13, 46, 220, 357, 371, 827). The evidence conclusively establishes the fact that there is no monopoly, except in so far, as always results, that operations requiring enormous capital can only be carried on by a comparatively few. In this case these few are in no way associated. (Digest, pp. 275-82; Record, pp. 160, 321, 353, 356, 378-9, 424, 469, 508, 553-4, 638, 658, 682, 998-9, 1021, 1030-33, 1169, 1174, 1205, 1508).

The investment of the natural gas companies engaged in operating for and transmitting and supplying natural gas in and from West Virginia, at the present time, is several hundred millions of dollars, and the investment of the domestic consumers in the respective

States in their appliances for burning natural gas, estimated at $200 to the consumer, would be in excess of $245,000,000. This takes no account of the money invested and lost, nor of the appliances used in industrial plants. (Digest, pp. 60-71, and references there cited. Digest, p. 201 and references to Record there cited for average cost to consumer. Record, p. 908 for evidence as to number of consumers).

The total production of natural gas in the State of West Virginia in 1908 was approximately 112,000,000,000 cubic feet. This production gradually increased for five years until 1913, when it was approximately 245,500,000,000 cubic feet. It declined in 1914 and 1915, but in 1916 it was approximately 299,000,000,000 cubic feet. This increased in 1917 and declined in 1918, and in 1919 it was approximately 220,000,000,000 cubic feet. (Digest, p. 273; Record p. 278).

There was transported out of the State of West Virginia for the use of the respective consuming communities in Pennsylvania, Ohio, Indiana, Kentucky and Maryland, in the year 1919, approximately 140,000,000,000 cubic feet, or about 64% of the State's total production. The State of West Virginia during the same year consumed approximately 80,000,000,000 cubic feet of its own production and about 4,000,000,000 cubic feet which was imported into West Virginia from other states. (Digest, pp. 273-4; Record, p. 1378).

Natural gas cannot be stored after the gas-bearing sand has been punctured by the drill, and must be transmitted to the points of consumption by pipe lines. (Digest, pp. 23, 33; Record, pp. 13, 1421). The transmission for long distances through these pipe lines, after gas is forced into the line by its natural or rock

pressure, is made possible by the construction of compressors, which release the gas after compression into the transmission lines, and the gas flows through the same by its expansion. These compressor stations are located at intervals upon all of the transmission lines. (Digest, pp. 24-26; Record, pp. 127, 153-5). Some of these compressor stations have many thousand horse power. (Digest p. 61; Record pp. 258-9). The flow of gas in any direction is always towards the point of lowest pressure, and, therefore towards the point of largest consumption at the instant. Its direction of flow may vary from minute to minute, hour to hour and day to day. (Digest, pp. 29, 32; Record, pp. 865-76, 1419-20). The gas in the lines is never at rest. It is always in motion in one direction or another. (Digest, p. 31; Record, p. 908).

The development and growth of the presently existing vast system of natural gas production, transportation &c, is the result of experience extending over more than a quarter of a century. At first the supply of gas was confined to limited areas, within the radii of transmission by means of natural rock pressure of the gas in the ground. Science has extended these radii, almost indefinitely, by supplementing this natural pressure by compressor stations of thousands of horse power erected at intervals along the transmission lines.

These transmission lines in West Virginia, Pennsylvania and Ohio, cross and recross the State lines at many points. (Digest, p. 73; Record, p. 30). The lines of some of these companies are shown upon maps in Volume I of Exhibits, Volume III of the record, at the following pages:

Page

The Fayette Company.....1581
The Hope Company.....1582
The Reserve Company.....1583
The United Fuel Gas Company.....1584
The Manufacturers Light & Heat Co.....1585
The Philadelphia Company.....1586
The Carnegie Company.....1587
The Eastern Oil Company.....1588
The East Ohio Company.....1599
The Ohio Valley Supply Company 1601
And the joint map of the Hope, Reserve and Peoples Companies 1600

The map at page 1694, of the above Volume, based on data compiled by the United States Geological Survey, shows the natural-gas-using towns, and main transmission lines, in West Virginia, Pennsylvania, Ohio, Indiana, Kentucky and Maryland. They form a network of interstate transportation or transmission, forming a system of interstate connections and interstate crossings to which railroad lines are no comparison. These maps visualize the fact that in the production, sale and transportation of natural gas, state lines were obliterated by all of these gas companies, just as they were by the commerce clause of the Constitution of the United States. To now turn bac the hands on the dial of time, law, usage and custom (by which usage and custom the state of West Virginia has heretofore enormously profited) as this statute now proposes, would involve losses to gas companies and to consumers of nearly a billion dollars, subject millions of men,

women and children, in other states than West Virginia to indescribable hardships, to dangers to life and health, to discomfort and inconvenience, the while consumers in West Virginia were protected from all those losses and evils by the selfish discrimination of the laws of their State, in their favor, instead of the State adopting a forward-looking policy applicable to consumers in all States alike, providing for a gradual readjustment to meet the diminishing gas supply.

The lines of some of these companies cross and recross the State lines at a large number of places. The lines of The Manufacturers Light & Heat Company, for example, cross and recross the State lines between West Virginia and Pennsylvania and Ohio, over forty times. Through these lines the transmission of gas is carried from the producing centers of West Virginia to the consuming centers of Pennsylvania, Ohio, Kentucky, Indiana and Maryland. (Digest, pp. 73-5; Record, pp. 30, 114, 146-7). At these consuming centers in the villages, boroughs, towns and cities, there are distributing systems of pipe lines with house connections of the same general character as those used for manufactured gas. (Digest, p. 25; Record, p. 18).

All of the gas companies supplying the centers of population in all of the States have long since adopted the rule of giving to the domestic consumer preference over the industrial consumer; that is, in the event that there is not sufficient gas to supply both industrial and domestic consumers, the supply to the industrial consumer is cut off as far as possible.

In some of the States, as in Ohio, the Public Service Commission of the State has made rules and regulations giving to the domestic consumer the preference. The

natural gas companies, by reason of the present and prospective shortage of natural gas supply, have adopted the general policy of discouraging as far as possible the use of natural gas for industries, so as to conserve the supply for the domestic consumers. This policy was adopted because industries could more readily arrange for other fuel, and because industrial plants, as a rule, used such enormous quantities of gas that the supply was not enough for both domestic and industrial consumption. (Digest, pp. 147-8 and references to record there cited; Digest, pp. 157-8; Record, p. 423; Digest, p. 162; Record, pp. 561, 562, 578-9, 603, 634, 680, 681, 722, 781, 793).

Even when the supply of natural gas was much greater than it is at present,—in fact, at all times,—during "peak load" periods, that is, during extreme cold weather, both because of the peak load demands and because of the slowing down of transmission during such weather, there has been a shortage of supply, and even domestic consumers have not been furnished with an adequate supply. (Digest, pp. 144-6, 152, 161, 164, 166; Record, pp. 47, 50, 51, 215, 222, 458, 475-7, 611, 673). This condition has been accentuated during the last few years by a gradual diminution that has taken place in the supply of gas. (Digest, p. 214; Record, p. 47-8; Digest, pp. 216, 217, 224; Record, pp. 211, 327-8, 348, 588).

In addition to private citizens, the States of Pennsylvania and Ohio have contracts for the supply of gas to their public insitutions in the localities supplied by these natural gas companies, such as hospitals, poorhouses, houses of detention, etc., and the various municipalities in said States use the gas under contract for their public buildings, sometimes for street lighting and for the lighting of their grounds and the like. (Digest,

pp. 126, 127, 129, 132, 134-6, 238-52; Record, pp. 7-8, 118-20, 223, 388-9, 458, 500, 501, 574-7, 590, 632-3 and references to Record cited in Digest, pp. 238-52).

In many sections of Pennsylvania and Ohio, and in some of the other States, dwelling houses have been constructed with appliances adapted solely for the use of natural gas, and these appliances cannot be used for other fuel. So, too, some of the industrial plants have been so constructed, and must be reconstructed in order to use other fuel. The time required for such reconstruction and change of appliances would be very considerable,—many months,—and the cost thereof would be great. (Digest, pp. 200-12, and references to Record there cited).

If West Virginia gas were cut off from these consumers until the new appliances were installed and adapted to other fuel, and such fuel procured, such consumers would be not only subjected to an enormous cost and expense, but also would be affected in their comfort and convenience as well as in their health, if indeed their lives would not be in many cases jeopardized. (Digest, pp. 192-200 and references to Record there cited).

The gas companies transmitting gas from West Virginia into Pennsylvania, Ohio, and other States, are not only under contract to supply West Virginia gas to domestic and industrial consumers, but also to the States themselves and the municipal subdivisions of said States, and other gas companies operating therein. (Digest, pp. 127-141, 238-52, and references to Exhibits in Record there cited).

A large proportion of the natural gas now being used in Pennsylvania, Ohio, and these other States, is

obtained in and transported from West Virginia into these other States, and naturally and inevitably anything that reduces the amount of gas thus to be transported into these other States will diminish the quantity of gas thus to be delivered from West Virginia to these other States. (Digest, p. 142; Record, p. 969; Digest, pp. 273-4; Record, p. 1378; Digest, pp. 235-6; Record, pp. 904-8; Digest, pp. 184-7, and references to Record there cited.) The effect of such diminution is not measured in proportion to the amount of gas taken out for consumption in West Virginia under the provisions of said statute. There must always be enough gas in any pipe line system to fill the lines in order to maintain any pressure sufficient to afford any practical service to consumers on that line. While therefore only 25% to 50% of the amount of gas in transit to other States may be temporarily seized under the provisions of said statute for use in West Virginia, this may, and in all probability would, so disorganize the pressures on the transmission system as to prevent any service at all to consumers on said lines in other States, especially those at distant points. (Digest, pp. 30-31; Record, p. 876; Digest, pp. 77-8, Record, pp. 49-50; Digest, p. 141; Record, p. 783; Digest, p. 164, Record, p. 606; Digest, pp. 177-8; Record, pp. 909-10).

The operation of the West Virginia statute in controversy, not only undertakes to regulate and control the transportation lines, that is, the machinery of transportation, but proposes to take out of the lines, while the same is in transit to other States, the very article of commerce,—the natural gas,—so under transportation, and, without the consent of the gas company thus transmitting the same from West Virginia to such other States, proposes to appropriate and apply the gas thus taken to the use of and for the benefit of not only the

domestic consumers in West Virgnia, but also all other consumers, the industrial consumers and others, throughout the domain of the State of West Virginia.

The effect of the operation of said statute and the carrying out of its mandates will be:

(a) The appropriation by West Virginia consumers of gas already committed to interstate commerce.

(b) The practical prohibition altogether of the transportation of gas from West Virginia into other States.

(c) To discriminate in favor of and give to consumers in West Virginia preferences and opportunities over consumers in other States.

(d) To cause enormous pecuniary losses to the natural gas companies and to consumers in these other States.

(e) To affect and jeopardize the comfort, convenience, health, and possibly the lives, of consumers in such other States.

(f) To strike down the contracts of the transporting companies with States, municipalities, other gas companies, and with consumers in such other States.

(g) To take the property of the transporting gas companies forcibly and without their consent.

(h) To destroy the value of the investments of the transporting natural gas companies, by destroying their market for gas, greatly reducing

the value of their plants, and in many instances rendering such plants, especially their distributing systems, utterly valueless.

The foregoing effect of the operation of the statute and the carrying out of its provisions, is evident from the following considerations:

The statute requires of each company in the state, however limited by charter or course of business may have been its locality of supply, an adequate supply of natural gas to be furnished, in the first instance, to all the residents of West Virginia, domestic, industrial and others, whether such residents are now being supplied by said transporting companies or not, and whether they have any connections upon their lines or not, and whether they are located in the territory which the company agreed to supply or not. By express terms the statute covers the whole territory of West Virginia, and the territory through which any of the lines of transportation pass. (As a matter of fact there are only two or three counties in the State through which lines do not pass.)

The statute also requires such adequate supply not only to domestic consumers, but to industries and to other consumers. If the industries now in the State, and particularly those additional industries which would be there attracted by such an enactment, as well as all the domestic consumers in the State, would use natural gas for fuel, as they undoubtedly would, they would consume substantially every foot of gas produced in the State,—even that produced at the present time, not to speak of the lesser quantity that will later be available on account of the rapid decline in production in West Virginia that is now going on. (Digest, pp. 114-81, passim and references to Record there cited).

Moreover, as previously stated, at no time during the past, when the supply of natural gas was much greater than today, during the "peak load" periods, even after industrial consumers were cut off the lines, could the gas companies furnish an adequate supply. (Digest, pp. 214, 216, 217, 224, 144-6, 152, 161, 164, 166; Record, pp. 47-8, 50, 51, 211, 215, 222, 327, 328, 348, 458, 475-7, 588). The peak load varies over normal from ten to twenty times. (Digest, pp. 150-1; Record, pp. 55-7, 222-3, 327, 423-4, 909). No gas company as an economic proposition, could afford to lay lines of dimensions sufficient for this extraordinary demand which continues for short periods only and during extreme cold weather. (Digest, p. 32; Record, p. 520). Besides this, temperature affects the flow of gas from the well and through the lines, cold retarding the flow, and the colder the weather the more the flow is retarded, just at the time when the demand is the greatest and the necessity for its use the most imperative. During these periods, therefore, if the demand for domestic consumption in West Virginia must be adequately supplied, even if the industrial demand in West Virginia, like elsewhere, was cut off, which the statute forbids, still consumers in other States would suffer indescribable hardships by this preemption of substantially all the gas by West Virginia consumers. As already explained, the transmission of gas by pipe lines, unlike the transportation of other commodities, may be substantially stopped by taking out of the line a comparatively small per cent. of their capacity, because the pressures must be maintained or no gas can be transmitted.

In addition to this, should any other natural gas company in the State, by reason of improvidence or carelessness or negligence or want of foresight and of capital, or other reason, be unable to supply the consumers

upon its lines, even though when such lines were laid it was evident the company laying the same could not supply such consumers, and that such consumers would require billions of feet of gas over and above the amount said company was prepared to supply, nevertheless, other companies engaged in interstate transportation of natural gas would be compelled to make a connection with such line and make up the deficit, whenever such deficit existed, whether such deficit was permanent or temporary only, during "peak load" periods. A local company with one small gas well could buy the distributing system of the largest city in West Virginia, and then, as above stated, compel the great interstate transportation companies to make up its deficit of gas.

Leaving out consideration of the wasteful use of gas by industries and in carbon-black manufacture now going on in West Virginia, (which waste would be enormously increased under the statute), the domestic consumers in West Virginia are comparatively just as wasteful. (Record, p. 901).

The diagram on page 1595 (Volume III of Record, Volume I of Exhibits) shows that domestic consumers in West Virginia used per consumer in 1906, 1,100,000 cubic feet of gas, and this fluctuated down to the end of 1918 to 850,000 feet per consumer; while during the same period the domestic consumers in Pennsylvania and Ohio respectively used in 1906, 600,000 and 250,000 feet per consumer, and in 1918, 375,000 and 160,000 feet per consumer; or West Virginia consumers in 1906 used nearly twice as much as Pennsylvania consumers and over four times as much as Ohio consumers, and in 1918, when the necessity for conservation became apparent, West Virginia consumers on the average consumed during that year over twice as much as Pennsylvania and over five times as much as Ohio consumers.

There is no claim, either by the Answer or by the evidence that there has been any discrimination by any of these interstate gas companies against consumers in West Virginia as compared with consumers in other States. West Virginia consumers have not only been fairly and liberally supplied, but lavishly, in comparison with consumers in other States. The statute, as the Answer shows and the evidence confirms, is not designed to protect consumers in West Virginia against discrimination, but to compel discrimination in their favor and against consumers in other States. The sole purpose of the statute in other words is to enforce discrimination in favor of West Virginians and against consumers in all other States.

This shortage of gas in cold weather to the consumers in other States would destroy altogether the demand for gas by such consumers. If consumers of gas in other States during the cold weather, when they needed above all other times this fuel to light and heat their houses and cook their meals, were deprived of this fuel, it follows inevitably that they would make other arrangements for fuel. They could not afford to rely upon the uncertainties and precariousness and intermittent character of their fuel supply of natural gas from these companies transporting the same from West Virginia into these other States, which would be subject to the operation of this West Virginia statute.

The experienced operators and experts of all the large natural gas companies testified unqualifiedly that the effect of the operation of the statute would be not only to tremendously diminish the supply of gas while in transit from the State of West Virginia into these other States, but it would so demoralize the operation of their lines as to utterly and completely prohibit and

prevent such companies from transmitting any gas into these other States during periods of cold weather and would destroy all demand for gas by consumers in these other States. These consumers in other States, such as Pennsylvania and Ohio, who are now dependent upon the gas at present being produced and transported from the State of West Virginia, would be so discriminated against by this statute that they would have to use other fuel, change their appliances, in some instances reconstruct their houses, and altogether abandon the use of natural gas; while the consumers in West Virginia could revel in the luxury of natural gas, and, if they continued their present profligacy, in an abandonment of waste of this most munificent gift of Nature to man.

Argument.

The following legal propositions Complainant contends are applicable to this case. The same, together with the authorities in support thereof, will be separately argued.

1. Natural Gas when reduced to possession by the owner of the surface, his grantees, lessees, or assigns, is an Article of Commerce, and Congress has expressly so recognized it and provided for its transmission or transportation in pipe lines.

2. Natural Gas is not the property of the State, although owing to its power of self-transmission it has been fancifully called a "Mineral Ferae Naturae" by analogy to Animals Ferae Naturae, and the State has no more dominion over it than over other privately owned real or personal property.

3. The transmission of natural gas through pipe lines from points within one State, into or through other States, when the pipe lines and the gas transmitted therein cross and recross the State line, constitutes Interstate Commerce.

4. The transmission of natural gas by pipe lines, from the producing centers of West Virginia to the consuming centers of Pennsylvania, Ohio, and other States, constitutes an act of commerce among the several States, of such a nature as to be national in character, and to admit of and require a uniform system or plan of regulation.

5. The obvious purpose and effect of the West Virginia statute is not only to burden, interfere with and regulate Interstate Commerce, but to absolutely prohibit and prevent the same by prohibiting and preventing the transmission of natural gas out of said State.

6. The obvious and declared purpose and the effect of said West Virginia statute is to discriminate against consumers in other States in favor of and to and for the commercial, economic and other benefit and advantage of consumers in West Virginia.

7. Over eighty per cent. of the natural gas entering the pipe lines of the Interstate Natural Gas Companies in West Virginia is started with the definite intention that it shall be transmitted in Interstate Commerce, and as a fact it is so transmitted to Pennsylvania, Ohio, and other States, wherefore:

(a) The statute cannot be sustained because it purports to enforce duties imposed by Law upon Public Service Gas Companies in West Virginia, or any common-law duty of public utilities.

(b) The statute cannot be sustained because the specific quantity, or the exact destination, or the particular consignee, are unknown at the inception of said transportation; or because in some instances the gas is transported by the producer or owner for his own use or for distribution or for sale to local consumers or distributing companies; or because there is a transfer of title thereto in transit; or because of any local necessity, public sentiment or expediency, to retain said gas for use by the citizens of West Virginia.

(c) The statute cannot be sustained because of any alleged police power.

(d) The statute cannot be sustained because of any alleged corporate franchise regulation by the State of West Virginia, either as to domestic or foreign corporations engaged in Interstate Commerce.

(e) The statute cannot be sustained because said statute applies equally to both domestic and non-resident persons and to Intrastate as well as Interstate Commerce, and the Interblending of Intrastate and Interstate Commerce.

(f) The statute cannot be sustained because several of these Companies also do some local business, by distributing Natural Gas at certain points from their pipe line systems to local communities.

(g) The statute cannot be sustained because those Interstate Gas Companies, if there are any, which are not Public Service Companies under the Laws of West Virginia would not be affected.

8. The possibility that the State of West Virginia may exercise some forbearance, and that the State Public Service Commission may exercise a liberal discretion in the enforcement of said statute, in no sense mitigates the repugnancy of said statute to the Commerce Clause of the United States Constitution.

9. The West Virginia statute so involves the regulation of both Intrastate and Interstate transmission of Natural Gas, that by no possible construction could it be upheld without being so remodeled that it would be a mere speculation whether the legislature would have

passed it in its new form, and this Court cannot reshape said statute simply because it embraces elements that it might have reached if it had been drawn with a different measure and intent.

10. The natural and necessary operation and effect of said statute will be to impair the obligation of contracts.

11. The natural and necessary effect of said statute is to deny to Citizens of Pennsylvania, Ohio, and other States, the privileges and immunities granted by said statute to citizens of West Virginia.

12. The natural and necessary effect of said statute is to deprive the Interstate Natural Gas Companies operating in West Virginia of their property without due process of law.

I.

NATURAL GAS WHEN REDUCED TO POSSESSION BY THE OWNER OF THE SURFACE, HIS GRANTEES, LESSEES, OR ASSIGNS, IS AN ARTICLE OF COMMERCE, AND CONGRESS HAS EXPRESSLY SO RECOGNIZED IT AND PROVIDED FOR ITS TRANSMISSION OR TRANSPORTATION IN PIPE LINES.

The legal status of natural gas and its character as a legitimate subject of interstate commerce was declared and settled by this Court in the leading case of *Oklahoma vs. Kansas Natural Gas Co.*, 221 U. S. 229, (1911). It was explicitly decided in that case, (p. 255):

> "Gas, when reduced to possession, is a commodity; it belongs to the owner of the land, and, when reduced to possession, is his individual property, subject to sale by him, and may be a subject of intrastate commerce and interstate commerce."

And in *Haskell vs. Kansas Natural Gas Co.*, 224 U. S. 217 (1912), on the question of modification of the decree in *Oklahoma v. Kansas Natural Gas Co., supra,* the court said, (p. 220):

> "This court held that natural gas after severance is a commodity which might be dealt in like other products of the earth, as coal and other minerals, and is a legitimate subject of interstate commerce."

See also:

State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co., 120 Ind. 575 (1889).

Ohio Oil Co. v. Indiana 177 U. S. 190.

Congress has expressly recognized natural gas to be a lawful subject of commerce and has made provision authorizing its transmission or transportation in pipe lines.

Act of March 11, 1904, c. 505 Sec. 1, 33 Stat. at L. 65, amended March 2, 1917, c. 146, Sec. 1, 39 Stat. **983.**

Act of June 29, 1906 (34 Stat. at L. 584, c. 359, Sec. 1), commonly known as the Hepburn Amendment to the Interstate Commerce Act.

II.

NATURAL GAS IS NOT THE PROPERTY OF THE STATE, ALTHOUGH OWING TO ITS POWER OF SELF-TRANSMISSION IT HAS BEEN FANCIFULLY CALLED A "MINERAL FERAE NATURAE" BY ANALOGY TO ANIMALS FERAE NATURAE, AND THE STATE HAS NO MORE DOMINION OVER IT THAN OVER OTHER PRIVATELY OWNED REAL OR PERSONAL PROPERTY.

This was expressly decided by this Court in *Ohio Oil Co. v. Indiana*, 177 U. S. 190 (1900).

Also *Oklahoma v. Kansas Natural Gas Co.*, 221 U. S. 229 (1911), *supra*.

Kansas Natural Gas Co. v. Haskell, 172 Fed., 545 (1909), affirmed by this Court in *Oklahoma v. Kansas Natural Gas Co., supra*.

Manufacturers Gas & Oil Co. v. Indiana Natural Gas & Oil Co., 155 Ind., 545 (1900).

III.

THE TRANSMISSION OF NATURAL GAS THROUGH PIPE LINES FROM POINTS WITHIN ONE STATE, INTO OR THROUGH OTHER STATES, WHEN THE PIPE LINES AND THE GAS TRANSMITTED THEREIN CROSS AND RECROSS THE STATE LINE, CONSTITUTES INTERSTATE COMMERCE.

In the recent case of *Pennsylvania Gas Co. v. Public Service Commission of New York*, 252 U. S. 23, (1920), the court by Mr. Justice Day said, (p. 28):

> "We think that the transmission and sale of natural gas produced in one State, transported by means of pipe lines and directly furnished to consumers in another State, is interstate commerce within the principles of the cases already determined by this court. *West v. Kansas Natural Gas Co.*, 221 U. S. 229; *Haskell v. Kansas Natural Gas Co.*, 224 U. S. 217; *Western Union Telegraph Co. v. Foster*, 247 U. S., 105. * * *"

This case affirmed the decision of the New York Court of Appeals, *Pennsylvania Gas Co. v. Public Service Commission*, 225 N. Y. 397 (1919), in the course of which Cardozo, J., said, (p. 402):

> "We think the petitioner's business is interstate commerce. There is no doubt that the transportation of oil or gas from state to state through the medium of pipe lines is commerce between the states. *West. v. Kansas Natural Gas Co.*, 221 U. S. 229; *Haskell v. Kansas Natural Gas Co.*, 224 U. S. 217; *Haskell v. Cowham*, 187 Fed. Rep. 403."

In *Public Utilities Comm. of Kansas v. Landon,* 249 U. S. 236 (1919), the same proposition was established.

Mr. Justice McReynolds, said, (p. 245):

> "That the transportation of gas through pipe lines from one State to another is interstate commerce may not be doubted. Also, it is clear that as part of such commerce the receivers might sell and deliver gas so transported to local distributing companies free from unreasonable interference by the State. *American Express Co. v. Iowa,* 196 U. S. 133, 143; *Oklahoma v. Kansas Natural Gas Co.,* 221 U. S. 229; *Haskell v. Kansas Natural Gas Co.,* 224 U. S., 217."

The same conclusion had been reached nearly a quarter of a century earlier, in *State ex rel. Corwin v. The Indiana & Ohio Oil, Gas & Mining Co.,* 120 Ind. 576 (1889), reviewed and explicitly reaffirmed in *Manufacturers Gas & Oil Co. v. Indiana Natural Gas Co.,* 155 Ind. 545 (1900).

It is well established by decisions of this Court that even where the transmission or transportation of legitimate articles of commerce is from and to points in the same State, where the transportation lines cross and recross the State line, it is interstate commerce within the constitutional protection.

See *Hanley v. Kansas City Southern R. Co.,* 187 U. S. 617 (1902).

Western Union Telegraph Co. v. Speight, 254 U. S. 17 (1920).

The means of conveyance, the distances of the transportation in the respective States, the number of crossings, the character or manner of the passage back and forth or the frequency thereof, in no way change the interstate character of the commerce, or the Federal control of the same.

Gloucester Ferry Co. v. Pennsylvania, 114 U. S. 196 (1885).

Covington etc. Bridge Co. v. Kentucky 154 U. S. 204. (1893).

IV.

THE TRANSMISSION OF NATURAL GAS BY PIPE LINES, FROM THE PRODUCING CENTERS OF WEST VIRGINIA TO THE CONSUMING CENTERS OF PENNSYLVANIA, OHIO AND OTHER STATES, CONSTITUTES AN ACT OF COMMERCE, AMONG THE SEVERAL STATES, OF SUCH A NATURE AS TO BE NATIONAL IN CHARACTER, AND TO ADMIT OF AND REQUIRE A UNIFORM SYSTEM OR PLAN OF REGULATION.

Natural gas in commercial quantities cannot be stored; it must be transmitted by pipe lines from the mouth of the well to the ultimate consumer. Pipe lines are the universally recognized method for such transmission. The normal, universally followed, and most scientific method of marketing natural gas is to turn it from the well immediately into the pipe line, through which it is transmitted on the first part of its journey by its power of expansion, having been held in compression by nature while in the sand-rock. This compression is commonly called the rock pressure. This rock pressure forces the gas from the bottom of the well to the mouth and thence into the pipe lines. On these pipe lines at intervals are established compressor stations, some of which are of many thousand horse-power. These place the gas under compression while in the lines, and by expansion the gas continues on its journey, passing en route perhaps through several compressor stations.

From the instant it enters the pipe lines the gas is never at rest, but is always in motion, sometimes in one

direction and sometimes in another; its course being towards the point of lowest pressure on the lines at the instant, so the movement may be in opposite directions from hour to hour. It is always, as stated, instinct with life, superinduced in the first instance by its expansion from its compression under the natural rock-pressure, and later by its expansion from compression by the various compressor stations located along the lines and perhaps in several States.

The term "pumping station," as used on oil and water lines, is sometimes applied to natural gas lines, but this is a misnomer; the gas is not forced or driven, but travels by its power and propensity of expansion, after being compressed.

None of this gas is ear-marked. No particular thousand feet is destined for any particular point on the lines. All the gas that enters the pipe-line system, perhaps from fields in two or three States, or several fields in the same State, becomes commingled and is not-separable, and moves now here and now there, according to the current, as above explained, until it reaches the local distributing mains and ultimate consumer. The title to the gas is in the pipe-line company. The natural gas companies are not engaged in transporting gas for others, but in transmitting their own gas, which they sell at so much per thousand feet delivered. All of the large interstate companies start the gas on its journey from one State to another to be delivered to the consumer in such other State. The destination is foreordained; that is, delivery to purchasers in such other States.

The continuous and usual course of business, and the commitment of the gas company to supply the con-

sumers' requirements from hour to hour and day to day, determine the character of the shipment and the point and place of delivery.

The gas thus entering the lines in West Virginia is destined for and moves in the normal, contemplated and followed course, as continuous and rapid as science can make it, to the consumers in Pennsylvania, Ohio, Indiana, Kentucky, Maryland, and other States. Some gas from all these other States may enter the lines and become commingled with the gas from West Virginia, while en route from West Virginia to consumers in these other States; or some of this gas from other States, when the movement of the current in the lines is towards West Virginia, may be supplied to consumers in West Virginia.

The gas in the pipe-line system of any company crossing the State lines, is so transmitted from State to State under contracts for the sale and delivery thereof to consumers in such other States.

The interstate gas companies having pipe lines extending from West Virginia into Pennsylvania, Ohio, and other States, made contracts to supply gas to consumers in those States. These interstate companies produce or purchase gas in West Virginia, and after it enters their pipe lines they transmit or transport it from West Virginia to consumers in other States for delivery under their said contracts. Their pipe lines through which this transmission or transportaton is being conducted, are only the vehicle by which the gas—the article sold—is conveyed from West Virginia and delivered to said purchasers. There is no separate charge for transportation or transmission. The gas is sold delivered at

the point of consumption, and while the pipe lines are a transportation or transmission system—unlike railroads, telegraph lines and the like, they are not engaged in the separate business of transportation. The transaction, therefore, is primarily a contract of sale of a specific article delivered at the point of consumption or transmission as distinguished from the contract of transportation or transmission.

However, it is interstate commerce, considered both as a purchase and sale, and also as transportation.

Such purchase and sale of gas and transmission thereof through pipe lines from State to State is that kind or character of interstate commerce which has been declared again and again by this Court to be national in character, to be governed by a uniform system or plan of regulation. Such uniformity and plan Congress alone can supply, exclusive of regulation or attempt at control by the respective States in which the purchase and sale takes place, or through which the transmission or transportation is made.

Inextricable confusion, delay and uncertainty would result, if each State through which the pipe lines passed would undertake to make separate and distinct regulations.

Oklahoma v. Kansas Natural Gas Co., 221 U. S., 229 (1911), *supra.*

Haskell v. Kansas Natural Gas Co., 224 U. S., 217 (1912), *supra.*

Pennsylvania Gas Co. v. Public Service Commission of New York, 252 U. S., 23 (1920).

Public Utilities Commission v. Landon, 249 U. S., 236 (1919), *supra.*

Landon, Receiver v. Public Utilities Commission of Kansas, 242 Fed., 658; C. C. A., (1917).

Pennsylvania Gas Co. v. Public Service Commission of New York, 225 N. Y., 397 (1919).

State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co., 120 Ind. 576 (1889).

Judge Sanborn, in *Haskell v. Cowham,* 187 Fed., 403 (1911), said (p. 408):

> "Interstate commerce in natural gas, including therein its transportation among the States by pipe lines, is a subject national in its character and susceptible of regulation by uniform rules. The silence or inaction of Congress relative to such a subject is a conclusive indication that it intends that interstate commerce therein shall be free, and any law or act of a state or of its officers which prohibits it or substantially restrains its freedom is violative of the Constitution and void." (Citing authorities).

These natural gas cases present a modern application of this Court's well-settled and long-established interpretation of the Commerce Clause of the Federal Constitution to the effect that the sale or exchange and transportation of commodities between the States is of national importance and admits of and requires uniformity of regulation and therefore no State has power to interfere with, regulate or burden, much less prohibit, such sale and transportation. A brief reference to a few of these cases is accordingly here made. The sale of gas and its transportation or transmission from State to State comes within the established rule.

The question of what constituted such national character of the subject matter of interstate commerce

as to bring it within the exclusive Federal commerce power, was before the court in *Reading Railroad Co. vs. Pennsylvania* (The State Freight Tax Case), 15 Wall. (82 U. S.) 232 (1872).

Mr. Justice Strong said, (p. 279):

> " * * * the rule has been asserted with great clearness, that whenever the subjects over which a power to regulate commerce is asserted are in their nature national, or admit of one uniform system or plan of regulation, they may justly be said to be of such a nature as to require exclusive legislation by Congress. *Surely transportation of passengers or merchandise through a State, or from one State to another, is of this nature.*"

(The italics are ours).

In *Welton v. State of Missouri*, 91 U. S. 275 (1875), the opinion, written by Mr. Justice Field, has been widely quoted in this and other courts. Speaking of the fundamental constitutional principles involved, he observed, (p. 279):

> "Commerce is a term of the largest import. It comprehends intercourse for the purpose of trade in any and all of its forms, including the transportation, purchase, sale and exchange of commodities between the citizens of our country and the citizens or subjects of different states. The power to regulate it embraces all the instruments by which such commerce may be conducted. So far as some of these instruments are concerned and some subjects which are local in their operation, it has been held that the states may provide regulations until Congress acts with reference to them; but where the subject to which the power applies is national in

its character, or of such a nature as to admit of uniformity of regulation, the power is exclusive of all state authority.

It will not be denied that that portion of commerce with foreign countries and between the states, which consists in the transportation and exchange of commodities, is of national importance, and admits and requires uniformity of regulation. The very object of investing this power in the General Government was to insure this uniformity against discriminating State legislation."

(The underscore is ours).

In *Gloucester Ferry Co. v. Pennsylvania*, 114 U. S. 196, (1885), the Court, said, (p. 203):

"And it needs no argument to show that the commerce with foreign nations and between the states which consists in the transportation of persons and property between them, is a subject of national character and requires uniformity of regulation. Congress alone, therefore, can deal with such transportation, its non-action is a declaration that it shall remain free from burdens imposed by state legislation. Otherwise there would be no protection against conflicting regulations of different states, each legislating in favor of its own citizens and products, and against those of other states. It was from apprehension of such conflicting and discriminating state legislation, and to secure uniformity of regulation, that the power to regulate commerce with foreign nations and among the states was vested in Congress."

(Underscore ours.)

The law is well summarized in the opinion of this Court, in *County of Mobile v. Kimball,* 102 U. S. 691, 697, (1880), where it is said:

> "The subjects indeed upon which Congress can act under this power are of infinite variety, requiring for their successful management different plans or modes of treatment. Some of them are national in character, and admit and require uniformity of regulation, affecting alike all the states; others are local, or are mere aids to commerce, and can only be properly regulated by provisions adapted to their special circumstances and localities. *Of* the former class may be mentioned all that portion of commerce with foreign countries or between the states which consists in the transportation, purchase, sale and exchange of commodities. Here there can of necessity be only one system or plan of regulation, and that Congress alone can supply; its non-action in such cases with respect to any particular commodity or mode of transportation is a declaration of its purpose that the commerce in that commodity, or by that means of transportation, shall be free. There would otherwise be no security against conflicting regulations of different states."

(The underscore is ours).

In *Leisy v. Hardin,* 135 U. S., 100 (1890), it was said:

> "Whenever, however, a particular power of the general government is one which must necessarily be exercised by it, and Congress remains silent, this

is not only not a concession that the power reserved by the states may be exerted as if the specific power had not been elsewhere reposed, but on the contrary the only legitimate conclusion is, that the general government intended that power should not be affirmatively exercised, and the action of the states cannot be permitted to effect that which would be incompatible with such intention. Hence, inasmuch as interstate commerce, consisting in the transportation, purchase, sale and exchange of commodities, is national in its character and must be governed by a uniform system, so long as Congress does not pass any law to regulate it, or allowing the states so to do, it thereby indicates its will that such commerce shall be free and untrammelled."

(The underscore is ours).

Authorities could be greatly multiplied if necessary.

Gas is sold by the owner in West Virginia to purchasers in Pennsylvania and Ohio, and other States. This was a transaction of interstate commerce of purchase and sale. The delivery by the vendor through his pipe line from West Virginia to these other states was a transaction in interstate commerce in transportation. It was of such a character, both as a purchase and sale and as transportation, as gave to the Federal Government sole control.

These interstate gas companies are public service corporations in all the States through which their lines pass. In all of these States, except Maryland, gas is produced or purchased by them and introduced into their lines. In several instances the lines of the same company pass out of and back into West Virginia at several points, supplying consumers both while out of and

within West Virginia. Unlike railroad transportation, in natural gas transmission the motive power is not exerted immediately at the point of transportation, in the carriage of the load. The compressor station influencing the delivery at a certain point may be in another State from the point of delivery, or several compressor stations in several states at the same instant may influence this delivery. Again in transportation by rail, a part of the load may be taken off at one point or another, without affecting the carriage of the remainder. In transmission of natural gas the taking out of the lines of a comparatively small percentage of the gas in transit may so reduce the pressures as to prevent transmission of any of the remainder. So, too, transportation by rail is a separate and distinct transaction from the purchase and sale of the commodity carried. Not so with natural gas, the transmission being only an incident of the sale and delivery. Therefore if different States through which the lines pass can enact different rules and regulations for the sale, transmission and delivery of this gas, confusion worse confounded will inevitably result. If West Virginia can pass such a law as the statute in controversy, so could each of the other States, and all of them could provide different kinds of rules and regulations for the operation of the pipe lines and the sale and delivery of gas. Imagine the confusion, the paralysis, of interstate commerce that would ensue. No better illustration can be conceived than these interstate natural gas companies, for the application of the rule above referred to, adopted by this Court, namely: That where the commerce between the States consists of the transportation, purchase, sale and exchange of commodities, there can of necessity be only one system or plan of regulation, which Congress alone can supply.

V.

THE OBVIOUS PURPOSE AND EFFECT **OF THE WEST VIRGINIA STATUTE IS NOT ONLY TO BURDEN, INTERFERE WITH AND** REGULATE INTERSTATE COMMERCE, BUT **TO ABSOLUTELY PROHIBIT AND PREVENT** THE SAME BY PROHIBITING AND PREVENTING **THE TRANSMISSION OF NATURAL GAS OUT OF SAID STATE.**

If this statute can be enforced, in accordance with its purpose, as demanded by the State of West Virginia, and its purpose can be interpreted, as set forth in the Answer of said State, all of the natural gas produced in West Virginia would be conserved for the use of the consumers in West Virginia, and consumers in other States would be cut off from and deprived of any natural gas supply from the State of West Virginia.

The statute in express terms provides that all classes of consumers in West Virginia, domestic, industrial and others, shall each and all be furnished with a reasonably adequate gas supply. This reverses the present policy of all natural gas companies to prefer domestic consumers and to conserve the supplies of natural gas as far as practicable for the use of domestic consumers.

Under the statute, the consumers of the whole State,—domestic, industrial and others,—are treated as a unit, and each and every natural gas company in the State is obligated by the statute to supply these consumers wherever situate in that State. However limited or circumscribed may have been the appropriation by the gas company of its property, gas production, or pipe

lines, in their devotion to the public use, whether limitations of the use by certain classes of consumers, or limitations of territory of such use, the statute makes each and every gas company in the State devote all of its production and all of its pipe lines to every class of consumers and to every part of the State, however remote from the territory in which such gas company had proposed to do business.

The State of West Virginia in its Answer seeks to justify the imposition of these arbitrary and extraordinary powers of operation and control of the pipe line systems of these natural gas companies, and the right to commandeer their gas, upon the grounds, first, that "the 'West Virginia gas of the persons, firms and corporations in said statute mentioned required for the reasonably adequate supply of the public in West Virginia is affected with the use or interest of said public which is superior and prior to any introduction theerof into intertsate commerce," and so long as this natural gas is being transported through the mains or pipes of public service gas companies in that State and while the gas is in such mains and pipe lines it is subject to the public service of West Virginia, and accordingly such public service companies subject to such service must observe and perform the duties imposed by law upon public service gas companies. The duty to be imposed by this law, under this statute, is to deliver to every consumer in West Virginia, of every class, wherever situated, an adequate gas supply.

The evidence in the case (see the digest thereof in the separate volume pp. 99, 143), practically uncontradicted, but in any event overwhelming, establishes that the necessary effect and inevitable consequence of carrying out the provisions of said statute will be:

FIRST. To appropriate to consumers in West Virginia all the natural gas produced in West Virginia, because the industrial and other consumers in West Virginia, if adequately supplied, together with the domestic consumers, will demand and consume all the natural gas now produced in that State, without considering the rapid diminution of the supply now going on.

SECOND. To so demoralize the transportation systems of the interstate natural gas companies engaged in transporting natural gas to consumers in other States, as to wholly prohibit and prevent, during certain periods, the transportation of any gas out of the State of West Virginia to consumers in other States.

The purpose and intent of the statute in controversy is palpably an effort on the part of the State of West Virginia to keep its natural gas supply for the exclusive use and benefit of the people of the State of West Virginia, and the Answer not only admits this but asserts the legal right of the State so to do.

Can a State by indirection, by circumflexion, where the purpose is manifest and the Answer of the State so admits, and the result inevitable, accomplish this purpose, under the guise of regulating its own public service corporations, when those corporations are engaged in interstate commerce?

While so engaged in interstate commerce these companies are the public service corporations of the nation as well as the state, and their duties and obligations, as such, are paramount to any obligation to the State.

This principle is the very pith and kernel of the decision of this Court in *Oklahoma v. Kansas Natural*

Gas Co., 221 U. S. 229 (1911), *supra*. In that case the Attorney General of the State declared that the question before the Court was the right of the State of Oklahoma to conserve its gas supply for its own use.

Mr. Justice McKenna, delivering the opinion of the Court, said, (p. 254):

> "In other words, the purpose of its conservation is in a sense commercial, the business welfare of the state, as coal might be, or timber. Both of those products may be limited in amount, and the same considerations of the public welfare which would confine gas to the use of the inhabitants of a state would confine them to the inhabitants of the state. If the states have such a power a singular situation might result. Pennsylvania might keep its coal, the Northwest its timber, the mining states their minerals. And why may not the products of the field be brought within the principle? Thus enlarged, or without that enlargement, its influence on interstate commerce need not be pointed out. To what consequence does such power tend? If one state has it, all states have it; embargo may be retaliated by embargo, and commerce will be halted at state lines. And yet we have said that in matters of foreign and interstate commerce there are no state lines. In such commerce, instead of states, a new power appears and a new welfare, a welfare which transcends that of any state. But rather let us say it is constituted of the welfare of all of the states, and that of each state is made the greater by a division of its resources, natural and created, with every other state and those of every other state with it."

See also:

Haskell v. Kansas Natural Gas Co., 224 U. S., 217 (1912), *supra.*

State ex rel. Corwin v. Indiana & Ohio Oil, Gas and Mining Co., 120 Ind. 575 (1889), *supra.*

Manufacturers Gas & Oil Co. vs. Indiana Natural Gas & Oil Co., 155 Ind. 545, (1900) *supra.*

The State of West Virginia, in enacting the statute in controversy, is not the first to attempt by indirection, by various pretexts and subterfuges, that which it could not do directly. This has been shown in some of the cases hereinbefore cited in which the analysis by this and other courts of statutes of other States, showed that they had been passed for the purpose of prohibiting the export of gas from one State to another, which purpose was not directly expressed, the real purpose being concealed. Though more or less concealed by divers and sundry provisions of the respective statutes, if the intent thereof to prevent the transportation of gas from out the State to other States was finally disclosed, the statute has invariably been denounced by the courts as unconstitutional.

One of the most adroit and ingenious attempts thus to conceal the true purpose of such statutes was that made by the draftsman of the Indiana statute of March 4, 1891. This statute prohibited the transmission of natural gas through pipe lines at a greater pressure than 300 pounds to the square inch. It forbade the use of artificial acceleration of the natural flow of the gas. This would prevent the use of compressor stations, which are necessary if the gas is to be transmitted any considerable distance. All of these regulations on their face looked like police regulations within the power of

the individual States. But the statute was declared by the New Jersey Court to be in effect an attempt to prevent the transportation of natural gas without the territorial limits of Indiana, and it was accordingly declared unconstitutional.

This decision by the New Jersey court was cited with approval by this Court in the leading case in this Court, already referred to, of *Oklahoma v. Kansas Natural Gas Co.*, 221 U. S., 229.

The New Jersey case above referred to is *Benedict v. Columbus Construction Co.*, 49 N. J. Eq., 23, 23 Atl., 485. The New Jersey court, in a stockholders' suit, construing the Indiana Act, declared, in the words of Chancellor McGill, (p. 37):

> "The Supreme Court of Indiana, by its decision in the Jamieson case, has merely said that the pressure prescribed by the act of March 4, 1891, is presumptively reasonable as a police regulation. Reverting to the act of 1891, it is perceived that its title contemplates not only the 'regulation' of transportation of gas, but also the 'procuring and using' it. It forbids the owner of a gas well to take gas therefrom by artificial means. He must allow the gas to flow to him. Then, he must restrict the flow, if it should enter his pipes at a pressure in excess of 300 pounds to the square inch, to that pressure, and then although his pipes may be of equal strength along their entire line, and although friction lessens the pressure at the rate of from five to eight pounds per mile, he must do nothing to counteract the effect of the friction to maintain the pressure which the legislature admits is safe and reasonable. It requires but a simple mathematical calculation to ascertain that the effect of this law is to limit the

transportation of gas to a radius of about 60 miles from the gas wells, and to restrict it within the territorial limits of the state of Indiana. * * * I cannot escape the conviction that the purpose of the provision considered was to prevent the transportation of gas without the terriorial limits of Indiana.

Such a purpose is unlawful, in that it seeks to impose a burden upon interstate commerce, which directly and substantially interferes with its freedom * * *"

Burdens, regulations, restraints and interdictions, in no proportion as direct and effective upon interstate commerce as this West Virginia statute, have been denounced again and again by this Court as unconstitutional.

Should this Court desire to further pursue this inquiry an examination of the following cases will demonstrate the accuracy of the foregoing statement:

Brown v. Maryland, 12 Wheat, 419;
The Passenger Cases, 7 Howard, 286.
Henderson v. Mayor, 92 U. S. 259.
Chy Lung v. Freeman, 92 U. S. 295.
Almy v. California, 65 U. S. (24 How.) 169.
Crandall v. Nevada, 73 U. S. 35.
Woodruff v. Parham, 75 U. S. 123.
State Freight Tax Case, 82 U. S. 232.
Hall v. DeCuir, 95 U. S. 485.
Railroad Co. v. Husen, 95 U. S. 465.
Ferry Co. v. Pennsylvania, 114 U. S. 196.
Wabash v. Illinois, 118 U. S. 557.
Robbins v. Shelby Dist., 120 U. S. 489.

Bowman v. R. R. Co., 125 U. S. 465.
Leisy v. Hardin, 135 U. S. 100.
Lyng v. Michigan, 135 U. S. 161.
McCall v. California, 136 U. S. 104.
Minnesota v. Barber, 136 U. S. 313.
Crutcher v. Kentucky, 141 U. S. 47.
Covington Bridge Co. v. Kentucky, 154 U. S. 204.
Railroad Co. v. Eubank, 184 U. S. 27.
American Express Co. v. Iowa, 196 U. S. 133.
Rearick v. Pennsylvania, 203 U. S. 507.
West. Un. Tel. Co. v. Kansas, 216 U. S. 1.
Int. Text Book Co. v. Pigg, 217 U. S. 91.
Buck Stove Co. v. Vickers, 226 U. S. 205.
Railway Co. v. Covington, 235 U. S. 537.
West. Un. Tel. Co. v. Foster, 247 U. S. 105.

The evidence in this case establishes that the West Virginia statute will, if enforced, directly and immediately interfere with, burden and prohibit not only the transmission of natural gas from State to State, but that also the management and operation of gas companies in these other States, which rely upon West Virginia gas, will likewise be affected and they will be prevented from performing the public service and other obligations they have lawfully and in good faith assumed in such other States.

It is significant that this Court has been quick to point out and condemn this extra-territorial effect of State statutes, and to emphasize its repugnancy to the Commerce Clause of the Federal Constitution.

This Court dwelt upon this feature as the one chiefly objectionable in the State Acts before the Court and one of the reasons why such Acts should be declared

unconstitutional, in the following cases, which were cited, together with others, in the cases immediately preceding:

Case of State Freight Tax, 15 Wall. (82 U. S. 232).
Hall v. De Cuir, 95 U. S. 485, 488.
Wabash etc. Ry. Co. v. Illinois, 118 U. S. 557, 572, 575.
Bowman v. Chicago etc. Ry. Co., 125 U. S. 465, 498.
Minnesota v. Barber, 136 U. S. 313, 322.
L. & N. R. Co. v. Eubank, 184 U. S. 27, 34 *et seq.*
American Express Co. v. Iowa, 196 U. S. 133, 143.
West. Un. Tel. Co. v. Kansas, 216 U. S. 1, 30.
So. Covington & Cinc. St. Ry. Co. v. Covington, 235 U. S. 537.

As previously stated, there is practically no conflict of testimony to the effect that the enforcement of this West Virginia Act will necessarily and inevitably result in absolutely prohibiting and preventing the transmission or transportation of natural gas from West Virginia to other States.

S. S. Wyer, the great natural gas expert, employed by the United States Government, testified, at pages 969, 970, of the Record:

> "The enforcement of the Act in question would immediately bring about a condition where in the immediate future the demand solely within the State of West Virginia for natural gas would be greater than the available supply and there would be no gas left for interstate transportation through the main lines now going out of the State."

T. O. Sullivan, of the Hope Natural Gas Company, said, pages 226 and 227:

> "If the natural gas companies operating in the State of West Virginia were compelled to furnish all of the gas that might be required for use within the State, in my opinion it would be only a comparatively short time until there would be a sufficient demand to use all of the gas that is produced."

The witness further described the time as "possibly a year, maybe two years."

John B. Corrin, of the Connecting and Reserve Companies, said, pages 326 *et seq.*:

> "I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and if some person or city or otherwise took gas off the lines before it reached your consumers. In addition, you could not retain any of your consumers yourself because the service that would be rendered would be uncertain and undependable, and in fact I don't believe that it would be practicable to maintain a gas company if that condition existed."

H. A. Wallace, of the United Fuel Gas Company and Cabin Creek Gas Company, said, pages 368 *et seq.*:

> "I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the State, and for that reason I do not believe domestic consumers and other people would care to be connected to our lines if they could only receive a supply of gas during the summer season and in

the winter time when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel."

John B. Tonkin, of the Peoples Natural Gas Company, said, page 429:

"I think that after one winter of that, our consumers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through under those conditions."

And again:

"It is my opinion that the demand on their line (Hope Company's) would be so great from companies doing business in West Virginia and from industrial plants there that there would be no gas left in cold weather to distribute to the Peoples Natural Gas Company."

Martin B. Daly, of the East Ohio Gas Company, said, pages 558 *et seq.*:

"The effect on our gas companies would be that they would be obliged to discontinue natural gas altogether. That must be the ultimate result."

J. K. Anderson, natural gas engineer, said, pages 825 *et seq.*:

"Q. From the figures and estimate which you have made with reference to the increased consumption of industrial gas in the State of West Virginia, under the operation of the act now in controversy, if it goes into effect, state whether or not, in your opinion, that increased consumption would consume substantially all of the gas produced in West Virginia?

A. It will, within a few years.

Q. Within what length of time would you say?

A. I would say within a year and a half from the date of the effectiveness of the act."

The evidence on this subject has been collated in the digest of evidence made by complainants, particularly under Section 8, page 143, but also under Section 6, page 99, and Section 7, page 126.

All of the operating heads of the great interstate natural gas companies, operating in West Virginia, testified to the same effect. They were: Mr. Quay, of The Manufacturers Light & Heat Company; Mr. Sullivan, of the Hope Natural Gas Company; Mr. Corrin, of the Reserve Gas Company; Mr. Tonkin, of the Peoples Natural Gas Company; Mr. Daly, of the East Ohio Gas Company; Mr. Jones, of the Columbus Gas & Fuel Company, etc.; Mr. Denning, of the Ohio Fuel Supply Company; Mr. Whitcomb, of the Union Natural Gas Corporation; Mr. Wallace, of the United Fuel Gas Company; Mr. Reed, of the Philadelphia Company, and the Pittsburgh & West Virginia Gas Company; Mr. McMahon of the Northwestern Ohio Natural Gas Company; Mr. Angle, of the Fayette County Gas Company; and the two natural gas engineers and experts, Mr. Wyer and Mr. Anderson.

The testimony of these witnesses is not contradicted by any of the evidence introduced in this case.

VI.

THE OBVIOUS AND DECLARED PURPOSE AND THE EFFECT OF SAID WEST VIRGINIA STATUTE IS TO DISCRIMINATE AGAINST CONSUMERS IN OTHER STATES IN FAVOR OF AND TO AND FOR THE COMMERCIAL, ECONOMIC AND OTHER ADVANTAGE OF CONSUMERS IN WEST VIRGINIA.

The argument on the Fourth Proposition hereinbefore was based on the contention that the sale and transportation of gas from state to state was interstate commerce of such a nature as to be national in character and to admit of and require a uniform system or plan of regulation.

The argument under the Fifth Proposition preceding was primarily upon the contention of complainant that the statute in controversy by its necessary operation would entirely prohibit and prevent interstate commerce in natural gas by confining its consumption to the State of West Virginia. The argument upon the Sixth Proposition above stated is founded upon the contention that even if the interstate commerce sought to be regulated by said statute was not of that national character and to admit of and require a uniform system or plan of regulation, and even if the statute did not wholly prohibit and prevent the exportation of gas from the State, nevertheless it is a discrimination unmistakably and unavoidably in favor of consumers in West Virginia and against consumers in other States, and therefore is such a burden upon, interference with, and regulation of interstate commerce, as has always been denounced by this Court.

96

As has already been argued, from the text of the statute, the admissions in the Answer and the proofs in the case, the purpose of the statute in controversy was to keep for the use of consumers in West Virginia, until they were adequately supplied, the natural gas produced in that State. Consumers in West Virginia, regardless of consumers in other states, and at any cost to said consumers in other states, were to have an adequate gas supply. All consumers in West Virginia, domestic, industrial and others, and throughout the entire territory of the State, were to have such adequate gas supply, even if by providing such adequate supply the consumers in other States were given an inadequate supply, an intermittent supply, or no supply at all.

The evidence shows that there are millions of people in Pennsylvania, and even a larger number in Ohio, and large numbers in other States, who are dependent for their gas supply upon the gas produced in and exported from West Virginia.

The evidence further shows that under the operation of the statute in controversy, while consumers in West Virginia might engage in a natural gas "spree" or "debauch," at the same time consumers in other States would be starved for light or heat and would suffer accordingly in health, comfort, convenience, and to the extent perhaps of jeopardizing life.

The evidence further shows that under the operation of the statute in controversy while consumers in West Virginia would be obtaining an adequate supply, consumers in other States would not know from day to day or hour to hour upon what if any supply of natural gas they could depend. They would be in the position

of the man dying of thirst holding his parched lips to the closed spigot of a tank from which the contents were being drawn through the suction pipe of a pump in West Virginia. When the spigot was opened, whether or not his thirst would be satiated would depend on the length and the strength of the suction.

The hazardous, dangerous, intolerable and unbearable conditions under which consumers in other States under this statute would have to use gas supplied by the interstate gas companies, exporting gas from West Virginia, if they could use it at all, have been fully described. The West Virginia consumer could view the plight of these consumers in other states with complacency and assurance because protected by this statute, even though there be commingled with this self-satisfaction some pity that these unfortunates do not live in West Virginia to reap the benefit of this discriminatory statute.

It is hardly conceivable, under the averments of its Answer, that the State of West Virginia would attempt in this Court to deny that the purpose and intent of the statute in controversy was to discriminate in favor of West Virginia consumers against consumers in other States. In an exuberance of caution, however, and at the risk of wearying this court this question will now be fully considered.

This purpose and intent are demonstrated as follows:

FIRST: By the text of the statute itself, considered in connection with the nature and conditions of the natural gas industry in West Virginia and other States.

SECOND: From the history of events which led up to the enactment of said statute, as shown by the

evidence, as set forth by the State of West Virginia in its Answer, and as testified to by the Governor of West Virginia.

THIRD: From the legal positions taken in the Answer made in this case by the State of West Virginia.

FIRST: The express terms of the statute, and the nature and character of the natural gas business, demonstrate that the intent and purpose of the statute in controversy were to discriminate in favor of West Virginia consumers and against consumers in other States. The statute requires every gas company in the State to furnish gas for domestic, industrial or other purposes, to the public of the whole State of West Virginia.

The statute further provides that in case any gas company supplying any part of the public in West Virginia has a deficit, every other gas company can be compelled to make connections with such company, and, during the time of said deficit, make up the same.

Certain regulations and principles have grown up with and been developed by the experience of the natural gas business,—among others, the necessity of preferring domestic consumers to industrial consumers, and, for this purpose, at times of cutting off the industrial consumers. All of the contracts offered in evidence in this case made by the respective gas companies provide for this in express terms, as by reference thereto will more fully appear, and are made subject to the right of the company agreeing to supply gas to other gas companies to first supply its domestic consumers.

The Answer of the State of West Virginia admits that many of the gas companies have withdrawn or attempted to withdraw altogether their industrial classifications, and do not hold themselves out as willing to supply industrial consumers; but denies that the gas companies supplying gas in West Virginia have the right to withdraw their service to industrial consumers except to the extent necessary to furnish an adequate supply to the domestic consumers in West Virginia.

Without, therefore, invoking for the purpose of the argument on this particular question, the evidence already referred to and discussed,—that under the statute West Virginia consumers would preempt all of the gas that could be produced in West Virginia, and that the operation of the interstate lines would be wholly disorganized, so that no gas could be transmitted through such lines into other States,—it necessarily follows from the requirements of the statute itself and the nature and history of the business that the consumers in West Virginia during cold weather would take all of the gas produced in West Virginia, and that during such periods the transportation of any gas from West Virginia to other States would be prevented. It cannot be doubted that, if the terms of the statute are enforced, at least in cold weather, during the "peak load" periods, the demands of West Virginia consumers must be supplied at the expense and to the disadvantage of, and in discrimination against, consumers in all other States. There is no other source from which this adequate gas supply can be given to West Virginia consumers during such periods, except from the quantity intended for and being transmitted to other States. It is a simple mathematical proposition. If during "peak load" periods there is not enough gas to go around, that is, to supply con-

sumers in West Virginia and other States, for example, a billion feet, and consumers (domestic, industrial and others) in West Virginia must be first furnished with an adequate supply, taking the whole billion feet, before the balance, if any left, can be transported to such other States, then the amount necessary to supply West Virginia consumers must be taken away from consumers in such other States.

SECOND: The history of the events leading up to the enactment of the statute is not left in doubt. Complainant's witnesses gave such history. The State of West Virginia in its Answer details the event on account of which it states specifically the statute was enacted.

In its Answer the State of West Virginia gives the history of the development of the natural gas industry in that State, shows how the gas produced was at first disposed of to local communities in that State, and that as the quantities of gas produced increased, and no market therefor could be found in West Virginia, markets in other States were sought; that the great interstate pipe lines were accordingly laid, and the gas was then delivered and sold in such other States; that this course of dealing has continued for over a quarter of a century; that these interstate gas companies accordingly, which were engaged in the business of supplying gas to the public in West Virginia, afterwards also engaged in the business of transporting for sale and selling gas for consumption in the markets of these other States.

The Answer sets forth the fact that while at the inception of the interstate business the production of gas in West Virginia was increasing and there was ac-

cordingly a large surplus for export from West Virginia, and while this continued for many years, the production finally declined and is still declining, so that consumers in West Virginia experience a shortage in their supply of gas like consumers in other States.

The Answer alleges that the shortage of gas supplied to people of West Virginia "was and is caused by the transportation to or for consumption in other States," and that the interstate gas companies failed to supply a reasonably adequate service to the public of West Virginia or "to the local gas companies engaged in the service of said public, under the pretext that they were and are prevented from so doing by the necessities of the gas-consuming populations of said other States."

The Answer unequivocally asserts that it was on account of this situation that the statute in controversy was enacted.

It is manifest, therefore—in fact, beyond the range of possible controversy—that this statute was enacted for the express purpose of obtaining an adequate supply of gas for all consumers in West Virginia, domestic industrial and others, at the cost and expense and to the disadvantage of consumers in other States; or, to state the proposition in another form, it was a statute passed to discriminate against consumers in all other States in favor of consumers in West Virginia.

John J. Cornwell, who was Governor of the State of West Virginia at the time this statute was enacted, testified, (pages 1193 to 1197, Transcript of Record), as to the events which led up to the enactment of this statute. He called attention to the complaints that were made to him relative to the inadequacy of service by the gas companies operating in West Virginia, and the demands for relief. He tells about representatives

of manufacturers and other consumers calling upon him, of conferences he had with the gas companies, and then states that he laid the matter before the legislature, or called it to the attention of the legislature, at the regular biennial session of 1919, which enacted this statute and read into the record a part of his message upon this subject, a portion whereof is as follows:

> "With the approach of last winter and the early cold weather there was an acute gas shortage in the central and northern sections of the State, especially for manufacturing purposes, which led to a demand of me by gas consumers for a special session of the legislature to enact a measure under which the gas companies would be compelled to furnish an adequate supply of gas to West Virginia consumers."

He then states that the statute in controversy was passed at that session of the legislature.

The attention of the Court is directed particularly to the statement in this message, that there was a shortage of gas in certain sections "especially for manufacturing purposes."

We have already referred to the general policy of all of these gas companies to prefer domestic consumers, and that it is a universal rule among such companies to reserve the right to cut off or reduce industrial consumers when necessary to supply the domestic consumption, and that this custom and policy and practice were admitted in the Answer of the State of West Virginia. Nevertheless, by the express terms of this statute, the industrial consumers and others in West Virginia (whatever "others" may mean; evidently the draughtsman of the Act was unwilling to allow a single foot of gas if it could be prevented to escape from the grasp of

West Virginians) as well as the domestic consumers, must be furnished an adequate supply of gas, before even the domestic consumers in other States were to be allowed any gas at all. Surely, argument is unnecessary to show this to be the most flagrant discrimination, to the advantage of West Virginia consumers of all classes, against any class of consumers in other States.

THIRD: The Answer of the State of West Virginia leaves no doubt of the purpose and intent of this statute being to discriminate in favor of West Virginia consumers to the disadvantage and against the interest of consumers in all other States. While here and there in this Answer will be found denials in general terms that the purpose and the intent of this statute were to discriminate, &c., such general denials, as also many of the admissions, are qualified by the phrase substantially to the effect, "except as in this Answer otherwise alleged." For example, in Paragraph XV at page 39 of the Answer:

> "This defendant denies that the effect in general of said statute is to give to all consumers in West Virginia a preferential or prior right over consumers in Pennsylvania, but admits that the effect of such statute will be to give to all of the consumers in West Virginia in said statute mentioned to the extent of the gas therein mentioned a reasonably adequate supply of gas, and says that said gas is affected with the use or interest of said public of West Virginia as in this Answer before alleged."

And again, on the same page and in the same paragraph, referring to an averment of the bill of complaint as follows:

"If as expressly provided by said statute a reasonably adequate supply of gas must be given not only to domestic consumers but also to industrial consumers and for other consumption in the State of West Virginia by those engaged not only in intrastate but also those engaged in interstate transportation, and also in furnishing gas for use in West Virginia, then the demand for gas by consumers in West Virginia would so increase as to absorb practically all the gas produced in West Virginia, and prohibit the transportation thereof into Pennsylvania, or at least deplete the supply to such an extent that but a small proportion of the gas now being transported from West Virginia into Pennsylvania will be available for such transportation."

The Answer says:

"This defendant denies the allegation of subparagraph (f) of Paragraph Eleven of said bill, except as in this Answer otherwise alleged."

It is nowhere otherwise alleged.

These general denials so qualified cannot be invoked against the positive and affirmative claims and averments of the Answer. The theory of the State of West Virginia of its right to discriminate follows logically from the categorical statement of the law, as interpreted by it, upon which the State of West Virginia plants itself in its Answer. Defendant says in Paragraph XV of the Answer that it admits that the statute was designed to apply to all who were engaged in the supply of gas to the public of West Virginia, though they were also engaged in the transportation of gas into Pennsylvania and other States.

The Answer admits in Paragraph IX that while gas is or may be an article of interstate commerce, yet such gas in the pipes of public service companies in West Virginia cannot be considered in interstate commerce "unless and until it has reached the point where it is no longer subject to the public service of West Virginia and the duties imposed by law upon public service gas companies have been observed and performed by them."

This is fully explained by Paragraph XV of the Answer where it is claimed that the West Virginia gas required for the reasonably adequate supply of the public in West Virginia is affected with the use or interest of said public which is superior and prior to any introduction thereof into interstate commerce.

The Answer "admits that the effect of said statute will be to give to all of the consumers in West Virginia in said statute mentioned to the extent of the gas therein mentioned a reasonably adequate supply of gas, and says that said gas is affected with the use or interest of said public of West Virginia as in this Answer before alleged."

It clearly appears, therefore, (a) that this statute was passed to obtain for all of the consumers in West Virginia, domestic, industrial and others, an adequate gas supply; (b) that West Virginia claimed that all of said consumers in West Virginia were entitled to this adequate supply before any part of said gas could be taken out of the State in interstate commerce; (c) that West Virginia claimed that the foregoing discrimination in favor of West Virginia consumers was justified because the gas produced in West Vrginia was affected

with the use or interest of the public of West Virginia, which is superior and prior to any introduction thereof into interstate commerce.

Not only is the intent and purpose to discriminate plainly avowed, but the justification therefor under its construction of the law is proclaimed by the State of West Virginia.

If this principle of law contended for by the State of West Virginia is introduced into the body of our Federal laws, a startlingly new principle of far-reaching consequence will result.

As said in the Oklahoma case, of a different attempt there to prevent interstate commerce in natural gas, if this could be done "Pennsylvania might keep its coal, the Northwest its timber, the mining States their minerals. And why may not the products of the field be brought within the principle."

The foregoing deals with the purpose and intent of the statute and the grounds upon which the State of West Virginia claims the right to enact and enforce the same.

Let us now consider what would be the consequence of the enforcement of the statute as discriminating in favor of West Virginia consumers to the disadvantage of the consumers in other States. On cold days, when the domestic consumption in West Virginia is at its peak, and the industrial and other consumption in West Virginia takes out its demands, this must be at the cost and expense of the consumption in other States even of the domestic consumer. The additional amount necessary to furnish an adequate supply to the consumers in West Virginia cannot be calculated

upon a percentage basis, as for example, ten or twenty per cent. for the whole year. The amount taken out will be during those peak-load periods when there is a shortage of supply anyway, perhaps during comparatively short periods, and in consequence will leave nothing for transportation to other States.

The statute gives an option to all consumers in West Virginia, including those improvident local companies, upon the gas supplies of all of the companies, in preference to consumers in other States.

As heretofore stated, the natural gas industry grew up as an interstate business, wholly disregarding State lines, and the natural gas companies, in case of a shortage of gas, as far as possible distributed the gas among all domestic consumers in all the States upon equitable principles.

In place of this, however, the statute seeks to introduce discrimination in favor of the West Virginia consumers of all classes, to the disadvantage of all others.

Let it be emphasized that there is no contention in this case that the West Virginia domestic or industrial consumers have been in any way discriminated against by these interstate companies, or that at all times such West Virginia consumers have not obtained their full proportion of the available supply. In fact, the evidence shows, that the West Virginia consumers have been lavishly supplied as compared with all others, consuming twice as much as those in Pennsylvania and five times as much as those in Ohio.

The question is not, therefore, one of preventing discrimination against West Virginia consumers, for no such thing is even claimed. The statute proposes, not

to prevent discrimination against, but to compel discrimination in favor of, the West Virginia consumers.

Whether or not said statute of West Virginia, by intention and purpose, was to discriminate against interstate commerce, if in its practical operation it discriminates against interstate commerce, it is void as a direct burden upon such commerce in conflict with the Commerce Clause of the Federal Constitution.

In order to hold this statute unconstitutional it is not necessary, as stated in the proposition under which this argument is made, that the statute in its practical operation would wholly prohibit the exportation of gas from West Virginia, like the statute in the Oklahoma case, in 221 U. S. 229; nor is it necessary that the sale and transportation of gas from State to State should be held to be interstate commerce of such nature as to be national in character and to require a uniform system or plan of regulation, although complainant contends for both of those propositions. If the fact is that this West Virginia statute works a substantial discrimination in favor of West Virginia consumers and against consumers in other States, the statute must fall, because it places a burden upon, interferes with and undertakes to regulate, interstate commerce.

There are corollary propositions which may project themselves upon the judicial mind in considering complainant's argument upon this statute, as, for example, whether or not a statute would be sustainable requiring a public service corporation of West Virginia to furnish to its consumers within the State equally as good service as that furnished to consumers in other States, or whether or not the State of West Virginia could require of its public service corporations that they provide an adequate supply to their domestic con-

sumers before transmitting gas outside of the State for purposes other than domestic consumption; but these questions, while interesting to the legal mind, are not in any manner involved in this controversy, and the discussion thereof here would be wholly out of place.

In this case there is no doubt whatever that the gas that is taken out of West Virginia into other States is used in such other States for exactly the same purposes for which that gas is used in West Virginia. It is also undisputed that the consumers in other States enjoy no more consideration than consumers in West Virginia; in fact, that they enjoy much less. It is also clear, as already stated, that the West Virginia statute was not passed to prevent—what did not exist—discrimination against West Virginia consumers.

In practically every case where State laws have been held unconstitutional because they placed burdens upon interstate commerce by discriminating in favor of the State's own citizens against those of other States, they were cases where the State sought to protect the commerce of its own citizens by imposing burdens upon the citizens of other States coming into said State, or property brought into said State, or business transacted in said State. The majority of cases were those requiring payments for licenses by non-residents greater than those paid by residents, or imposing taxes upon goods brought into the State from other States or countries, to be sold in competition with the products of that State, or some regulation affecting the right of non-residents to do business in the State; and wherever any of these attempts have been made, and under whatever guise, this Court has declared the Act unconsti-

tutional because all such Acts discriminated in favor of the State's own citizens against the citizens of other States.

Many cases could be cited of this general character in each of which the principle stated is the same.

The direct question which we have here, of a State undertaking to hold within the State its coal, timber, minerals, products of the field, gas, or other property, for the benefit of its own citizens, has never been raised heretofore, except in the natural gas cases. This Court said in the case of *Oklahoma vs. Kansas Natural Gas Company*, 221 U. S. 229:

> "The State, as we have seen, grants the use of the highways to domestic corporations engaged in intrastate transportation of natural gas, giving such corporations even the right to the longitudinal use of the highways. It denies to appellees the lesser right to pass under them or over them, notwithstanding it is conceded in the pleadings that the greater use given to domestic corporations is no obstruction to them. This discrimination is beyond the power of the State to make. As said by the Circuit Court of Appeals in the Eighth Circuit, no State can by action or inaction prevent, unreasonably burden, discriminate against or directly regulate interstate commerce or the right to carry it on. And in all of these inhibited particulars the statute of Oklahoma offends."

The principle, however, is the same. Whether for the benefit and advantage of its own citizens, the discrimination be an attempt to hold property within the State, or to keep property without the State, it is the unlawful discrimination that constitutes the interference with interstate commerce.

The general principle is stated in the case of *Welton v. Missouri*, 91 U. S. 275, as follows:

> "The license tax exacted by the State of Missouri from dealers in goods which are not the product or the manufacture of the State, before they can be sold from place to place within the State, must be regarded as a tax upon such goods themselves, and the question presented is whether legislation thus discriminating against the products of other States in the conditions of their sale by a certain class of dealers is valid under the Constitution of the United States. * * * The power of the State to exact a license tax of any amount being admitted, no authority would remain in the United States or in this court to control its action, however unreasonable or oppressive. Imposts operating as an absolute exclusion of the goods would be possible, and all the evils of discriminating State legislation, favorable to the interests of one State and injurious to the interests of other States and countries, which existed previous to the adoption of the Constitution, might follow, and the experience of the last fifteen years shows would follow, from the action of some of the States."

The principle is thus stated by Mr. Justice Harlan, in *Guy v. Baltimore*, 100 U. S. 434:

> "It must be regarded as settled that no State can consistently with the Federal Constitution impose upon the products of other States brought therein for sale or use, or upon citizens because engaged in the sale therein or the transportation thereto of the products of other States, more onerous public burdens or taxes than it imposes upon the like products of its own territory. * * * The

concession of such a power to the States would render wholly nugatory the national control of commerce among the States and place the trade and business of the country at the mercy of local regulations having for their object to secure exclusive benefits to the citizens and products of particular States."

In *Walling v. Michigan*, 116 U. S., 446, it was said:

"A discriminating tax imposed by a State operating to the disadvantage to the products of other States when introduced into the first mentioned State is in effect a regulation in restraint of commerce among the States and as such is a usurpation of the power conferred by the Constitution upon the Congress of the United States."

In *Bowman v. Chicago & N. W. R. R. Co.*, 125 U. S., 465, it was said:

"Can it be supposed that by omitting any express declaration on the subject Congress has intended to submit to the several States the decision of the question in each locality of what shall and what shall not be articles of traffic in the interstate commerce of the country? If so, it has left to each State, according to its own caprice and arbitrary will, to discriminate for or against every article grown, produced, manufactured, or sold in any State and sought to be introduced as an article of commerce into any other. * * * It may choose to establish a system directed to the promotion and benefit of its own agriculture, manufactures or arts of any description, and prevent the introduction and sale within its limits of any

or of all articles that it may select as coming into competition with those which it seeks to protect."

In *Scott v. Donald*, 165 U. S. 58, this Court said:

"It is sufficient for the present case to hold, as we do, that when a State recognizes the manufacture, sale and use of intoxicating liquors as lawful, it cannot discriminate against the bringing of such articles in, and importing them from other States; that such legislation is void as a hindrance to interstate commerce and an unjust preference of the products of the enacting State as against similar products of other States."

In the recent cases decided by this Court of *Sioux Remedy Company v. Cope*, 235 U. S. 197, and *Bethlehem Motors Corporation vs. Flynt*, (16 U. S. Advance Reps., 1920-21, p. 687), the foregoing and many other cases are cited with approval and followed, and it is held that such statutes imposing discrimination by a State in favor of its own citizens are void as in conflict with the Commerce Clause of the Federal Constitution.

The general principle of these authorities to be enforced is the same; certainly as strong, if not stronger, when the burdens and regulations imposed upon interstate commerce are applied to property and business going out of the State instead of to property and business coming into the State. So long as these impositions are burdens upon, regulations of, or interference with, interstate commerce, operating as discrimination in favor of its own citizens and against the citizens of other States, they offend against the Commerce Clause of the Federal Constitution, and it is immaterial whether the discrimination sought is accomplished by keeping the property or business inside the State, or preventing it from entering the State.

What the State cannot do, the gas company may not do, even as one of its obligations as a public service company.

Neither the State nor the gas company can so discriminate.

The converse of this proposition, that is, the right of a natural gas company to discriminate against consumers in another State, which it was serving in favor of the consumers in the state in which the gas was being produced, upon plea of primary charter obligation, was denied in *City of Jamestown v. Pennsylvania Gas Co.*, (U. S. Dist. Ct. W. D. N. Y.), 264 Fed., 1009 (1920). An injunction was granted restraining the defendant interstate gas company from withdrawing its service to the complainant city and its inhabitants in the State of New York, notwithstanding the contention that said gas company, a Pennsylvania corporation, owed a primary duty under its charter to render a reasonably adequate service to the cities of Erie, Corry and Warren, in the State of Pennsylvania, in which State the company obtained its natural gas supply.

Attempts have been made by several States, under various pretexts and by various subterfuges, as appears from the cases already cited, to accomplish the same purpose sought by the statute in controversy here, namely, to conserve the use of natural gas produced in a State for the exclusive use of consumers in said State; but without exception this Court and other courts, State and Federal, have held said statutes to be in conflict with the provisions of the Federal Constitution relating to interstate commerce. The draftsmen of the Commerce Clause of the United States Constitution foresaw the very dangers presented by this West Virginia statute.

Alexander Hamilton, in the seventh number of The Federalist, said:

> "The competition of commerce would be another fruitful source of contention. The States less favorably circumstanced, would be desirous of escaping from the disadvantage of local situation, and of sharing in the advantage of their more fortunate neighbors. Each State, or separate confederacy, would pursue a system of commercial polity peculiar to itself. This would occasion distinctions, preferences and exclusion which would beget discontent. * * * The spirit of enterprise, which characterizes the commercial part of America, has left no occasion for displaying itself unimproved. It is not at all probable that this unbridled spirit would pay much respect to those regulations of trade, by which particular States might endeavor to secure exclusive benefits to their own citizens. The infractions of these regulations on one side, the efforts to prevent and repel them on the other, would naturally lead to outrages and these to reprisals and wars."

In the twenty-second paper Alexander Hamilton said:

> "The interfering and unneighborly regulations of some States, contrary to the true spirit of the Union, have, in different instances, given just cause of umbrage and complaint to others, and it is to be feared that examples of this nature if not restrained by a national control, would be multiplied and extended till they become not less serious sources of animosity and discord, than injurious impediments to the intercourse between the different parts of the confederacy."

The ameliorating remedy of the commerce clause of the proposed Constitution is dwelt upon by Madison in the forty-second paper:

> "But the mild voice of reason, pleading the cause of an enlarged and permanent interest, is but too often drowned before public bodies as well as individuals by the clamors of an impatient avidity for immediate and immoderate gain.
>
> The necessity of a superintending authority over the reciprocal trade of confederated states has been illustrated by other examples as well as our own."

It is manifest that as a rule, it is to the interest of the State to encourage its export trade. The peculiar character of the natural gas industry, the fact that its supply is limited, that if its use could be confined to consumers in the State, where it was being produced, it would largely contribute to the wealth, prosperity and industry of that State, has made natural gas the exception, so that burdens and restraints upon its export have been attempted. It is therefore comprehensible that a State pursuing its own selfish interest, its vision "cribbed, cabined and confined" by the horizon of its State lines, should fail to see to what misfortunes such action would ultimately tend. To such selfish short-sighted States may be recommended the words of Mr. Justice McKenna, in the Oklahoma case, where he said:

> "And yet we have said that 'in matters of foreign and interstate commerce there are no State lines.' In such commerce, instead of the States, a new power appears and a new welfare, a welfare which transcends that of any State. But rather let

> us say it is constituted of the welfare of all the States and that of each State is made the greater by a division of its resources, natural and created, with every other State, and those of every other State with it."

The evidence showing how the operation of the statute in controversy will discriminate in favor of the citizens of West Virginia is collated under the Ninth Heading, pages 184 to 237 of the digest of evidence herewith filed by complainant.

The witnesses have graphically detailed the danger to life, the suffering, the inconvenience and the discomfort that would be occasioned by the operation of this statute, to millions of people in the States of Pennsylvania and Ohio and hundreds of thousands in other States.

This testimony also shows the enormous financial losses that would be suffered by the removal of natural-gas-burning appliances, the installation of appliances for burning other fuel, and, in some localities, the reconstruction of houses which were adapted solely to the use of natural gas.

This evidence shows in detail that while these conditions would obtain in these other States under the operation of the statute, and pursuant to its purpose, during this same period consumers in West Virginia would be subjected to none of these dangers, sufferings, inconveniences, discomforts, and financial losses.

It is hardly conceivable that there could be a better illustration than this case of the effect of State selfishness, the evils sought to be remedied and the good to be accomplished by the Commerce Clause of the United States Constitution, in prohibiting the passage of discriminatory statutes.

VII.

OVER EIGHTY PER CENT. OF THE NATURAL GAS ENTERING THE PIPE LINES OF THE INTERSTATE NATURAL GAS COMPANIES IN WEST VIRGINIA IS STARTED WITH THE DEFINITE INTENTION THAT IT SHALL BE TRANSMITTED IN INTERSTATE COMMERCE, AND AS A FACT IT IS SO TRANSMITTED TO PENNSYLVANIA, OHIO, AND OTHER STATES, WHEREFORE:

(a) THE STATUTE CANNOT BE SUSTAINED BECAUSE IT PURPORTS TO ENFORCE DUTIES IMPOSED BY LAW UPON PUBLIC SERVICE GAS COMPANIES IN WEST VIRGINIA, OR ANY COMMON-LAW DUTY OF PUBLIC UTILITIES.

(b) THE STATUTE CANNOT BE SUSTAINED BECAUSE THE SPECIFIC QUANTITY, OR THE EXACT DESTINATION, OR THE PARTICULAR CONSIGNEE, ARE UNKNOWN AT THE INCEPTION OF SAID TRANSPORTATION, OR BECAUSE IN SOME INSTANCES THE GAS IS TRANSPORTED BY THE PRODUCER OR OWNER FOR HIS OWN USE, OR FOR DISTRIBUTION, OR SALE, TO LOCAL CONSUMERS OR DISTRIBUTING COMPANIES, OR BECAUSE THERE IS A TRANSFER OF TITLE THERETO IN TRANSIT, OR BECAUSE OF ANY LOCAL NECESSITY, PUBLIC SENTIMENT OR EXPEDIENCY, TO RETAIN SAID GAS FOR USE BY THE CITIZENS OF WEST VIRGINIA.

(c) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED POLICE POWER.

(d) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED CORPORATE FRANCHISE REGULATION BY THE STATE OF WEST VIRGINIA, EITHER AS TO DOMESTIC OR FOREIGN CORPORATIONS ENGAGED IN INTERSTATE COMMERCE.

(e) THE STATUTE CANNOT BE SUSTAINED BECAUSE SAID STATUTE APPLIES EQUALLY TO DOMESTIC AND NON-RESIDENT PERSONS AND TO INTRASTATE AND INTERSTATE COMMERCE, OR THE INTERBLENDING OF INTRASTATE AND INTERSTATE COMMERCE.

(f) THE STATUTE CANNOT BE SUSTAINED BECAUSE SEVERAL OF THESE COMPANIES ALSO DO SOME LOCAL BUSINESS, BY DISTRIBUTING NATURAL GAS AT CERTAIN POINTS FROM THEIR PIPE LINE SYSTEMS TO LOCAL COMMUNITIES.

(g) THE STATUTE CANNOT BE SUSTAINED BECAUSE THOSE INTERSTATE GAS COMPANIES, IF THERE ARE ANY, WHICH ARE NOT PUBLIC SERVICE COMPANIES UNDER THE LAWS OF WEST VIRGINIA WOULD NOT BE AFFECTED.

These respective positions of the State of West Virginia, because they are either directly raised by its Answer, or indirectly by its evidence, will be taken up separately. In an exuberance of caution every possible contention has been anticipated, although it may come to pass that only a portion of these contentions will be argued by West Virginia.

VII. (a) THE STATUTE CANNOT BE SUSTAINED BECAUSE IT PURPORTS TO ENFORCE DUTIES IMPOSED BY LAW UPON PUBLIC SERVICE GAS COMPANIES IN WEST VIRGINIA, OR ANY COMMON-LAW DUTY OF PUBLIC UTILITIES.

The West Virginia statute, while purporting to enforce a common-law duty of the public utility, in reality adds new and unusual burdens unknown to the common law.

It should be noted that the public utility which has professed and undertaken to serve a certain, definite community with natural gas, is by this Act compelled to serve an indefinite number of communities, anywhere "within the territory of this State," temporarily, at least, and perhaps permanently. In other words, this new and unusual obligation is not limited to communities contiguous to the territory which the public utility proprietor has assumed to supply, but to the extent that his volume of gas is derived from State sources he must furnish it "for public use within the territory of this State, and for the use of the public and every part of the public within the territory of

this State, in or from which such gas is produced, or through which said gas is transported, or which is served by such person."

It is difficult to understand why the draughtsman of the Act having first covered "for public use within the territory of this State," should have added the less comprehensive phrase "for the use of the public and every part of the public within the territory of this State in or from which such gas is produced or through which said gas is transported or which is served by such person." Even if the first phrase is limited by the second, the same argument applies.

The extension of the obligations of public service companies attempted by the statute may be explained by the contention on which the State in its Answer squarely plants itself, namely, that the gas produced in West Virginia is so affected with the use and interest of the public, that until that public has received an adequate supply the gas reduced to possession and introduced into their pipe lines by the gas companies cannot become the subject of interstate commerce because that use or interest is superior and prior to the right of introduction of such gas into interstate commerce. (See Answer Paragraph XV, p. 38). But as we have seen, this Court, in the cases already referred to, has decided that there is no such right of conservation in the State, but that natural gas is the subject of interstate commerce like any other commodity.

The common law does not require the public service proprietor to serve the public everywhere, but only that public, or part of the public, which reasonably comes within the scope of the service which he has professed or undertaken to render.

Wyman Public Service Corporations, Section 344.

"One who undertakes public employment has, in effect, thereby exposed and vested an interest of himself in all the King's subjects that will employ him in the way of his trade. But the duty thus defined is not to all men but to a certain public limited in various ways according to the usual profession (or nature of the undertaking). Thus a gas company owes its duty only to those who occupy premises within the territory covered by the service. And an innkeeper does not owe his duty to all who apply to him, but only to travelers. These two examples show that the duty itself has its limitations."

The innkeeper case referred to by the learned author is *Cayle's Case*, 8 Coke 32 (1584) in which that great common law jurist distinguished between the members of the public to which the service was owed, holds that it was to travelers and wayfarers, not to neighbors.

Public Service Corporation v. American Lighting Co., 67 N. J. Eq. 122, 57 Atl. 482 (1904), is the gas case mentioned in the text quoted.

There a company that controlled a new and improved type of gas-burner demanded from the local gas company a supply of gas at the top of every lamp-post in the city so that it might fulfill its contract to supply the city with light. In denying its right to demand said service, or the duty of the local company to furnish it, Mr. Vice Chancellor Pitney, said, (p. 127, 128):

> "I am entirely of the opinion that the defendant the lighting company has no standing whatever, in its own right, to demand from the complainants a supply of gas. For the simple reason,

above stated, that it is neither a householder nor a resident of Jersey City, and the obligation which is imposed upon complainants, by reason of their enjoyment of a public franchise of laying mains in the streets, to furnish gas, extends only to residential citizens of the city and to the municipality. It is quite absurd to say that any person who might happen to be walking along the street, and yet be destitute of any local habitation within the corporate limits of Jersey City, has the least right to demand a supply of gas from the complainants."

In *People ex rel. Pennsylvania Gas Co. v. Public Service Commission,* 196 N. Y. App. Div. 514; 189 N. Y. S. 478 (1921), it was held that the Commission could not compel the relator, a foreign interstate natural gas corporation, to make connections and extend its service to new consumers in a city which the company was serving under a franchise, irrespective of the fact that said new applicants lived on streets through which the mains were laid, where it was proven that the supply of gas was inadequate to serve existing consumers, and was constantly diminishing, and the taking on of additional consumers would destroy the service it was then trying to maintain, and subject its consumers to great hazard of destruction of life and property.

Wyman, Public Service Corporations, Section 273.

"Thus, a gas company may not be called upon to serve beyond the municipality for which it has been chartered."

See also Section 274 Territorial limits fixed by franchise.

The law of "Reasonably Adequate Supply" as applied to public service companies, and as applied to a natural gas company, would only justify the courts to enforce the common-law obligation of furnishing "a reasonably adequate supply" of gas to the specific community or communities which the public service company has professed or undertaken to serve, under the terms of its charter or of its local franchise, or within the reasonable ambit of its actual service, and not more.

Mr. Justice Hughes summed up the common law situation in *Northern Pacific Ry. Co. v. North Dakota*, 236 U. S. 585 (1915), when he said: (p. 595).

> "But, broad as is the power of regulation, the State does not enjoy the freedom of an owner. The fact that property is devoted to a public use on certain terms does not justify the requirement that it shall be devoted to other public purposes, or to the same use on other terms, or the imposition of restrictions that are not reasonably concerned with the proper conduct of the business according to the undertaking which the carrier has expressly or impliedly assumed.
>
> If it has held itself out as a carrier of passengers only, it cannot be compelled to carry freight. As a carrier for hire it cannot be required to carry persons or goods gratuitously."

This Court had long before recognized the common-law principle to be that a common-carrier by railroad could not be compelled to serve beyond his line, that is beyond the service which he had professed or undertaken to furnish to the public, in *Atchison, T. & S. R. Co. v. Denver & New Orleans R. Co.*, 110 U. S. 677 (1884). In the course of the opinion, Chief Justice Waite declared (p. 680):

"At common law, a carrier is not bound to carry except on his own line, and we think it quite clear that if he contracts to go beyond he may, in the absence of statutory regulations to the contrary, determine for himself what agencies he will employ."

Nor can a railroad company be required to deliver cars at the terminus of another railroad to which they are consigned at destination, even though there is a physical connection between the terminal of the two roads. *Central Stock Yards Co. v. Louisville & N. R. Co.*, 192 U. S. 568 (1904).

Similar decisions have been reached by the State courts. For instance, *Hoyt v. Chicago, B. & Q. R. Co.*, 93 Ill. 601 (1879) holding that a railroad company could not be compelled to deliver grain to a warehouse off its line; *The Pittsburgh, Cinn. & St. Louis Ry. Co. v. Morton*, 61 Ind. 539 (1878), that a railroad company owed no duty as to reasonable facilities beyond its own route; and *Pittsburgh, etc., Ry. Co. v. Viers*, 115 Ky., 526 (1902), to the effect that a railroad company's common law liability extended only to the end of its own line.

The common-law principles laid down by Mr. Justice Hughes in *Northern Pacific Ry Co. v. North Dakota*, 236 U. S. 585 (1915) *supra*, were applied to a water-supply service by the Supreme Court of Idaho in *Murray v. Public Utilities Commission*, 27 Ida. 603; 150 Pac. 47 (1915).

The Court said (p. 623):

"In order to justify the Commission in ordering enlargements, the Commission should be satisfied from the evidence: First, that the existing

plant is not reasonably sufficient to render adequate service (*Washington ex rel O. R. & N. Co. v. Fairchild*, 224 U. S. 510; Second, that the extension or enlargement is within the scope of the original professed undertaking of the proprietor of the utility (*N. P. R. Co. v. N. Dak.*, 236 U. S. 585)."

A strong case in point is *Fidelity Title & Trust Co. v Kansas Natural Gas Co.*, 219 Fed. 614 (1913), in which it was held that the order of the Public Utilities Commission of Kansas requiring the receiver of the defendant gas company to go into Oklahoma and extend its pipe line system in that State to new and distant fields, was unconstitutional.

Mr. Justice Holmes, delivering the opinion in *Interstate Commerce Commission v. Delaware L. & W. R. Co.*, 216 U. S. 531 (1910), thus referred to the provision of Section 1 of the Interstate Commerce Act, as amended in 1906, requiring main line railroads to provide on application connections with branch lines, (p. 537):

"The statute creates a new right not existing outside of it. *Wisconsin, Minnesota & Pacific R. Co. v. Jacobson*, 179 U. S. 287, 296."

R. R. Co. vs. Jacobson, above cited, involved the validity of a State statute requiring intersecting railroads to provide physical connections and interchange of traffic.

Mr. Justice Peckham said, (p. 296):

"At common law the courts would be without power to make such an order as was made in this case by the State court. Legislative authority would be necessary in order to give power to the courts to render a judgment of this kind."

Here the State of West Virginia has attempted to impose a new duty, unknown at common law, and in actual operation a regulation of the public service obligation owed equally to Pennsylvania, Ohio and other States as well as to West Virginia.

It falls within the words employed by Mr. Justice Holmes in *Western Union Telegraph Co. v. Foster*, 247 U. S. 105 (1917):

> "If the transmission of the quotations is interstate commerce the order in question cannot be sustained. It is not like the requirement of some incidental convenience that can be afforded without seriously impeding the interstate work. It is an attempt to affect in its very vitals the character of a business generically withdrawn from State control—to change the criteria by which customers are to be determined and so to change the business. It is suggested that the State gets the power from its power over streets which it is necessary for the telegraph to cross. But if we assume that the plaintiffs in error under their present charters could be excluded from the streets, the consequence would not follow. Acts generally lawful would become unlawful when done to accomplish an unlawful end. *United States v. Reading Co.*, 226 U. S. 324, 357, and a constitutional power cannot be used by way of condition to attain an unconstitutional result. *Western Union Telegraph Co. v. Kansas*, 216 U. S. 56; *Sioux Remedy Co. v. Cope*, 235 U. S. 197, 203. The regulation in question is quite as great an interference as a tax of the kind that repeated decisions have held void. It cannot be justified 'under that somewhat ambiguous term of police powers.' *Western Union Telegraph Co. v.*

Pendleton, 122 U. S. 347, 359; *Leisy v. Hardin*, 135 U. S. 100; *Savage v. Jones*, 225 U. S. 501, 520; *Western Union Telegraph Co. v. Brown*, 234 U. S. 542, 547."

It should be further noted that by furnishing natural gas to landowners or others along the route of their pipe-lines in accordance with the provisions of gas-well leases, gas acreage leases, and the like, these public utility proprietors have not professed, or undertaken, to serve the general public occupying the territory in which their supply of gas is produced or through which their pipe-line systems pass, nor by the law of West Virginia is such service held to be a public service. *Pittsburgh & W. Va. Gas Co. v. Nicholson*, 105 S. E. 784 (1921), not yet reported in the West Virginia Supreme Court Reports.

The foregoing argument is intended to show:

(a) That there are no duties imposed by law on public service gas companies, prior to the passage of this Act, which would authorize the State in demanding that these public service companies supply gas to citizens of all classes throughout the State, and

(b) that to the common-law duty of public utilities the statute in controversy adds new and unusual burdens, unknown to the common-law.

In the Ninth Paragraph of its Answer in this case, it is contended by the State of West Virginia that while this gas is or may be an article of interstate commerce, and admittedly when so, not subject to State control, nevertheless, the State, while this gas is in the pipe lines in West Virginia, may subject such gas to the

public service in West Virginia without thereby interfering with interstate commerce or placing a burden thereon, because as stated in the Fifteenth Paragraph of the Answer, the use and interest of the public of West Virginia in said gas is superior and prior to any introduction thereof into interstate commerce.

Under the Commerce Clause of the Federal Constitution the proposition should be stated exactly the converse to that claimed by the State of West Virginia. It should be stated: While goods are in transit in interstate commerce they connot be subject to the public service in West Virginia, nor to the duties imposed by law upon public service companies, if those duties or obligations in any manner interfere with the transmission of such articles in interstate commerce.

The contention of the State of West Virginia disregards certain well-settled principles of law as follows:

FIRST: Gas placed in mains or pipes by public service gas companies, while in course of transmission from points in West Virginia to points in other States, is in interstate commerce, and the companies so transmitting this gas were not obligated to observe and perform any duties imposed by law in West Virginia upon public service companies, when and if such duties, so imposed, directly burden, interfere with or prohibit such transportation in interstate commerce.

SECOND: Commodities in transit in interstate commerce by public service transportation companies are subject to the paramount public service of the nation, provided for by the Constitution of the United States, and whenever such rights, duties and obligations of and to the nation under the commerce clause

of its constitution conflict with the rights, duties or obligations which the State seeks to impose, then the latter are without force and effect, but utterly void.

VII. (b) THE STATUTE CANNOT BE SUSTAINED BECAUSE THE SPECIFIC QUANTITY, OR THE EXACT DESTINATION, OR THE PARTICULAR CONSIGNEE, ARE UNKNOWN AT THE INCEPTION OF SAID TRANSPORTATION, OR BECAUSE IN SOME INSTANCES THE GAS IS TRANSPORTED BY THE PRODUCER OR OWNER FOR HIS OWN USE OR FOR DISTRIBUTION OR SALE TO LOCAL CONSUMERS OR DISTRIBUTING COMPANIES, OR BECAUSE THERE IS A TRANSFER OF TITLE THERETO IN TRANSIT, OR BECAUSE OF ANY LOCAL NECESSITY, PUBLIC SENTIMENT OR EXPEDIENCY TO RETAIN SAID GAS FOR USE BY THE CITIZENS OF WEST VIRGINIA.

Where, as the evidence in this case establishes, upwards of eighty per cent. of the natural gas entering the pipe lines of the great interstate natural gas companies in the producing areas of West Virginia, is started from the originating points with the definite intention that it shall be directly and continuously transmitted or transported in interstate commerce, and as a business fact it is so transmitted or transported to the consuming markets of Pennsylvania, Ohio and other States, in a normal, established and recurring course of commerce and in fulfillment of contracts previously entered into therefor, and this has been the fact and the course of bus-

iness many years, the interstate character of such transmission or transportation is not affected by the fact that the specific quantity, or the exact destination, or the particular consignee, beyond the limits of the originating State, are unknown at the inception of said transmission or transportation.

The natural gas cases exemplify this fundamental principle, that it is the real and essential nature of the transmission or transportation and not the accidents of a definite consignee or destination in another State, or the designation of any specific portion of the commodity, or the quantity thereof to be delivered to a particular person or place outside the State, that gives interstate or foreign character to such commerce. See *Oklahoma v. Kansas Natural Gas Co., supra; Kansas Natural Gas Co. v. Haskell, supra; Haskell v. Cowham, supra; and Haskell v. Kansas Natural Gas Co., supra.*

In *Landon v. Public Utilities Commission of Kansas*, 242 Fed. 658 (1917), the Court, Booth, D. J., decided these questions on the authority of this Court:

> "Absence of a specific consignee at the time of shipment does not alter the character of the shipment. *Swift & Co. v. U. S.*, 196 U. S. 375, 25 Sup.Ct. 276, 49 L. Ed. 518; *T. & New Orleans R. Co. v. Sabine Co.*, 227 U. S. 111, 33 Sup. Ct. 229, 57 L. Ed. 442; *Grand Union Tea Co. v. Evans (D. C.)* 216 Fed. 791.
>
> The exact destination need not be fixed at the time of the shipment, provided the intent and purpose is to continue the journey beyond the limits of the State in which the journey begins. *Ohio R.*

R. Co. v. Worthington, 225 U. S. 101, 32 Sup. Ct. 653, 56 L. Ed. 1004; *T. & N. O. Co. v. Sabine Co.*, 227 U. S. 111, 33 Sup. Ct. 229, 57 L. Ed. 442.

Reverting to the character of the business transacted by the receiver, it is to be noted: (a) That the shipment is started on its journey from one state to another, (b) with the purpose that it shall be delivered to a consumer. (c) That it moves continuously from a point of shipment in one state to the consumer in another state. (d) That it is moved part of the way in the pipe lines of the receiver, and part of the way in the pipe lines of the distributing company, whether as agent of the receiver or connecting carrier is immaterial. (e) The destination of the shipment is intended at the time of the shipment to be beyond the state, although the name of the particular consumer for any specific portion of the gas shipped is not known. (f) There is no stoppage in transportation. (g) The title to the gas remains in the receiver until delivery to the ultimate consumer."

The above quoted case, when it came before this Court in *Public Utilities Commission v. Landon*, 249 U. S. 236 (1919), *supra*, was reversed on the sole ground that the court below held that the natural gas transmitted from Oklahoma to Kansas continued to be in interstate commerce *after delivery to the local distributing companies*, and that its interstate character ceased when it passed into the local mains of the local distributing companies.

See also:

Terminal Co. v. Interstate Commerce Com., 219 U. S. 498.

***Railroad Commission of Louisiana v. Texas & Pacific Ry. Co.*, 229 U. S. 336 (1913).**

R. R. Comm. vs Texas, & Pac. Ry. Co. 229 U. S. 336, furnishes authority establishing that the natural gas started on its way from the producing fields of West Virginia even in those cases when intended for delivery in West Virginia to other persons or companies, with the purpose and intention that it is to be exported by them, in conformance with the long-existing, normal and constantly recurring course of commerce in that commodity to the consuming centers of Pennsylvania, Ohio and other States, constitutes interstate commerce within the protection of the Federal Constitution, although during the transit to the point of delivery the exact consignee and destination beyond the State, or the quantity to go to any particular person or place, are indefinite and unknown.

As pointed out by Mr. Justice McReynolds in *Illinois Central Railroad Co. v. Louisiana Railroad Commission*, 236 U. S. 157, 163, (1915):

> "When freight actually starts in the course of transportation from one State to another it becomes a part of interstate commerce. The essential nature of the movement and not the form of the bill of lading determines the character of the commerce involved. And generally when this interstate character has been acquired it continues at least until the load reaches the point where the parties originally intended that the movement should finally end." (Citing cases.)

See also:

Penna. R. R. v. Clark Coal Co., 238 U. S., 456.

The fact that the gas is transported by the producer or owner to other States for his own use or to be there distributed to local consumers or sold to local distributing companies does not change the interstate character of the transaction.

In *Pennsylvania Gas Co. v. Public Service Commission of New York*, 252 U. S. 23 (1920), this Court said, By Mr. Justice Day (p. 28):

> "In the instant case the gas is transmitted directly from the source of supply in Pennsylvania to the consumers in the cities and towns of New York and Pennsylvania, above mentioned. Its transmission is direct and without intervention of any sort between the seller and the buyer. The transmission is continuous and single and is, in our opinion, a transmission in interstate commerce and therefore subject to applicable constitutional limitations which govern the States in dealing with matter of the character of the one now before us."

In another recent case *Public Utilities Commission of Kansas v. Landon, Receiver, etc.*, 249 U. S. 236 (1919), this court expressly recognized that the transmission or transportation of natural gas up to the mains of the local companies was interstate commerce in these words, McReynolds, J., (p. 245):

> "That the transportation of gas through pipe lines from one state to another is interstate commerce may not be doubted. Also, it is clear that as part of such commerce the receivers might sell and deliver gas so transported to local distributing companies free from unreasonable interference by the State."

In fact in every natural gas case that has come before this Court the gas was owned by the natural gas company that also did the transportation; the transportation was only an incident in the sale of the gas by the company to the consumer or to local distributing companies in other States.

The fact that there is in some instances a transfer of title in transit does not affect the interstate character of the transaction.

Swift & Co. v. United States, 196 U. S. 375 (1905).

The point was directly before the Court in *Gulf, Colorado & Sante Fe Ry. Co .v. Texas*, 204 U. S. 403 (1907).

Mr. Justice Brewer said, (p. 412):

"It is undoubtedly true that the character of a shipment, whether local or interstate, is not changed by a transfer of title during the transportation.

* * * * * * *

The control over goods in process of transportation, which may be repeatedly changed by sales, is one thing; the transportation is another thing, and follows the contract of shipment, until that is changed by the agreement of owner and carrier."

If considerations of local necessity, public sentiment or expediency, were allowed to control, and the States by their legislatures to interpret this local necessity, public sentiment, or expediency, the Commerce Clause of the Constitution of the United States might as well have been traced in sand.

As has already been shown by citations from the Federalist, the draftsmen of the Constitution sought to guard the interest of the nation as a whole against the States' conception of their own necessities and expediency.

In the leading case of *Oklahoma v. Kansas Natural Gas Co., supra*, Mr. Justice McKenna considered at length and expressly denied the supremacy of this alleged paramount right of the State of self-help, on account of local necessity or expediency, although in that case, as stated in the opinion of this Court, the State of Oklahoma drew a graphic picture of natural gas as a local necessity, and concluded this picture with the words:

> " * * * and that, substantially, the only natural, practical, usable fuel, both for domestic and industrial use, is natural gas."

An unusually stroong situation of State necessity was presented in *Kansas City Southern Ry. Co. v. Kaw Valley Drainage District*, 233 U. S. 75 (1914). There the Supreme Court of Kansas having ordered the defendant railroad to remove certain railroad bridges, which formed "a necessary part of lines of commerce by rail among the States," on the ground that said bridges were obstructing the flow of the rivers spanned by them and causing destructive floods, this Court reversed said decree as a direct interference with the freedom of interstate commerce and in violation of the exclusive control thereover conferred upon Congress by the Federal Constitution, the destructive floods to the contrary notwithstanding.

In the case of *United Fuel Gas Company vs. Walter S. Hallinan, State Tax Commissioner*, No. 835 Oc-

tober Term, 1920, (writ of error and petition for writ of certiorari to the Supreme Court of West Virginia), argued before this Court last month and not yet decided, the questions submitted directly related to some of the foregoing propositions. In that case this Court was asked to review a decision of the Supreme Court of Appeals of West Virginia construing the West Virginia Privilege Tax Act, and to decide how far if at all the interstate character of the transportation of natural gas would be affected by the fact that the transmission is accomplished by delivery in West Virginia to connecting lines, and that a small portion of the gas so delivered is resold in West Virginia to consumers along such connecting lines; the West Virginia Court having held that such gas was not in interstate commerce, but that where gas was delivered to connecting companies which sold no part thereof to consumers in West Virginia, that gas was in interstate commerce.

Accordingly the Supreme Court of Appeals of West Virginia as will be observed, in its opinion and decision held that a part of the gas so in transit was in intrastate and another part in interstate commerce.

The statute in controversy here in this case now before this Court ignores the fact that any portion of this gas may be in interstate commerce. The statute compels every gas company in the State to deliver all of the gas in its lines when necessary to supply West Virginia consumers, without regard to whether or not any portion of said gas is in transit in interstate commerce. This statute authorizes the taking of even that

portion of the gas which the Supreme Court of Appeals of West Virginia has held was gas in transit in interstate commerce.

VII. (c) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED POLICE POWER.

This so-called "Adequate Gas Supply" statute of West Virginia cannot be supported as a legitimate and authorized exercise of the State's police power, either for the protection of the interests of its citizens, or for the conservation of a natural resource.

> "No urgency for its use [police power], can authorize a State to exercise it in regard to a subject-matter which has been confided exclusively to the discretion of Congress by the United States Constitution."
>
> *Henderson v. Mayor of New York*, 92 U. S. 259.

> "The decisions also show that a State cannot avoid the operation of this rule by simply invoking the convenient apologetics of the police power. It repeatedly has been said or implied that a direct interference with commerce among the States could not be justified in this way."
>
> *Kansas City Southern Ry. Co. v. Kaw Valley Drainage District*, 233 U. S. 75.

The long established principle that the exercise by a State of its reserved police and other powers must not conflict with the exclusive power over interstate commerce conferred upon Congress by the United States

Constitution, has been recognized and applied by this Court to attempted regulation by States of the transmission or transportation of natural gas into other States.

Oklahoma v. Kansas Natural Gas Co., supra, turned on this very point.

There the state statute was stoutly defended as an enactment for the conservation of that natural resource, and as a *bona fide,* legitimate and constitutional exercise of the State's reserved police power, affecting interstate commerce but indirectly and incidentally.

Mr. Justice McKenna, delivering the opinion of the Court, painstakingly examined these claims.

Page 249:

"The provisions of the act, it is further insisted, are but an exercise of the police power to conserve the natural resources of the state. * * * And such exercise of power, it is contended, does not regulate interstate commerce, but only affects it indirectly."

Page 250:

"The appellant makes a broader contention. The right to conserve, or rather the right to reserve, the resources of the state for the use of the inhabitants of the state, present and future, is broadly asserted. 'The ruling principle of the law,' counsel say, 'is conservation, not commerce.' * * * We are, therefore, admonished at the very start in the discussion of the importance of the questions presented and the power which the states may exert against one another."

These claims were disallowed.

In refusing to modify the decree in the above case, this Court, in *Haskell v. Kansas Natural Gas Co., supra*, carefully reviewed and reaffirmed that decision.

Other gas cases in point are the following:

Haskell v. Cowham, 187 Fed., 403 (1911).

State ex rel. Corwin v. The Indiana & Ohio Oil, Gas & Mining Co., 120 Ind., 576 (1889) *supra*.

In the latter case the Court said:

> "But it is evident that that act under examination cannot under the rule laid down by the court of last resort (U. S. Supreme Court) be deemed a legitimate exercise of the police power. * * * The act cannot be taken out of the operation of the federal decisions upon the theory that it is a valid exercise of the police power resident in every sovereign state, for the theory is without foundation."

Over a decade later, in *Manufacturers Gas etc. Co. v. Indiana Natural Gas Co.*, 155 Ind., 545 (1920), the same court, in reviewing and reaffirming its decision, pointed out, Dowling, C. J. (page 546):

> "Nothing done by the appellee is complained of, excepting only that it removes natural gas out of the State of Indiana. No ground for the exercise of the police power of the state to prevent such removal is shown."

The New Jersey Court of Chancery in *Benedict et al v. Columbus Construction Co.*, 49 N. J. Eq. 23; 23 Atl., 485 (1892), when called upon in a stockholders' suit to determine the constitutionality of the Indiana Act of

March 4, 1891, prohibiting the use of any artificial means of accelerating the natural flow of the gas, by Chancellor McGill said, (page 37):

> "It requires but a simple mathematical calculation to ascertain that the effect of this law is to limit the transportation of gas to a radius of about 60 miles from the gas wells, and to restrict it within the territorial limits of the State of Indiana. * * As a police regulation, this provision of the law, upon its face, appears to be an absurdity. * * *"

Whenever a State seeks some pretext for interfering with, burdening, regulating or prohibiting interstate commerce, it almost invariably invokes "the convenient apologetics of the police power."

This Court has accordingly been required again and again to pass upon the question of how far the reserved police powers of the respective States authorize legislation by the States affecting interstate commerce. In all those cases, this Court, without attempting to fix the exact limits or the precise definition of the words "police power," has declared that "whatever may be the nature and extent of that power where not otherwise restricted, no definition of it and no urgency of its use can authorize a State to exercise it in regard to subject matter which has been confided exclusively to the discretion of Congress by the Constitution."

Henderson vs. Mayor of New York, 92 U. S. 259.

In case after case, where State after State has sought to sustain statutes affecting interstate commerce, upon the alleged reservation of its police powers, when it was made to appear that in fact the legislation of

the State directly sought to burden, interfere with, regulated, and especially if it prohibited or prevented, commerce between the States or with foreign countries, such legislation has been declared unconstitutional.

In *Railroad Co. vs. Husen*, 95 U. S. 465, this court said (page 470):

> "We admit that the deposit in Congress of the power to regulate foreign commerce and commerce among the States was not a surrender of that which may properly be denominated police power. What that power is it is difficult to define with sharp precision. It is generally said to extend to making regulations promotive of domestic order, morals, health, and safety. • • • But whatever may be the nature and reach of the police power of the State, it cannot be exercised over a subject confided exclusively to Congress by the Federal constitution. It cannot invade the domain of the national government. It was said in *Henderson et al. v. Mayor of City of New York, et al.* (*supra*), to be clear, 'from the nature of our complex form of government, that whenever the statute of a state invades the domain of legislation which belongs exclusively to the Congress of the United States, it is void, no matter under what class of powers it may fall, or how closely allied it may be to powers conceded to belong to the states.' Substantially the same thing was said by Chief Justice Marshall in *Gibbons v. Ogden*, 9 Wheat, 1."

To the same effect among other cases in this Court are the following:

New Orleans Gas Co. v. Louisiana Light Co., 115 U. S., 650. (1885).

Walling vs. Michigan, 116 U. S., 446.
W. U. Telegraph Co. vs. Pendleton, 122 U. S. 347.
Bowman vs. Ry. Co., 125 U. S. 465.
Leisy vs. Hardin, 135 U. S. 100.
Minnesota vs. Barber, 136 U. S. 313.
Crutcher vs. Kentucky, 141 U. S. 47.
Brennan vs. Titusville, 153 U. S. 289.
W. U. Tel. Co. vs. Kansas, 216 U. S. 1.
R. R. Co. vs. Brewing Co., 223 U. S. 70.
Savage vs. Jones, 225 U. S. 501.
Crenshaw vs. Arkansas, 227 U. S. 389.

This statute, however, was not passed by the State of West Virginia under any alleged reserved police power. The State may ultimately invoke the "convenient apologetics" of this power, but its Answer sets forth that the powers sought by said statute are enforceable because of some peculiar right of use and interest of the public of West Virginia in the gas produced in that State which is superior and prior to any right to introduce the same in interstate commerce.

VII. (d) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED CORPORATE FRANCHISE REGULATION BY THE STATE OF WEST VIRGINIA, EITHER AS TO DOMESTIC, OR FOREIGN CORPORATIONS, ENGAGED IN INTERSTATE COMMERCE.

This West Virginia statute, regulating the transmission and supply of natural gas, cannot be supported as a corporate franchise regulation, either as to domestic corporations engaged in interstate commerce therein, nor as to foreign corporations there engaged in inter-

state business. The power of the State over said corporations, by the Commerce Clause of the Federal Constitution, is atrophied. It cannot be exercised so as to burden, interfere with, regulate, prevent or prohibit the interstate business of said corporations. A constitutional power over intrastate corporations may not be exercised to obtain an unconstitutional result, the control of interstate business.

The power of a State, under any alleged corporate franchise regulation, to regulate the doing of local business is not unrestricted or absolute. This power must be exercised subject to the limitations of the United States Constitution. The exertion of that power over either a domestic or a foreign corporation, engaged within the State in both local and interstate business, in such a way as to directly or by its necessary operation burden the interstate commerce of said corporation, is unconstitutional.

The franchise or other powers of a State over its domestic corporations may not be so exerted as to prohibit those corporations from exercising their right under the Federal Constitution to lawfully engage in interstate commerce, or to directly hinder, burden or interfere with their exercise of that right, or to discriminate against those domestic corporations engaged within the State in such commerce.

Oklahoma v. Kansas Natural Gas Co., supra.
Haskell v. Kansas Natural Gas Co., supra.
Haskell v. Cowham, supra.

Illuminating cases recently decided by this court, where States have sought to control or regulate interstate commerce by statutes specifying the terms or conditions upon which corporations could transact busi-

ness within such States, providing corporate franchise regulations and the like, are the following:

Western Union v. Kansas, 216 U. S. 1.
The Minnesota Rate Cases, 230 U. S. 352.
Sioux Remedy Co. v. Cope, 235 U. S. 197.
International Paper Co. v. Massachusetts, 246 U. S. 135.

Because the corporations producing gas in West Virginia and transmitting the same through pipe lines are public service corporations, the State of West Virginia in its Answer claims the right, as a corporate franchise regulation, to compel these companies to first furnish an adequate supply of gas to consumers in West Virginia, and to make up the deficit of any other public service gas company in West Virginia that has a deficit in supplying its consumers.

Whatever may be the powers of the State of West Virginia over the corporations doing an exclusively intrastate business, the power of the State over corporations engaged in interstate business is limited by the Commerce Clause of the Federal Constitution, and any power which the State of West Virginia might otherwise possess and have the right to exercise, cannot be exerted upon this interstate commerce if it will have the effect of burdening, interfering with or regulating such interstate commerce.

It has already been argued, and the evidence demonstrates, that the effect of the operation of the statute will be not only to burden, interfere with, and regulate, but to absolutely prohibit and prevent, the export of gas from the State of West Virginia.

VII. (e) THE STATUTE CANNOT BE SUSTAINED BECAUSE IT APPLIES EQUALLY TO BOTH DOMESTIC AND NON-RESIDENT PERSONS AND TO INTRASTATE AS WELL AS INTERSTATE COMMERCE, AND THE INTERBLENDING OF INTRASTATE AND INTERSTATE COMMERCE.

The West Virginia statute in controversy can derive no constitutional justification on the ground that it applies equally to domestic and non-resident persons engaged in furnishing gas to or for use of the public in West Virginia, nor as subjecting intrastate and interstate commerce within the limits of the State to the same regulations.

The Oklahoma statute in *Oklahoma v. Kansas Natural Gas Co., supra*, expressly forbade domestic corporations from transmitting or transporting natural gas out of the State, or disposing of said gas for such exportation, and also prohibited and prevented the transmission or transportation of natural gas from the State by foreign corporations.

In *Haskell v. Cowham, supra,* the statute of Oklahoma of 1907 was held unconstitutional, as it only permitted pipe lines to be laid on or across State highways by domestic corporations which were forbidden to transmit natural gas from the State, or to sell it for transmission, on pain of forfeiture of their charters.

The statute prohibiting the transportation of natural gas from the State, condemned in *State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co., supra,* applied to domestic as well as foreign persons transmitting or transporting natural gas out of the State.

In the *State Freight Tax Case,* 15 Wall. (82 U. S.), 232 (1872), *supra,* Mr. Justice Strong thus answered the contention that a State might constitutionally subject interstate commerce to the same regulation as imposed on domestic commerce in the absence of action by Congress (page 276):

> "Nor is it at all material that the tax is levied upon all freight as well that which is wholly internal as that embarked in interstate trade. * * * The state may tax its internal commerce, but if an act to tax interstate commerce is unconstitutional, it is not cured by including within its provisions subjects within the domain of the state. Nor is a rule prescribed for carriage of goods through, out of or into a state any the less regulation of transportation because the same rule may be applied to carriage which is wholly internal."

This passage is quoted and applied by Mr. Justice Bradley, in *Philadelphia Steamship Co. v. Pennsylvania,* 122 U. S. 326 (1887), *supra.*

In a previous case in the same year, *Robbins v. Shelby Taxing District,* 120 U. S. 489, (1887), the same principle was stated.

See also *Wabash, etc. Ry. Co. v. Illinois,* 118 U. S. 557 (1886), *supra.*

Minnesota v. Barber, 136 U. S. 313 (1890), *supra.*

Galveston, Harrisburg, etc. Ry. Co. v. Texas, 210 U. S. 217.

Ohio Railroad Commission v. Worthington, 225 U. S. 101 (1912).

Texas & N. O. R. R. Co. v. Sabine Tram Co., 227 U. S. 111 (1913).

Railroad Commission of Louisiana v. Texas & Pacific Ry. Co., 229 U. S. 336 (1913); all *supra*.

The interblending of intrastate and interstate commerce cannot operate to deprive Congress of the exclusive jurisdiction conferred upon it by the Commerce Clause of the United States Constitution.

The general principle is stated and many of the leading authorities cited by Mr. Justice Hughes in the *Minnesota Rate Cases*, 230 U. S. 352 (1913).

> "There is no room in our scheme of government for the assertion of State power in hostility to the authorized exercise of Federal power. The authority of Congress extends to every part of interstate commerce, and to every instrumentality or agency by which it is carried on; and the full control by Congress of the subjects committed to its regulation is not to be denied or thwarted by the commingling of interstate and intrastate operations. This is not to say that the nation may deal, with the internal concerns of the State, as such, but that the execution by Congress of its constitutional power to regulate interstate commerce is not limited by the fact that intrastate transactions may have become so interwoven therewith that the effective government of the former incidentally controls the latter. This conclusion necessarily results from the supremacy of the national power within its appointed sphere. *McCulloch v. Maryland*, 4 Wheat. 316, 405, 426; *The Daniel Ball*, 10 Wall. 557, 565; *Smith v. Alabama*, 124 U. S. 465, 473; *Baltimore & Ohio R. R. Co. v. Interstate Commerce Commission*, 221 U. S. 612, 618, 619 [Hours of employment case];

Southern Railway Co. v. United States, 222 U. S. 20, 26, 27 [Safety appliance case]; *Mondou v. N. Y. N. H. & H. R. R. Co.*, 223 U. S. 1, 47, 54, 55 [second employers' liability case.]"

Also see *Illinois Central R. Co. v. Behrens*, 233 U. S. 473 (1914).

And *Phila. & Reading R. Co. v. Hancock*, 253 U. S. 284 (1920).

VII. (f) THE STATUTE CANNOT BE SUSTAINED BECAUSE SOME OF THESE COMPANIES ALSO DO SOME LOCAL BUSINESS, BY DISTRIBUTING NATURAL GAS AT CERTAIN POINTS FROM THEIR PIPE LINE SYSTEMS TO LOCAL COMMUNITIES.

The fact that these interstate gas companies, whether domestic corporations or not, are also engaged in rendering a local public utility service to certain definite communities, does not increase the authority of the State of West Virginia to exercise its regulatory power in such manner, as to directly interfere with and substantially destroy the constitutional freedom of such gas companies to carry on such interstate business independent of State molestation and restriction.

State Freight Tax, case 15 Wall. (82 U. S.) 232 (872), *supra*.

Hall v. DeCuir, 95 U. S. 485 (1877), *supra*.

LeLoup v. Mobile, 127 U. S. 640 (1888).

Crutcher v. Kentucky, 141 U. S. 47 (1891), *supra*.

Allen v. Pullman Co., 191 U. S. 171 (1903).

In *Western Union Telegraph Co. v. Kansas*, 216 U. S. 1 (1910), this Court said:

> "We cannot fail to recognize the intimate connection which, at this day, exists between the interstate business done by interstate companies and the local business which, for the convenience of the people, must be done or can generally be better and more economically done by such interstate companies rather than by domestic companies organized to conduct only local business. It is of the last importance that the freedom of interstate commerce shall not be trammeled or burdened by local regulations which under the guise of regulating local affairs really burden rights secured by the Constitution and laws of the United States. While the general right of the States to regulate their strictly domestic affairs is fundamental in our constitutional system and vital to the integrity and permanence of that system, that right must always be exerted in subordination to the granted or enumerated powers of the general government, and not in hostility to rights secured by the supreme law of the land. * * * ." (Underscore ours.)

See also *Ohio Railroad Commission v. Worthington*, 225 U. S. 101 (1912), *supra*.

South Covington & Cinc. Street Ry. Co. v. City of Covington, 235 U. S. 537 (1915), *supra*.

The State of West Virginia seeks to take advantage of the fact that these great interstate gas com-

panies do a small local business by supplying a comparatively small quantity of gas, from their gas in transit through their interstate transportation systems, to communities or industries along their interstate lines in West Virginia.

Seizing upon this situation, the State by this statute seeks to regulate, burden, interfere with, in fact prevent and prohibit, all interstate business of these gas companies, by extending the severely localized business of each of said gas companies, without their consent, over the whole State, and to the entire population of the State, domestic, industrial and other, thus seizing all of their business.

By pretending to regulate and control this small per cent. of local business, the statute by its operation would turn from its flow into Pennsylvania, Ohio and other States, all the gas produced by these companies in West Virginia, and force it into lines for delivery within the State of West Virginia. It not only burdens and regulates the interstate transportation system, but seizes the very article while en route in interstate commerce, and compels its diversion from delivery in other States to delivery throughout the State of West Virginia.

VII. (g) THE STATUTE CANNOT BE SUSTAINED BECAUSE THOSE INTERSTATE GAS COMPANIES, IF THERE ARE ANY, WHICH ARE NOT PUBLIC SERVICE COMPANIES UNDER THE LAW OF WEST VIRGINIA WOULD NOT BE AFFECTED.

The answer to any such contention, if made, is found in the words of the Court in *Louisville & Nashville R. Co. v. Eubank*, 184 U. S. 27 (1902). Referring to the point before us, Mr. Justice Peckham, speaking for the Court, declared (pages 41, 42):

> "It seems also to be thought that there is no regulation of commerce, provided it is not interfered with or regulated in all ways by which transportation of commodities between interstate localities may be accomplished; that if the commodity (tobacco in this case) can be transported by any other means or route, or by any other individual or corporation than the one affected by the regulation, commerce is not regulated within the constitutional meaning. On the contrary, it seems quite clear that any law which in its direct result regulates the interstate transportation of a single individual carrier, or company of carriers, violates the provision in question; that it is no answer that the commodity can still be transported by another carrier or by water instead of rail, so long as the direct effect of the State legislation is to regulate the transportation of the commodity by a particular means, by rail instead of by water, or by a particular individual or company."

It will no doubt transpire that some of the foregoing reasons will not be urged by the State of West Virginia as bases for sustaining the constitutionality of the statute in controversy.

As this brief of argument had to be prepared (this being a case of original jurisdiction) before the contentions of the defendant could be fully ascertained,

it was deemed advisable to anticipate, as far as possible, every imaginable reason for sustaining said statute that could be assigned by the defendant.

It is hoped that by pursuing this course this Court will not have been subjected to an unreasonable and unnecessary burden.

VIII.

THE POSSIBILITY THAT THE STATE OF WEST VIRGINIA MAY EXERCISE SOME FORBEARANCE AND THAT THE STATE PUBLIC SERVICE COMMISSION MAY EXERCISE A LIBERAL DISCRETION IN THE ENFORCEMENT OF SAID STATUTE, IN NO SENSE MITIGATES THE REPUGNANCY OF SAID STATUTE TO THE COMMERCE CLAUSE OF THE UNITED STATES CONSTITUTION.

Chief Justice Marshall in *Brown v. Maryland*, 12 Wheaton, 419 (1827) said:

> "Questions of power do not depend on the degree to which it may be exercised. If it may be exercised at all, it must be exercised at the will of those in whose hands it is placed."

In *Western Union Telegraph Co. v. Kansas*, 216 U. S. 1 (1910), *supra*, this Court said:

> "But it is said that none of the authorities cited are pertinent to the present case, because the state expressly disclaims any purpose by the statute in question to obstruct or embarrass interstate commerce. * * * But the disavowal by the state of any purpose to burden interstate commerce cannot conclude the question as to the fact of such a burden being imposed, or as to the unconstitutionality of the statute as shown by its necessary operation upon interstate commerce."

The answer of the State of West Virginia, filed in this case, makes discussion of this point purely theoretical. It has asserted its right, under the statute, to compel the delivery to its consumers of an adequate supply of gas, although such gas was at the time in transit to consumers in other states, through interstate transmission lines.

IX.

THE WEST VIRGINIA STATUTE SO INVOLVES THE REGULATION OF BOTH INTRASTATE AND INTERSTATE TRANSMISSION OF NATURAL GAS, THAT BY NO POSSIBLE CONSTRUCTION COULD IT BE UPHELD WITHOUT BEING SO REMODELED THAT IT WOULD BE A MERE SPECULATION WHETHER THE LEGISLATURE WOULD HAVE PASSED IT IN ITS NEW FORM, AND THIS COURT CANNOT RESHAPE SAID STATUTE SIMPLY BECAUSE IT EMBRACES ELEMENTS THAT IT MIGHT HAVE REACHED IF IT HAD BEEN DRAWN WITH A DIFFERENT MEASURE AND INTENT.

In *Oklahoma v. Wells Fargo & Co.*, 223 U. S. 298 (1912), the Oklahoma tax of 1910 on the gross revenues of corporations was under consideration by this Court, and whether certain parts could be sustained without the others was argued. Mr. Justice McKenna said (p. 302):

> "Whether the statute could be construed as separable of course would be ultimately for the State court in any event. *Telegraph Co. v. Texas*, 105 U. S. 460. But we see no possible construction upon which it could be upheld without being so remodeled that it would be a mere speculation whether the legislature would have passed it in the new form. Neither the court below nor this court can reshape the statute simply because it embraces elements that it might have reached if it had been drawn with a different measure and intent."

Chief Justice Elliott, in *State ex rel, Corwin v. The Indiana & Ohio Oil, Gas & Mining Co.*, 120 Ind.

576 (1889), *supra*, in condemning an Indiana statute which prohibited the transportation of natural gas from the State as repugnant to the commerce clause, declared (p. 578):

> "The provisions of the statute are so interlocked that separation is impossible. Where the provisions of a statute are so closely blended that a separation cannot be effected without substituting another law for that intended to be enacted, none can be made by the courts. *Griffin v. State ex rel.*, 119 Ind. 520."

X.

THE NATURAL AND NECESSARY OPERATION AND EFFECT OF SAID STATUTE WILL BE TO IMPAIR THE OBLIGATION OF CONTRACTS.

This question may be considered:

First. With reference to the contracts made between the State of West Virginia and the interstate natural gas companies;

Second. With reference to the contracts made by these interstate natural gas companies with consumers in other States and with other natural gas companies in West Virginia and other States, and with the States of Pennsylvania, Ohio, &c.

A statement of the fact situation is the best argument that could be made under the above contentions.

The State of West Virginia, by charter to those gas companies organized under the laws of West Virginia, and by permits or certificates to the companies organized under the laws of other States and doing business in West Virginia, has entered into a contract with said corporations substantially to this effect: Those natural gas companies organized under the laws of West Virginia, and foreign gas companies admitted into said State, have the right to engage in a certain business within the State of West Virginia. The character of that business is set forth specifically, including the location of the principal place of business and its chief works; and the object and purpose for which the corporation was formed, and the kind and character of business in which it was to engage.

Gas companies incorporated under the laws of other States, and authorized to do business in West Virginia, were granted the same rights, powers and privileges, and were subject to the same regulations, restrictions and liabilities, as were conferred and imposed upon corporations chartered under the laws of West Virginia.

The State reserved the right, by Act of its legislature of 1867, to alter any charter or certificate of incorporation thereafter granted, and to alter or repeal any law applicable to such companies. Prior to that time there was no such right in the legislature.

Every application for charter, (Section 2899, c. 54, Code of West Virginia), had to set forth:

> "The object and purposes for which this corporation is formed are as follows: (Here insert fully the objects and purposes for which the corporation is formed, the kind or character of business in which it is to engage * * *)."

These gas companies accordingly took up leases, drilled wells, developed their gas fields, purchased gas from other producers, constructed their pipe lines, compressing stations, and the like, built their distributing systems in the cities, towns and villages they had agreed to supply, and continued their transportation systems through West Virginia across the State lines into Pennsylvania, Ohio and other States. In these other States they made contracts for the delivery of gas to consumers and to other gas-distributing companies and to the States themselves. Contracts were also made for the delivery of gas to other gas-transmission companies in West Virginia for transmission through their own system of pipe lines into other States.

There thus grew up and was developed this vast interstate transportation and transmission system and

interstate commerce in natural gas that have already been fully described in this brief of argument. The investment therein of these great interstate companies aggregates several hundred million dollars.

Now, after all these years, after these contracts by charter, and this course of dealing by and between the State of West Virginia and the natnatural gas companies, and by and between the natural gas companies and their consumers in West Virginia and in other States, for over a quarter of a century, the State of West Virginia, by the statute in controversy, undertakes to compel the natural gas companies operating in the State to increase their territory in West Virginia to be supplied, from perhaps one small community to communities and centers of population throughout the whole State, and to all residents of the State who may desire to consume the gas, and further undertakes to compel every gas company operating in the State to supply every other gas company operating in the State with enough gas to make up the deficit of such other company, if it has a deficit, in supplying consumers in West Virginia, and it further undertakes to compel every gas company in West Virginia, before it can transmit or transport any gas out of the State, to adequately supply not only its own consumers but every other consumer in the State, if so ordered by the authorities of the State. And all this without regard, first, to the contract between the State and these gas companies; secondly, without regard to the contract obligations which these companies may have entered into under the former regime before the passage of this Act; thirdly, without regard to the wishes, the capital, or the property of these gas companies or the effect of such changes upon the respective gas companies; and, fourthly, without regard to the investment of hundreds of millions

of dollars by these gas companies, in leases, wells, pipe lines, and compressor stations, and in the vast system of obtaining, producing, transmitting and selling natural gas in interstate commerce.

FIRST. The statute in controversy impairs the obligations of the contract made by the State of West Virginia with the natural gas companies operating in that State.

New, unusual and extraordinary burdens are placed upon these gas companies by the provisions of the statute in controversy, such as:

being compelled to enlarge their territory of supply throughout the State;

being compelled to supply all consumers, industrial and others as well as domestic;

being compelled to make connections with other gas companies and supply them with enough gas to make up the deficit of such other companies, if so ordered by the State authorities;

being compelled to give an adequate gas supply to all consumers alike in West Virginia before supplying any gas to any consumers outside of the State;

being compelled to abandon their interstate transmission and sale of gas, incurring thereby losses of hundreds of millions of dollars in plant and equipment.

None of these obligations was contemplated by their charters or previously enjoined by the laws of West Virginia.

All of these obligations are not only in conflict with the contract as made by the State of West Virginia with these gas companies, by the granting of charters to them, but are also in conflict with and directly opposed to the course of dealing between the State and these companies under said contracts, which has prevailed and been observed, recognized and permitted for over a quarter of a century, during which time, on the strength of this interpretation of the contract, these gas companies have made investments of hundreds of millions of dollars.

If it be argued that these changes are authorized by the reservation of the right to alter and amend charters under the provisions of the Corporation Laws of West Virginia of 1867, above referred to, then the answer is that this Court in *Railroad Company v. Commission of Wisconsin*, 237 U. S. 220, 234, said:

> "We would be very averse to deciding that, without explicit declaration, every general law of the State applicable to corporations is enacted as an amendment to their charters. * * * It is one thing to decide that corporations are subject to the police power of the State, and quite another to hold that every general law is an amendment to their charters."

Unless the statute in controversy can be defended under this provision of the West Virginia law as an amendment to the charters of these corporations, and it cannot be, then the statute in controversy directly affects, burdens, imposes new duties upon, entirely changes, and therefore impairs the obligations of the contract theretofore made by the State of West Virginia with these respective gas companies.

Miller v. The State, 15 Wall. 478.

Adirondack Railway v. New York State, 176 U. S. 335, 344.

Berea College v. Commonwealth of Kentucky, 211 U. S. 45.

Carondelet Canal Co. v. Louisiana, 233 U .S. 362, 377.

SECOND. The statute in controversy impairs the obligation of contracts made by these interstate natural gas companies with consumers and with other natural gas companies in other States, and with natural gas companies in the State of West Virginia which have purchased gas for transmission and transportation out of West Virginia into other States.

Under the course of dealing sanctioned and approved by the State of West Virginia for over a quarter of a century, these great interstate natural gas companies built their systems of pipe lines from West Virginia into these other States for the purpose of transmitting gas into such other States, and made contracts for the sale of such gas to consumers in these other States and to the States themselves. They also made contracts with other gas companies in such other States for the delivery of gas for transmission and distribution by such other companies in such other States. They also made contracts with gas companies in West Virginia engaged in interstate transmission for the sale of gas to be transported and transmitted into these other States.

All of these contracts are with one fell swoop utterly destroyed by the statute in controversy, because by the enforcement of the provisions of said statute the gas companies in West Virginia are forced and compelled to ignore such contracts, disregard the same, and supply

gas intended and consigned for delivery under said contracts, to other parties and other consumers in the State of West Virginia. No contract is excepted. Gas that has reached the border line of the State in transmission under these contracts to parties outside of the State, under the provisions of the statute in controversy, is there embargoed and its return to be supplied to consumers in West Virginia is compelled under heavy fines and penalties.

A more direct impairment of the obligation of a contract would not have resulted if this statute had in express terms provided that "notwithstanding your contracts with Ohio, Pennsylvania, Indiana, Maryland, Kentucky, and the United States Government, and notwithstanding the obligation thereof, and notwithstanding the fact that you are in the midst of the performance of these contracts in accordance with their terms, they shall not be regarded, they shall have no effect, they shall not avail, but you must supply all of this gas to consumers in the State of West Virginia."

XI.

THE NATURAL AND NECESSARY EFFECT OF SAID STATUTE IS TO DENY TO CITIZENS OF PENNSYLVANIA, OHIO AND OTHER STATES, THE PRIVILEGES AND IMMUNITIES GRANTED BY SAID STATUTE TO CITIZENS OF WEST VIRGINIA.

The language of the Constitutional provision, Article XIV, invoked by the above point, is as follows:

> "* * * No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

While this Article of the Federal Constitution does not necessarily relate to the prohibition against State interference with interstate commerce, nevertheless the vast majority of the cases in which this Court has been called upon to pass upon Article XIV, were cases likewise involving the question of interstate commerce.

This emphasizes the thought that whenever the discrimination or the deprivation prohibited by Article XIV has been attempted by any State, it has been directed more particularly against non-residents.

We are not left to conjecture as to the purpose of the statute of West Virginia. In the Answer filed by the State of West Virginia, the State baldly and boldly asserts the West Virginia has the right to require that West Virginia gas shall be supplied to West Virginia consumers until they shall have obtained an adequate

supply, and that this right of West Virginia consumers is superior and prior to any right or authority in the owner to introduce this gas into interstate commerce, &c.

It is manifest from an examination of the statute itself, and it is expressly stated in the Answer of the State of West Virginia in this case, that the very purpose of this Act is to discriminate in favor of consumers in West Virginia against consumers in other States. Every provision of the statute is drawn with this design and purpose in view.

The evidence in the case shows the effect of the operation of the statute will be, briefly stated, as follows:

First. It will give to all classes of consumers in West Virginia, domestic, industrial and others, an adequate supply of natural gas, (the best fuel known to man for comfort, convenience and economy), in preference to consumers of any kind in other states.

Second. It will give to industries in the State of West Virginia advantages in competition with industries engaged in like lines of business, located outside of West Virginia.

Third. It will encourage and induce industries now located in other States to transfer their plants to West Virginia, so as to obtain the advantage of the use of natural gas.

Fourth. It will practically deprive consumers of natural gas in Pennsylvania, Ohio, and other States, of the use of natural gas for fuel, and thus place them at a disadvantage as compared with consumers in West Virginia, in comfort, convenience, economy and business.

FIFTH. As between citizens of West Virginia it will enable those gas companies and individuals who are shipping gas out of the State in interstate commerce, but who are not engaged in furnishing gas within the State, to continue their business while all others are prohibited.

This Court said in *Connolly v. Sewer Pipe Co.*, 184 U. S. 540, 558:

> "What may be regarded as a denial of the equal protection of the laws is a question not always easily determined, as the decisions of this court and of the highest courts of the States will show. It is sometimes difficult to show that a State enactment, having its source in a power not controverted, infringes rights protected by the National Constitution. No rule can be formulated that will cover every case. * * * . In *Hayes v. Missouri*, 120 U. S. 68, 71, we said that the Fourteenth Amendment required that all persons subject to legislation limited as to the objects to which it is directed, or by the territory within which it is to operate, 'shall be treated alike, under like circumstances and considerations, both in the privileges conferred, and in the limitations imposed.' 'Due process of law and the equal protection of the laws,' this court has said, 'are secured, if the laws operate on all alike, and do not subject the individual to an arbitrary exercise of the powers of government.' *Duncan v. Missouri*, 152 U. S. 377, 382. Many other cases in this court are to the like effect. * * * For this court has held that classification 'must always rest upon some difference which bears a reasonable and just relation to the act in respect to which the classification is proposed, and can never be made arbitrarily and without any such basis.

> * * * But arbitrary selection can never be justified by calling it a classification. The equal protection demanded by the Fourteenth Amendment forbids this. * * * No duty rests more imperatively upon the courts than the enforcement of those constitutional provisions intended to secure that equality of rights which is the foundation of free government.' "

This Court said, in *Cotting v. Stock Yards Co.*, 183 U. S. 79, 87, quoting from *Reagan v. Farmers Loan & Trust Co.*, 154 U. S. 362:

> "The equal protection of the laws which, by the Fourteenth Amendment, no State can deny to the individual, forbids legislation, in whatever form it may be enacted, by which the property of one individual is, without compensation, wrested from him for the benefit of another, or of the public. This, as has been often observed, is a government of law, and not a government of men, and it must never be forgotten that under such government, with its constitutional limitations and guarantees, the forms of law and the machinery of government, with all their reach and power, must in their actual workings stop on the hither side of the unnecessary and uncompensated taking or destruction of any private property, legally acquired and legally held."

As stated, the statute and the Answer of the State of West Virginia show that discrimination, is what was sought; the statute abridges the privileges and immunities of citizens of other States, and also discriminates between those in the same State, but justifies all this in the manner hereinbefore stated. The answer to that alleged justification has already been made.

If for the moment, for the purpose of this argument, the violation of the Commerce Clause of the Constitution be forgotten, and the fact stated by this Court, that in matters of interstate commerce there are no State lines, be remembered, then clearly the very purpose and intent of this statute, as declared therein and asserted by the State in its Answer, is to give to citizens of West Virginia an adequate supply, and to non-residents no gas, if that is necessary to first supply the demands of the citizens of West Virginia. The whole question at issue in this suit is whether or not the State has the legal right to thus discriminate against and to abridge the privileges and immunities of non-residents of West Virginia.

XII.

THE NATURAL AND NECESSARY EFFECT OF SAID STATUTE IS TO DEPRIVE THE INTERSTATE NATURAL GAS COMPANIES OPERATING IN WEST VIRGINIA OF THEIR PROPERTY WITHOUT DUE PROCESS OF LAW.

It was held in the leading case of *Oklahoma v. Kansas Natural Gas Co., supra*, after citing and quoting from decisions of this and other Courts to the effect that the surface owners, under whose lands natural gas existed, could not be deprived of the right to reduce it to possession, without the taking of private property, without due process of law; the Court continuing:

> "It surely cannot need argument to show that if they could not be deprived of the right to reduce the gas to possession they could not be deprived of any right which attached to it when in possession."

It follows that any law which takes away from the owner of gas, after it has been reduced to possession, the right to dispose of it, is the taking of property without due process of law. Especially is this true in the instant case, where by this statute the State undertakes to select the market for this gas, to reserve it for future purchasers and use within the State of West Virginia, and to compel delivery to consumers or to other gas companies exclusively in said State of West Virginia,—parties to whom the owner of said gas is under no contract relation or obligation whatever.

Sanborn, C. J., in the case of *Haskell v. Cowham, supra* said:

"But an owner who by virtue of his ownership of land or of mining leases thereof has the vested right to draw by means of wells or pumps natural gas from beneath the surface is the owner of valuable property which the State cannot take from him without just compensation and State laws and acts of the officers of a State which prevent him from taking it from the land and selling it and conveying it out of the State in interstate commerce, while they permit the withdrawal and sale of such gas in interstate commerce, necessarily violate the national Constitution, (1) because they take his property without just compensation, (*Ohio Oil Co. v. Indiana*, 177 U. S. 190, 209, 210, 20 Sup. Ct. 576, 44 L. Ed. 279; *People v. New York Carbonic Acid Gas Co.*, 196 N. Y., 421, 441, 90 N. E. 441; *Manufacturers Gas & Oil Co. v. Indiana Natural Gas & Oil Co.*, 156 Ind. 679, 59 N. E. 169, 60 N. E. 1080)."

The case of *Kansas Natural Gas Co. v. Haskell*, decided by Pollock and Campbell, District Judges, 172 Fed. 545, contains a full discussion of this question and a review of the cases in this and lower courts, and reaches the same conclusion,—that any restrictions which would prevent the owner of gas, after it has been reduced to possession, from disposing of the same in the markets of his own selection, is the taking of property without due process of law.

This same proposition may be stated in still another form:

The statute in controversy, depriving the owner of property, which is subject to sale by him, of the right to contract for such sale to any party outside of West Virginia, thereby takes from him the Constitutional liberty to make contracts.

In *Allgeyer v. Louisiana,* 165 U. S. 578, this Court had under consideration a statute of Louisiana forbidding any person in the State "to effect, for himself or another insurance on property, then in this State, in any marine insurance company, which has not complied in all respects with the laws of this State." Allgeyer mailed a letter from New Orleans to New York to an insurance company there to insure certain shipments from New Orleans to foreign ports.

Mr. Justice Peckham, in delivering the opinion of this Court, holding the statute unconstitutional, said, (page 589):

> "* * * we think the statute is a violation of the Fourteenth Amendment of the Federal Constitution, in that it deprives the defendants of their liberty without due process of law. * * * The liberty mentioned in that Amendment means not only the right of the citizen to be free from the mere physical restraint of his person as by incarceration, but the term is deemed to embrace the right of the citizen to be free in the enjoyment of all his faculties; to be free to use them in all lawful ways; to live and work where he will; to earn his livelihood or avocation, and for that purpose to enter into all contracts which may be proper, necessary and essential to his carrying out to a successful conclusion the purposes above mentioned."

The effect of the statute in controversy is to prevent the making of any contract for the sale of gas by the owner thereof to any party outside the State of West Virginia. The statute attaches such conditions to such a contract of sale, so many impediments to its fulfillment, and so many contingencies,—some of which are sure, temporarily at least, to prohibit its perform-

ance—that no man would make the purchase under such a contract, subject to such conditions, impediments and contingencies.

As has been shown by the evidence of all the experts in the gas industry who have testified in this case—experts representing all the large interstate gas companies doing business in West Virginia—the statute in controversy would prohibit the making of contracts for sale of gas outside of West Virginia.

If this is its effect, then the statute deprives the owners of natural gas in the State of West Virginia—the natural gas companies—of their liberty; the liberty to contract for the sale of their property; without due process of law.

Again, the statute in controversy would place the expensive interstate pipe line systems and facilities of these interstate natural gas companies at the service of indefinite communities and of other public service gas companies engaged in furnishing a purely intrastate service (whose supply of gas happened to be inadequate). The statute would authorize these communities and these other gas companies to avail themselves of the use of said equipment and facilities which these interstate proprietors had provided not only for the specific communities that they had professed or undertaken to serve in West Virginia, but also in Pennsylvania, Ohio and other States, and aggregating an investment of hundreds of millions of dollars.

Mr. Justice Holmes said, in *Louisville & Nashville R. Co. v. Central Stock Yards Company*, 212 U. S. 132 (1909), in declaring unconstitutional the requirements of the Constitution and statute of Kentucky, as construed by the Supreme Court of that State, requiring

that intersecting railroads deliver to each other their own cars when loaded with goods consigned to points on the connecting line, in order to facilitate through traffic (page 143):

> "There remains for consideration only the third division of the judgment, which requires the plaintiff in error to receive at the connecting point, and to switch, transport and deliver all live stock consigned from the Central Stock Yards to any one at the Bourbon Stock Yards. This also is based upon the sections of the constitution that have been quoted. If the principle is sound, every road into Louisville, by making a physical connection with the Louisville & Nashville, can get the use of its costly terminals and make it do the switching necessary to that end, upon simply paying for the service of carriage. The duty of a carrier to accept goods tendered at its station does not extend to the acceptance of cars offered to it at an arbitrary point near its terminus by a competing road, for the purpose of reaching and using its terminal station. To require such an acceptance from a railroad is to take its property in a very effective sense, and cannot be justified, unless the railroad holds that property subject to greater liabilities than those incident to its calling alone."

Let it be noted that in the above and like cases of connecting railroads, &c., the question affects the transportation alone. In the case of natural gas companies and compulsory connections of their transmission systems of pipe lines we have the added feature and most important consideration of the compulsory delivery by this connection of the gas belonging to the

interstate gas company to the company having a deficit. The statute not only gives to the company having a deficit the use of the transmission system, but also the title to and beneficial use of the property being transported through such system.

Respectfully submitted,

GEORGE E. ALTER,
Attorney General.

A. LEO WEIL,
Attorneys for Complainant.

APPENDIX

EXHIBIT "A."

HOUSE BILL NO. 59.

A BILL in relation to persons, firms and corporations engaged in furnishing or required by law to furnish, natural gas for public use within this state, to provide remedies for the enforcement of this act, and penalties and punishment for violations thereof, and to extend the jurisdiction of the public service commission and of the courts of this state with respect thereto.

Be it enacted by the Legislature of West Virginia:

SECTION 1. That every person engaged in furnishing, or required by law, (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this state, shall to the extent of his supply of said gas produced in this state (whether produced by such person or by any other person), furnish for public use within the territory of this state, and for the use of the public and every part of the public within the territory of this state in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this state, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates.

SECTION 2. That in case any person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, or for the use of the public or any part of the public within this state, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this state served by such persons, then and in that event the public service commission shall have authority, and the same is hereby conferred upon it, upon the application of any such person or any of his consumers within this state, and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such persons having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construc-

tion of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable rules and regulations and provisions for the payment of the costs and expense of making the same or for the apportionment of such cost and expense as may appear just and reasonable. *Provided, however,* that no person shall, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time, have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this state; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing or required by law to furnish, natural gas for public use in a territory within this state, if and when the said person having said excess, shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe actually furnish, to the consumers within said territory a reasonable adequate supply of natural gas.

SECTION 3. That in so far as the same shall not be in conflict with this act, all of the authority, powers jurisdiction and duties conferred and imposed on the public service commission by the act entitled, "An act to create a public service commission and to prescribe its powers and duties, and to prescribe penalties for the violations of the provisions of this act," passed February twenty-first, one thousand nine hundred and thir-

teen, as amended by the act entitled "An act to amend and re-enact sections one, two three, four, five, nine, ten, fourteen, fifteen and twenty-two, of chapter nine of the acts of one thousand nine hundred and thirteen, creating a public service commission, prescribing its powers and duties, and penalties for violation of the provisions of said chapter, and to add thereto six sections to be known as sections twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, enlarging the powers and duties of said public service commission, prescribing additional penalties and giving to the commission power to punish for contempt," passed February tenth, one thousand nine hundred and fifteen, are hereby conferred and imposed on the public service commission in respect to the subject-matter of this act, or any part thereof.

SECTION 4. That in case of violation of any provision of this act any person aggrieved or affected thereby may complain thereof to the public service commission in like manner, and thereupon such procedure shall be had, as is provided in respect to other complaints to or before said commission, and all such proceedings and remedies may be taken or had for the enforcement or review of the order or orders of said commission, and for the punishment of the violation of such order or orders, as are provided by law in respect to other orders of said commission. In case of the violation of any provision of this act, the public service commission, or any person aggrieved or affected by such violation, in his own name, may apply to any court of competent jurisdiction by a bill for injunction, petition for writ of mandamus or other appropriate action, suit or proceeding, to compel obedience to and compliance with this act, or to prevent the violation of this act, or

any provision thereof, pending the proceedings before said commission, and thereafter until final determination of any action, suit or proceeding for the enforcement or review of the final order of said commission; and such court shall have jurisdiction to grant the appropriate order, judgment or decree in the premises.

SECTION 5. That if any person, subject to the provisions of this act shall fail or refuse to comply with any requirement of the commission hereunder, such person shall be subject to a fine of not less than one hundred dollars nor more than five hundred dollars for each offense; and such person, or the officers of the corporation, where such person is a corporation, may be indicted for their failure to comply with any requirement of the commission under the provisions of this act, and upon conviction thereof, may be fined not to exceed five hundred dollars, and in the discretion of the court, confined in jail not to exceed thirty days. Every day during which any person, or any officer, agent or employe of such person shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation of such order or direction of this act, as the case may be.

SECTION 6. That any person claiming to be damaged by any violation of this act may bring suit in his own behalf for the recovery of the damage from the person or persons so violating the same in any circuit court having jurisdiction. In any such action the court may compel the attendance of the person or persons against whom said action is brought, or any officer, director, agent or employe of such person or persons, as a witness, and also require the production of all books, papers and

documents which may be useful as evidence, and in the trial thereof such witness may be compelled to testify, but any such witness shall not be prosecuted for any offense concerning which he is compelled hereunder to testify.

SECTION 7. That the word "person" within the meaning of this act shall be construed to mean, and to include, persons, firms or corporations.

SECTION 8. That the sections, provisions and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or unenforceable, the remaining parts thereof shall be and remain in full force and effect.

SECTION 9. That all acts and parts of acts in conflict with this act are hereby repealed.

Digest of Statute.

SECTION I.

Every public service natural gas company

though its business be limited in territory

or

(a) limited to domestic consumers in West Virginia and other States,

or

(b) limited to industrial consumers in West Virginia and other States,

or

(c) limited to other consumers in West Virginia and other States,

nevertheless, without regard to its charter limitations: limitations of territory, or limitations of business, to the extent of its supply produced in West Virginia,

shall furnish a supply reasonably adequate to all three classes of consumers, domestic, industrial or otherwise:

(a) throughout the whole territory of the State of West Virginia,

or

(b) within the territory of the State of West Virginia in or from which such gas is produced,

or

(c) within the territory of West Virginia through which said gas is transported,

or

(d) within the territory of West Virginia which is served by such company;

and these classes of consumers throughout the State of West Virginia shall be furnished with a reasonably adequate supply for all purposes for which gas is consumed,

or

for which gas is desired for consumption, and for which said purposes said consumers shall apply and be ready to pay lawful rates;

And this in utter disregard:

(A) that any or all of this gas may have been sold to consumers in other States;

(B) that this gas is in transit to such consumers across State lines;

(C) that the gas company is under contract to deliver and transmit such gas across the State line;

(D) that this demand will destroy the business in other States;

(E) that the plant and investment of the gas company to a large extent will be destroyed;

(F) that enormous financial losses will be suffered by consumers in other states and their lives will be endangered and they will suffer in health, comfort and convenience;

(G) that the business of every gas company in the State will be spread out over the whole State;

(H) that preference to domestic consumers against industrial and other consumers will be prevented;

(I) that new, unusual and wasteful uses of gas will be encouraged;

(J) That no gas company will know from day to day and week to week and month to month what will be the demands upon its lines, what territory it will be called upon to supply, or to what uses such gas will be applied.

SECTION II.

Whenever any public service natural gas company

has an insufficient supply for all purposes, domestic, industrial or otherwise, for its consumers within the territory served by it,

Then and in that event the Public Service Commission of West Virginia, on proof that public convenience and necessity so require,—

May order

any other public service natural gas company producing or furnishing gas in said territory,

or

transporting the same through said territory,

even though it is not engaged in supplying gas to that territory, to make up such deficiency

to

the other gas company so deficient,

during such times and on such just and reasonable terms, conditions and rates and in such amounts as the Commission may prescribe,

and

When the Commission decides that public convenience and necessity require,

it may compel connection between the pipe lines and conduits of the two companies,

and may compel laying and construction of lines for such connections,

on the terms, conditions, rules and regulations, and provisions for payment of costs and expenses, as the Commission determines.

PROVIDED:

No such order shall be made

except to the extent

The helping company

has an excess over amount required to supply its consumers in West Virginia, whether it has enough to supply its consumers in other States or not,

or

is ready and willing to furnish that same territory and give consumers therein a reasonably adequate supply;

And this in utter disregard,—

(A) of the charter rights and obligations of the company so held up; and that it may have carefully refrained from undertaking to supply some populous city it knew it could not for various reasons supply.

(B) that any or all of this gas has been sold to consumers in other States;

(C) that it is in transit to such consumers across State lines;

(D) that the gas company is under contract to deliver and transmit such gas across the State line;

(E) that this intermittent demand will destroy the business in other States;

(F) that the plant and investment of the gas company to a large extent will be destroyed;

(G) that enormous financial losses will be suffered by consumers in other States and their lives will be endangered and they will suffer in health, comfort and convenience;

(H) that no gas company will know from day to day and week to week and month to month what will be the demands upon its lines, what territory it will be called upon to supply, or to what uses such gas will be applied.

SECTION IV.

In case of violation party aggrieved
may apply for injunction or mandamus or other action to enforce orders
pending proceedings original or on review.

SECTION V.

For failure or refusal to comply with any requirement of Commission, even pending review—

party offending subject to
fine $100 to $500 each offence;

may also be indicted and on conviction fined not to exceed $500,
imprisoned not beyond 30 days;

every day separate offence;

Thus during time in which appeal may be pending or other proceedings for review,—

For thirty days
can be fined $15,000
jailed 900 days, nearly three years.

SECTION VI.

Damaged party may sue and recover damages.

FEB 27 1
WM. R. STA

IN THE

Supreme Court of the United States

15

Number 20—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Supplemental Brief for Complainant.

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TABLE OF CONTENTS

PAGES.

I. Whether the suit was not prematurely brought as no action has been taken either by the State or by the State Commission under the Statute 2

Effect of delaying action until after purpose and intent of Statute in controversy has been carried out 6-17

II. Whether the bill presents a cause justiciable between the two States parties to the action 17-37

III. Is the alleged obligation of the Public Service Gas Companies in West Virginia superior to their obligations as transporters of gas in Interstate Commerce? Can the State of West Virginia compel them to divert this gas from Interstate Commerce to furnish consumers in West Virginia? 38

(1) What is the obligation of public service natural gas companies to the State of West Virginia? 40

(a) No such obligation as that claimed by West Virginia exist as common law 44

(b) No such obligation as that claimed by West Virginia was created by statute law 52

(c) No such obligation as that claimed by West Virginia exists by reason of any charter obligations 53

Page

(2) When does natural gas after being reduced to possession enter into the stream of Interstate Commerce?..... 58

(3) If in conflict, which are paramount—obligations under the constiution and laws of West Virginia or obligations under the constitution and laws of the United States?..... 67

APPENDIX 74

Resolution of the Commonwealth of Pennsylvania authorizing the bringing of this action 74

INDEX OF CASES CITED.

Page

Atch., T. & S. F. R. R. Co. v. R. R. Comm., 173 Cal. 577 50
Calor Oil & Gas Co. v. Franzell, 109 S. W. 328..... 49
Charleston Gas Co. v. Lowe, 52 W. Va. 622..... 48
Cherokee Nation v. Georgia..... 17
Chisholm v. Georgia, 2 Dall. 419..... 19
Del Mar Water etc. Co. v. Eshleman, 140 Pac. 597 .....52, 57
Fidelity T. & T. Co. v. Kansas Nat. Gas Co., 219 Fed. 614..... 55
Gas Co. v. Swiger, 72 W. Va. 557..... 46
Georgia v. Brailsford, 3 Dall. 1..... 19
Georgia v. Tenn. Copper Co., 206 U. S. 230....10, 26, 27
Gibbons v. Ogden, 9 Wheat. 1..... 71
Gibbs v. Cons. Gas Co., 130 U. S. 395..... 49
Henderson v. Mayor of N. Y., 92 U. S. 259..... 4
Hydro-Electric Co. v. Liston, 70 W. Va., 83..... 48
Kansas v. Colorado, 185 U. S. 125.....17, 22, 24, 27
Kansas v. Colorado, 206 U. S. 46.....18, 31, 35
Louisiana v. Texas, 176 U. S. 1.....28, 30
Ludwig v. West Un. Tel. Co., 216 U. S. 146.....3, 5
Minnesota v. Barber, 136 U. S. 313..... 3
Missouri v. Illinois, 180 U. S. 208.....20, 27, 28
Missouri v. Illinois, 200 U. S. 406..... 22
Munn v. Illinois, 92 U. S. 133..... 49
New York v. McCall, 245 U. S. 345..... 49
New York v. New Jersey, (Sup. Ct. Adv. Op. 1921, p. 544).....26, 27
No. Pac. R. R. Co. v. Dustin, 142 U. S. 492..... 54
Northern Securities Co. v. U. S., 193 U. S. 335....62, 70
Oil Co. v. Indiana, 177 U. S. 190..... 59
Oklahoma Operating Co. v. Love, 252 U. S. 331..... 14
Oklahoma v. Kansas Nat. Gas Co., 221 U. S. 229.... 32

Page

Olmsted v. Morris Aqueduct, 57 N. J. L. 311 49
Pub. Serv. Comm. v. Phila., B. & R. Co., 122 Md. 438 55
Rhode Island v. Mass., 12 Pet. 657 49
Savage v. Jones, 225 U. S. 501 5
Scranton v. Scrabton R. Co., P. U. R. 1915-C 890 55
Smith v. Alabama, 124 U. S. 465 45
Towers v. United R. & E. Co., 126 Md. 478 55
United Fuel Gas Co. v. Hollanan, (U. S. Sup. Ct., not yet reported) 59

IN THE

Supreme Court of the United States

Number 20—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Supplemental Brief for Complainant.

This Court ordered that this case be restored to the docket for reargument, with special reference to the questions:

> "1. Whether the suit was not prematurely brought as no action has been taken either by the State or by the State Commission under the statute."
>
> "2. Whether the bill presents a cause justiciable between the two States parties to the action."

Complying with said order, answers to these questions, and, in addition, suggestions upon other questions raised during the previous oral argument, are respectfully submitted on behalf of complainant. As far as possible, repetition of the argument contained in the original briefs will be avoided.

I.

"WHETHER THE SUIT WAS NOT PREMATURELY BROUGHT AS NO ACTION HAS BEEN TAKEN EITHER BY THE STATE OR BY THE STATE COMMISSION UNDER THE STATUTE."

This is a suit under the original jurisdiction of this Court. Evidence was offered by complainant in support of the averments of the Bill, and by defendant in support of the averments of the Answer.

This Court, like any other court at *nisi prius*, is bound by the proofs. It must decide the questions of fact under the evidence. This question of "whether the suit was not prematurely brought as no action has been taken either by the State or by the State Commission under the statute," involves both questions of fact and of law.

The question of fact involved is: Would the effects, causing loss of life, health and property, proved by the uncontradicted evidence as sure to follow the enforcement of the statute, wait for the length of time necessary to obtain action by this Court, if complainant had deferred proceedings until after the State or its Commission had acted in accordance with the purpose and intent of the statute, and the powers sought to be given by the statute had been first exercised?

The question of law is: Is any action by the State or by its Commission necessary, before the statute, by its own terms, would produce these very effects which the uncontradicted evidence shows are sure to follow from the provisions of said statute?

This question of fact,—in reality this very suggestion of whether or not the suit was prematurely brought,—involves an intimate knowledge and consideration of the peculiarities and idiosyncrasies of the natural gas industry. It is significant that the defendant and its counsel, familiar with that industry, did not suggest this objection to the filing of this complaint, or the decision of this suit, at this time.

That the State and its Commission had not yet taken action towards the enforcement of this statute, is explained by the preliminary injunction issued by this Court, restraining such action.

Moreover, as said by this Court in *Ludwig, Secy. of State vs. Western Union Tel. Co.*, 216 U. S. 146, page 162:

> "According to well settled rules of statutory construction the validity of a statute, whatever its language, must be determined by its effect or operation as manifested by the natural and reasonable meaning of the words employed. *Henderson v. Mayor*, 92 U. S., 259, 268. If a statute by its necessary operation really and substantially burdens the interstate business of a foreign corporation seeking to do business in the State * * * then it is unconstitutional and void, although said legislature may not have intended to enact an invalid statute."

In *Minnesota v. Barber*, 136 U. S. 313, after citing and discussing authorities, it was said, by this Court at page 320:

> "Upon the authority of this case and others that could be cited it is our duty to inquire in respect to the statute before us not only whether

there is a real or substantial relation between its avowed objects and the means devised for obtaining those objects, but whether by its necessary or natural operation it impairs or destroys rights secured by the Constitution of the United States."

The statute under discussion in that case was one passed by the State of Minnesota providing for inspection in Minnesota, within 24 hours before being slaughtered, of beef offered for sale in Minnesota. The beef had been killed in Illinois and shipped to Minnesota. This Court said of this statute, at page 321:

> "The enactment of a similar statute by each one of the States composing the Union would result in the destruction of commerce among the several States so far as such commerce is involved in the transportation from one part of the country to another of animal meats designed for human food, and entirely free from disease. A careful examination of the Minnesota act will place this construction of it beyond question."

And again at page 323:

> "Our duty to maintain the Constitution will not permit us to shut our eyes to these obvious and necessary results of the Minnesota statute."

It was said by this Court in *Henderson v. Mayor of New York*, 92 U. S. 259, at page 268:

> "In whatever language the statute may be framed its purpose must be determined by its natural and reasonable effect."

The power of a court of equity to prevent by injunction contemplated or threatened injuries before they are actually inflicted, has been applied by this Court in

cases in which the injury was threatened by the enforcement of a State statute in conflict with the Commerce Clause of the Federal Constitution.

In *Savage v. Jones*, 225 U. S. 501, a manufacturer of cattle food filed his bill in equity to prevent the State officials from taking proceedings to enforce an Act of the State requiring the formula to appear on the wrapper on all such goods sold. In that case this Court said:

> "If the statute of Indiana, as applied to sales by importing purchasers in the original packages, constitutes an unwarrantable interference with interstate commerce in the complainant's product, he had standing to complain and was entitled to relief against enforcement by the defendant of the illegal demands."

Citing authorities.

The case of *Ludwig, Secy. of State v. Western Union Telegraph Co.*, 216 U. S. 416, involved a statute of Arkansas imposing on interstate companies a license tax for the privilege of filing its articles of incorporation as a condition to doing intrastate business, the license tax or fee being based on the whole capital stock of the company, whether employed within the State or elsewhere. This Court held that a suit to enjoin the enforcement of the statute was properly and timely brought, since to wait until an attempt was made to actually enforce the statute would work irreparable injury on complainant company. This Court said, at page 164:

> "In order to prevent the contemplated or threatened injury to the company the court below

properly made a decree perpetually enjoining the appellant as Secretary of State, his agents and attorneys, from making proclamation that the telegraph company has no authority to continue doing business in Arkansas."

The real inquiry is one of fact. Does the statute in controversy, as claimed by the complainant, "by its effect or operation, as manifested by the natural and reasonable meaning of the words employed," burden, interfere with, and in fact prevent and prohibit, interstate commerce in natural gas, and if it does is the Commonwealth of Pennsylvania justified in praying for this injunction now, before the injury contemplated or threatened, affecting not only property, but life and health, is actually suffered?

To put the question conversely: If by delaying proceedings the citizens of the Commonwealth of Pennsylvania would actually suffer the contemplated and threatened injuries, and action thereafter would be of no avail except to some extent to prevent the continuance of further like injuries, is not said Commonwealth, in the performance of its sovereign obligations to its people, in good faith, bound to proceed at once, without delay?

The whole purpose and intent of the statute, as shown by its terms, by the Answer of the State of West Virginia, and by the argument of its counsel, are hereafter to appropriate to the use of all classes of consumers within the State, domestic, industrial, and others, an adequate supply of gas before permitting any gas produced in the State of West Virginia to be transported across the state line to other States, as has been

the established course of business of these interstate gas companies, encouraged and sanctioned by the State of West Virginia for over a generation.

The uncontradicted evidence of the officials of every interstate natural gas company doing business in West Virginia, and of natural gas experts, shows that the carrying out of this purpose and intent will not only burden and interfere with, but will actually prevent and prohibit, the transportation of all natural gas from the State of West Virginia into other States. It would divert the natural gas, while in transit from West Virginia to other States, to the use of consumers in West Virginia. It would in effect be a seizure by the State of West Virginia, for the use of its own consumers, of natural gas committed to and in transportation in interstate commerce.

To delay action until after this purpose and intent had been carried out and effect accomplished, for whatever length of time, for even a comparatively few days, before this Court could act, would render such action of no practical value to prevent the doing of the wrong and the suffering of the injuries. In this connection this Court's attention is respectfully directed to the following considerations, namely:

1st. All of the dangers to life, health, comfort and convenience, will have been suffered by those deprived of fuel in their homes for cooking, heating, lighting, etc., though it should be for a few days only. Food in the home can be dispensed with, with less danger to life and health, and for a longer period, than can fuel in extreme cold weather.

2nd. As soon as the fuel supply is cut off, other fuel must be immediately substituted. The delay necessary to obtain an injunction, even if the parties and court acted with the utmost expedition, could not be endured, even for a few days, even for a few hours, without loss of life and health to those wholly dependent upon gas for their fuel supply.

3rd. The necessary delay, however short, incident to the change in the appliances necessary to burn other fuel in place of gas, and the obtaining of such other fuel, would occasion all of the loss of life, health, comfort, convenience and property shown by the uncontradicted evidence in the case to be inevitable from the enforcement of the statute, especially when there is taken into consideration the extraordinary demands for such appliances and fuel that would be created by millions of gas consumers clamoring at the same time for plumbers' services and fittings and fuel supplies.

4th. If consumers in Pennsylvania at any time even for a few hours or a few days are compelled to make these changes in appliances requisite for the burning of other fuel than gas (even where the construction of the houses permits such changes) after they have endured the hardships and risks to life and health, and have gone to the expense of making such changes, even though subsequently the court should declare the action of the State unwarranted, all the damage would have been done. The expense to the millions of consumers in Pennsylvania of making these changes would aggregate several hundred millions of dollars.

5th. If consumers and their families in Pennsylvania, aggregating many millions in number, as shown by the testimony, and whom the State of Pennsylvania

as *parens patriae*, represents in this litigation, are entitled, now or at any time hereafter, to the relief sought by the bill of complaint filed and now under consideration, they are entitled to the same without being first subjected to all the horrors and property losses pictured by the uncontradicted proofs in this case as sure to follow from the operation of this statute of West Virginia.

6th. This suit stands on a different footing from the ordinary proceeding by an individual to protect his private rights. It is brought by a sovereign State, pursuant to a resolution adopted by the Senate and House of Representatives and approved by its Governor. This resolution (page 21, Complaint of Pennsylvania; for the convenience of the Court reprinted as Exhibit "A" in the appendix to this brief) recites the facts (now proven by the evidence) as to the dangers to life, health, convenience and comfort, and the property losses to be apprehended from the enforcement of this statute, and directed the appeal to this Court to protect the millions of its citizens from these horrors and losses, because without action by the State these citizens were remediless. Could this State, without being recreant to its sovereign obligation, before putting into motion the machinery of the law for the protection of its citizens, have waited until much, if not all, of the evils to be apprehended had been suffered by its citizens? If by prompt action this State could save the life of a single citizen, or the health of a single family, (however poor —and the poor would suffer the most), was not its action *now* justified?

Where the complainants are States the same rule does not obtain as in litigation between private parties. When the lives and health of its people are involved the

State should act at once. No nice balancing of probabilities ought to be tolerated.

As was said by this Court in *Georgia v. Tennessee Copper Company*, 206 U. S. 230, at page 237, Mr. Justice Holmes delivering the opinion:

> "Some peculiarities necessarily mark a suit of this kind. If the State has a case at all, it is somewhat more certainly entitled to specific relief than a private party might be. It is not lightly to be required to give up quasi-sovereign rights for pay; and, apart from the difficulty of valuing such rights in money, if that be its choice it may insist that an infraction of them shall be stopped. The States by entering the Union did not sink to the position of private owners subject to one system of private law. This court has not quite the same freedom to balance the harm that will be done by an injunction against that of which the plaintiff complains, that it would have in deciding between two subjects of a single political power. Without excluding the considerations that equity always takes into account, we cannot give the weight that was given them in argument to a comparison between the damage threatened to the plaintiff and the calamity of a possible stop to the defendant's business, the question of health, the character of the forests as a first or second growth, the commercial possibility or impossibility of reducing the fumes to sulphuric acid, the special adaptation of the business to the place.
>
> It is a fair and reasonable demand on the part of a sovereign that the air over its territory should not be polluted on a great scale by sulphurous acid gas, that the forests on its mountains, be they

better or worse, and whatever domestic destruction they have suffered, should not be further destroyed or threatened by the act of persons beyond its control, that the crops and orchards on its hills should not be endangered from the same source. If any such demand is to be enforced this must be, notwithstanding the hesitation that we might feel if the suit were between private parties, and the doubt whether for the injuries which they might be suffering to their property they should not be left to an action at law."

7th. If it can be presumed (which complainant avers it cannot), considering the terms of the statute, and the avowed purpose and intent as to the enforcement and the interpretation thereof by the State of West Virginia, as declared in its Answer, that said statute will not be so enforced as to prohibit, prevent, interfere with or burden interstate commerce in natural gas by its transportation out of the State of West Virginia, any decision of this Court as prayed by the complainant that said statute is unconstitutional to this extent, could not prejudice the rights of said State or deprive it of any prerogatives it might legally possess.

All of the foregoing reasons apply equally to the State of Pennsylvania, as a consumer of gas in its public institutions, such as homes, hospitals, houses of correction, etc., and to the municipal subdivisions of said State.

The only reason why this suffering by millions of consumers in Pennsylvania, and this property loss, aggregating hundreds of millions of dollars, have not already been imposed upon them by the operation of this statute, is because the operation thereof was en-

joined by this Court, pending the final determination of the questions now under consideration. If, after the vital organs of a patient have been removed by a surgical operation, the doctors in consultation agree that the operation should not have been made, such decision would afford the patient no relief, nor would it restore his organs!

Let it be noted that no action of the State itself, nor any of its officers, is required for the enforcement of the statute. Section One, without any further action by the State officials, courts or commission, absolutely compels every gas company to furnish an adequate supply to the public of West Virginia for all purposes for which natural gas may be desired by said public.

In the Answer filed by the State of West Virginia the State admits that it proposes to enforce this statute, even to the extent of enforcing the fines, penalties and imprisonment in the statute prescribed. (Answer, p. 44). It further admits that whether or to what extent under the changed conditions brought about by the enforcement of said statute the demands of the consumers in West Virginia would deplete or diminish the supply of gas available for transportation into Pennsylvania, will be dependent upon circumstances and contingencies referred to in the Answer.

The State of West Virginia further claims in its Answer that the effect of said statute will be to give to all of the consumers in West Virginia in the statute mentioned, to the extent of the gas mentioned, a reasonably adequate supply of gas, and says that the gas is affected with the use or interest of the said public of West Virginia, and claims that this use or interest of

said public is superior and prior to any rights flowing from the introduction of said gas into interstate commerce.

It follows, therefore, from the terms of the Act itself that no further action of the State of West Virginia is necessary, and from the averments of the Answer the State unequivocally asserts its intention to enforce the Act, even by fines, penalties and imprisonment.

Under the Second Section of the Act, which provides for a supply of gas to other public service companies by gas companies having a surplus *over and above what is required to supply their consumers in West Virginia*, the Public Service Commission is given authority to order said delivery and compulsory connection of lines for that purpose. The only discretion of the Commission is as to the convenience and necessity of the *West Virginia public*. The Section expressly authorizes such order by the Commission if the company has a supply in excess of the quantity sufficient *for all consumers in West Virginia who may desire to use gas.*

The fines and penalties provided by this Act are so great, each day being made a separate offence, that no company would dare to disobey the orders of the Commission, even long enough to raise the question of constitutionality of the Act by proper proceedings in the courts. Litigation for any length of time if unsuccessful would almost bankrupt any company. The imprisonment that would follow from even a short delay might mean incarceration during the lifetime of any officer of the gas company contesting the constitutionality of the statute.

As was said by Mr. Justice Brandeis, in *Oklahoma Operating Company v. Love*, 252 U. S. 331, page 336, of the statute then under consideration, the penalties whereof were nothing like as severe as those provided for in the statute in controversy:

> "But the penalties which may possibly be imposed if it pursues this course without success are such as well might deter even the boldest and most confident."

While the provision imposing the fines and imprisonment provided by the statute in controversy might be declared unconstitutional, if that question were raised by some bold and confident officer of one of the interstate companies, nevertheless, with such deterrents, in all reasonable probability any one of the interstate companies would find it less dangerous to comply with the statute than to raise the question of its constitutionality.

If, therefore, in cold weather, these compulsory connections are made and the interstate gas companies are compelled to make up the deficit of all local companies before the State of Pennsylvania could take any action whatever, it is manifest its people consuming natural gas would be subjected to the hazards to life, health, convenience and comfort, as well as property losses, described in the Bill of Complaint and proven by the evidence to follow from the enforcement of this provision of the statute.

The Answer of the State of West Virginia sets forth in explicit terms the contention of said State, that all gas produced in the State of West Virginia must be first applied to furnishing an adequate supply to all consumers in West Virginia who may desire to use the

same, before any of said gas can be introduced into interstate commerce or transported out of the State. This may include such use as for carbon black manufacture, generally condemned as being most wasteful. Can it be open to question, from the terms of the statute, the averments of the Answer, and the argument of counsel for the State of West Virginia, that its purpose and intention are to compel the application of all the gas produced or transported in the State to the supply of domestic, industrial and other consumers in that State who may desire the same for any purpose whatever before any thereof can be taken out of the State?

Nothing remains, therefore, to be done by the State or by its Public Service Commission, except, of course, the carrying out of this purpose and intention by the actual seizure of the gas for use within the State. To delay action, therefore, until after this actual seizure is made, *which seizure the State of West Virginia avows its purpose and intention to make*, would render valueless for the protection of citizens of Pennsylvania, any judgment or decree of this Court afterwards delivered or made.

The foregoing argument has been made principally upon the theory of a controversy between private individuals. Under the sixth reason above given why this suit was not prematurely brought, it was shown by citations from this Court that in suits where the complainant is a State, "if it has a case at all it is somewhat more certainly entitled to specific relief than a private party might be," and that other "peculiarities necessarily mark a suit of this kind."

In the case in controversy the legislature by formal action by both Houses, approved by the Governor, authorized and directed the Attorney General to institute

such legal proceedings and to do all other acts necessary to protect the rights and interests of the Commonwealth of Pennsylvania and of its citizens, etc.

The resolution recited the dangers to health, comfort, convenience and welfare of the people of the State from the enforcement of the statute in controversy, as well as the enormous property losses to which they would thereby be subjected.

There was no alternative left to the Attorney General by this action of the constituted authorities. There was no discretion left to the Attorney General. The dangers to health, comfort, convenience and welfare of the people and their threatened property losses are formally recited by the resolution.

What State official thereafter had the right to say "Such results may not follow. Had we better not wait and see?" Wait for what? See what? Whether or not the gas supply to consumers in Pennsylvania under the operation of the statute in controversy will be so diminished as to really affect the health and welfare of such consumers? What family or families are to be selected on which to try the experiment? How far must the experiment go? How many are to die, or get pneumonia or tuberculosis, before action should be taken?

Can a State thus deal with life and death, health and sickness, and not bring down upon itself the execration of all right-minded men?

If this statute in controversy at any time, now or hereafter, threatens to produce the dangers and damages alleged and proved, the State has the right, and it is its bounden duty to its people, before it is too late, by the loss of a single life or the health of a single family, to protect its people.

II.

"WHETHER THE BILL PRESENTS A CAUSE JUSTICIABLE BETWEEN THE TWO STATES PARTIES TO THE ACTION."

The temptation is with difficulty resisted to trace the historical development of this jurisdiction of this Court, when all the nations of the world at this time are considering the establishment of some great International Court to settle disputes between nations. Compacts and treaties have been made with this purpose. Societies have been organized of great publicists to make propaganda for the establishment of such a court,—a court having the same jurisdiction between nations as is possessed by this Court between the States of this Union.

As was said by Chief Justice Fuller in *Kansas v. Colorado*, 185 U. S. 125, at page 146, of this jurisdiction of controversies between States:

> "Sitting, as it were, as an international as well as domestic tribunal, we apply Federal law, state law, and international law, as the exigencies of the particular case may demand. * * *."

It was said of this jurisdiction of this Court in controversies between States, by William Wirt, in his argument in the case of *Cherokee Nation v. Georgia*:

> "The erection of such a tribunal was a sublime conception and worthy of the minds which planned our Constitution."

Beginning with the quarrels between the Colonies, before the Revolution, such as those between the Penns

and Lord Baltimore, continuing after the adoption of the Articles of Confederation, when a method was provided for arbitration between the States, and which furnished the suggestion of the system of original jurisdiction which was contained in the Constitution, it was manifest to the lawyers of pre-Revolutionary times that such original jurisdiction to determine disputes between the States must be conferred on some tribunal. The power conferred was general. There were no limitations in the constitutional provision conferring such power. As was pointed out by this Court in *Kansas v. Colorado*, 206 U. S. 46, in the opinion by Mr. Justice Brewer, at pages 81, 82 *et seq.*, that while as to its legislative powers this Government is acknowledged by all to be one of enumerated powers and that it can exercise only the powers granted to it:

> "On the other hand, in Article III, which treats of the judicial department—and this is important for our present consideration—we find that section 1 reads that 'the judicial power of the United States, shall be vested in one Supreme Court, and in such inferior courts as the Congress may from time to time ordain and establish.' By this is granted the entire judicial power of the nation. Section 2, which provides that 'the judicial power shall extend to all cases, in law and equity, arising under this Constitution, the laws of the United States,' etc. is not a limitation nor an enumeration. It is a definite declaration, a provision that the judicial power shall extend to—that is, shall include—the several matters particularly mentioned, leaving unrestricted the general grant of the entire judicial

power. There may be, of course, limitations on that grant of power, but if there are any they must be expressed, for otherwise the general grant would vest in the courts all the judicial power which the new Nation was capable of exercising."

It was under this general grant of power that this Court, in *Chisholm v. Georgia,* 2 Dall. 419, held that this Court had jurisdiction in a suit brought by a citizen against a State. That decision led to the adoption of the Eleventh Amendment to the Constitution, which prohibited such actions in the future.

This Court, under this general grant of power, in 1794, in the case of *Georgia v. Brailsford,* 3 Dall. 1, tried a case before a jury, and after the jury had been charged by Chief Justice Jay, the verdict found for the defendant was duly entered.

Under this general power, as relating to controversies between the States, this Court has developed a jurisprudence founded on principles of universal application to the Federal law, to State law, and to international law, and founded upon an association of sovereign States, independent yet united, united by an agreement —the Constitution—the enforceability whereof is vested in the Supreme Court.

As was natural, in the eighty odd cases of controversies between the States that have come before this Court, objections have been made to this jurisdiction from time to time upon diametrically opposite grounds. For example, in the case of *Rhode Island v. Massachusetts,* 12 Pet. 657, Daniel Webster argued that the jurisdiction of suits between States extended only to matters ordinarily judicially cognizable, and not to suits of a political character, such as boundaries; while in later

cases exactly the opposite was contended, to wit, that the jurisdiction related solely to political questions, such as boundaries, etc.

These eighty odd cases have been controversies over a wide range of subjects,—over boundaries, riparian and fishery rights, public health, interstate commerce, obligations of the States, political and territorial questions arising out of the Civil War, etc., etc.

In the case of *Missouri v. Illinois*, 180 U. S. 208, Mr. Justice Shiras, in delivering the opinion of the Court (p. 218) reviewed the history of the grant to the Supreme Court of power over controversies between the States. He reviewed many cases in this Court, *New York v. Connecticut*, 4 Dall.; *New Jersey v. New York*, 5 Pet.; *Florida v. Georgia*, 11 How.; *Pennsylvania v. Bridge Co.*, 9 How, 11 How., 13 How., and 18 How.; *South Carolina v. Georgia*, 93 U. S.; *Wisconsin v. Duluth*, 96 U. S.; *New York v. Louisiana*, 108 U. S.; *Wisconsin v. Insurance Co.*, 127 U. S.; *Hans v. Louisiana*, 134 U. S.; and *Louisiana v. Texas*, 176 U. S.; and after this review propounded this question:

> "From the language of the Constitution and from the cases in which that language has been considered, what principles may be derived as to the nature and extent of the original jurisdiction of this Court in controversies between two or more States?"

He then states that from the language alone considered it might be concluded that, wherever a State made complaint against another State, jurisdiction attached, regardless of the nature of the complaint. He added, however:

> "But it must be conceded that upon further consideration in cases arising under different states

of facts, the general language used in *Cohens v. Virginia* has been to some extent modified."

He then cites the different classes of cases and discusses them, and calls attention to the fact that while the jurisdiction in those cases involved boundaries and jurisdiction over lands and their inhabitants, and in some instances directly affected the property rights and interests of a State, he concludes this review:

"But such cases manifestly do not cover the entire field in which such controversies may arise, and for which the Constitution has provided a remedy; and it would be objectionable and, indeed, impossible, for the court to anticipate by definition what controversies can and what cannot be brought within the original jurisdiction of this court.

An inspection of the bill discloses that the nature of the injury complained of is such that an adequate remedy can only be found in this court at the suit of the State of Missouri. It is true that no question of boundary is involved, nor of direct property rights belonging to the complainant State. But it must surely be conceded that, *if the health and comfort of the inhabitants of a State are threatened,* the State is the proper party to represent and defend them. If Missouri were an independent and Sovereign State all must admit that she could seek a remedy by negotiation, and, that failing, by force. Diplomatic powers and the right to make war having been surrendered to the general government, it was to be expected that upon the latter would be devolved the duty of providing a remedy and that remedy, we think, is found in the constitutional provisions we are now considering.

> The allegations of the bill plainly present such a case. The health and comfort of the large communities inhabiting those parts of the State situated on the Mississippi River are not alone concerned, but contagious and typhoidal diseases introduced in the river communities may spread themselves throughout the territory of the State. Moreover substantial impairment of the health and prosperity of the towns and cities of the State situated on the Mississippi River, including its commercial metropolis, would injuriously affect the entire State.
>
> That suits brought by individuals, each for personal injuries, threatened or received, would be wholly inadequate and disproportionate remedies, requires no argument."

The foregoing opinion was delivered upon a demurrer to the bill of complaint. Upon the overruling of the demurrer the case went to trial, and when it came before this Court for final determination upon the evidence, (*Missouri v. Illinois*, 200 U. S. 406), this Court, by Mr. Justice Holmes, said, of the former decision in the case, (p. 518):

> "* * * The only question presented was whether as between the States of the Union this court was competent to deal with a situation which, if it arose between independent sovereignties, might lead to war. Whatever differences of opinion there might be upon matters of detail, the jurisdiction and authority of this court to deal with such a case as that is not open to doubt."

The case of *Kansas v. Colorado*, 185 U. S., 125, followed the decision of this Court on the demurrer in *Missouri v. Illinois*. In that case the opinion was delivered

by Chief Justice Fuller, (page 139 *et seq.*) in which he said, (p. 141):

> "* * * And as the remedies resorted to by independent States for the determination of controversies raised by collision between them were withdrawn from the States by the Constitution, a wide range of matters, susceptible of adjustment, and not purely political in their nature, was made justiciable by that instrument."

He then cited with approval the opinion in *Missouri v. Illinois, and continued,* (p. 142):

> "As will be perceived, the court there ruled that the mere fact that a State has no pecuniary interest in the controversy, would not defeat the original jurisdiction of this court, which might be invoked by the State as *parens patriae,* trustee, guardian or representative of all or a considerable portion of its citizens; and that the threatened pollution of the waters of a river flowing between States, under the authority of one of them, thereby putting the health and comfort of the citizens of the other in jeopardy, presented a cause of action justiciable under the Constitution."

The State of Colorado asserted its selfish interests just as the State of West Virginia asserts hers in this case. As stated by Chief Justice Fuller, (page 143), the State of Colorado insisted that she, as a sovereign and independent State, if her material welfare demanded it, had the right to consume for beneficial purposes all the waters within her boundaries. (Substitute "gas" for "water," and West Virginia makes the same contention here).

Colorado further insisted that by the law of nations the primary and absolute right of a State is self-preservation; that the improvement of her revenues, arts, agriculture and commerce, are rights of sovereignty; that she has dominion over all things within her territory; that the moral obligations of a State to observe the demands of comity cannot be made the subject of controversy between States; and that the only controversies that are justiciable in the Supreme Court are those which prior to the adoption of the Constitution would have been just cause for reprisal, etc.

Speaking of these contentions, this Court, by Chief Justice Fuller, said, (p. 143):

> "But when one of our States complains of the infliction of such wrong or the deprivation of such rights by another State, how shall the existence of cause of complaint be ascertained, and be accommodated if well-founded? The States of this Union cannot make war upon each other. They cannot 'grant letters of marque and reprisal.' They cannot make reprisal on each other by embargo. They cannot enter upon diplomatic relations and make treaties.
>
> As Mr. Justice Baldwin remarked in *Rhode Island v. Massachusetts*: 'Bound hand and foot by the prohibitions of the Constitution, a complaining State can neither treat, agree, nor fight with its adversary, without the consent of Congress; a resort to the judicial power is the only means left for legally adjusting, or persuading a State. * * .'"

This case came before this Court on final hearing after the evidence had been taken in *Kansas v. Colorado*, 206 U. S. 46. The opinion was delivered by Mr. Justice Brewer, beginning at page 80. Said the Court:

"While we said in overruling the demurrer that 'this court, speaking broadly, has jurisdiction,' we contemplated further consideration of both the fact and the extent of our jurisdiction, to be fully determined after the facts were presented. We therefore commence with this inquiry. And first of our jurisdiction of the controversy between Kansas and Colorado.

This suit involves no question of boundary or of the limits of territorial jurisdiction. Other and incorporeal rights are claimed by the respective litigants. Controversies between the States are becoming frequent, and in the rapidly changing conditions of life and business are likely to become still more so. Involving as they do the rights of political communities, which in many respects are sovereign and independent, they present not infrequently questions of far-reaching import and of exceeding difficulty."

The Court then proceeds to consider the foundations of its jurisdiction over controversies between States, and concludes, (page 83):

"Speaking generally, it may be observed that the judicial power of a nation extends to all controversies justiciable in their nature, the parties to which or the property involved in which may be reached by judicial process, and when the judicial power of the United States was vested in the Supreme and other courts all the judicial power which the Nation was capable of exercising was vested in those tribunals, and unless there be some limitations expressed in the Constitution it must be held to embrace all controversies of a justiciable nature arising within the territorial limits of the Nation, no matter who may be the parties thereto."

In the above case the principles laid down in *Missouri v. Illinois* were then adopted and applied and the jurisdiction of the Court upheld.

In *Georgia v. Tennessee Copper Co.*, 206 U. S. 230, this Court held that a suit by a State for an injury to it in its capacity of quasi-sovereignty, even without any direct financial interest, could be maintained, and said, (page 237):

> "The caution with which demands of this sort, on the part of a State, for relief from injuries analogous to torts, must be examined, is dwelt upon in *Missouri v. Illinois*, 200 U. S. 496, 520, 521. But it is plain that some such demands must be recognized, if the grounds alleged are proved. When the States by their union made the forcible abatement of outside nuisances impossible to each, they did not thereby agree to submit to whatever might be done. They did not renounce the possibility of making reasonable demands on the ground of their still remaining quasi-sovereign interests; and the alternative to force is a suit in this court. *Missouri v. Illinois*, 180 U. S. 208, 241."

In the latest utterance of this court on this subject, in the case of *New York v. New Jersey*, decided in May, 1921, and reported in the United States Supreme Court Advance Opinions, at page 544, it was said, by Mr. Justice Clarke, (p. 547):

> "* * * the right of the State to maintain such a suit as is stated in the bill is very clear. The health, comfort and prosperity of the people of the State and the value of their property being gravely menaced, as it is averred that they are by the proposed action of the defendants, the state is

the proper party to represent and defend such rights by resort to the remedy of an original suit in this court, under the provisions of the Constitution of the United States. *Missouri v. Illinois*, 180 U. S. 208, 241, 243 * *; *Georgia v. Tenn. Copper Co.*, 206 U. S. 230. * * * ."

It will be observed that in the cases of *Kansas v. Colorado*, *Georgia v. Tennessee Copper Co.*, and *New York v. New Jersey*, the complainant States had no pecuniary interest, but appeared as *parens patriae* or trustee for their people, for the protection of their lives, health, comfort and convenience. In none of these cases, except that of *Georgia v. Tennessee Copper Co.*, could the individual citizens of the complainant States have maintained a suit, and in each of these cases only a portion of the citizens of the State were affected by the proposed action of the defending State. All of these conditions obtain in the case at bar.

It would seem that this Court, in *Missouri v. Illinois*, 180 U. S.; *Kansas v. Colorado*, 185 U. S.; *Missouri v. Illinois*, 200 U. S.; *Kansas v. Colorado*, 206 U. S.; *Georgia v. Tenn. Copper Co.*, 206 U. S.; and *New York v. New Jersey*, Advance Opinions, not yet reported; *supra.*; has unwaveringly and unflinchingly adopted the rule laid down by Mr. Justice Shiras in *Missouri v. Illinois*, 108 U. S., to the effect that "if the health and comfort of the inhabitants of a State are threatened, the State is the proper party to represent and defend them," in its capacity of *parens patriae* or trustee for its people, and that this court has original jurisdiction in such actions.

Under the averments of the bill of complaint and the proofs in the case, the complainant State has appeared to protect the lives, health, comfort, convenience and the rights of its citizens.

There is nothing in the case of *Louisiana v. Texas*, 176 U. S. 1, so much relied upon by the defendant, the State of West Virginia, in its argument against jurisdiction by this Court, that militates against the foregoing contention. In that case the action was brought by the State of Louisiana against the State of Texas on account of the latter's quarantine laws, or rather the manner of the enforcement thereof, claiming that it prevented citizens of Louisiana, and especially of New Orleans, from engaging in interstate commerce with people in the State of Texas; and it was to enforce this right of such citizens of Louisiana so to engage in interstate commerce, that the suit was brought by the State as *parens patriae*, etc. of such citizens.

Moreover, in the case of *Louisiana v. Texas* it was not contended by the State of Louisiana that the Texas quarantine law was void, but the sole contention was that the health officer of Texas, by rules and regulations which were approved by the Governor, produced the infraction of the Constitutional provision protecting interstate commerce. The State of Louisiana was attempting to enforce the rights of certain of its citizens to engage in commerce with citizens in Texas.

This distinguishing feature of the case from the principle laid down in *Missouri v. Illinois,* is referred to by this Court in its opinion in the latter case, (180 U. S. 208, 237), referring to its former opinion in the case of *Louisiana v. Texas*, in these words:

> "After quoting the provisions of the statute of the State of Texas, regulating the subject of quarantine, the Chief Justice proceeded to say:
>
> 'It is not charged that this statute is invalid, nor could it be if tested by its terms. While it is true that the power vested in Congress to regulate

commerce among the States is a power complete in itself, acknowledging no limitations other than those prescribed in the Constitution, and that where the action of the States in the exercise of their reserved powers comes into collision with it, the latter must give way, yet it is also true that quarantine laws belong to that class of state legislation which is valid until displaced by Congress, and that such legislation has been expressly recognized by the laws of the United States almost from the beginning of the government. * * * The complaint here, however, is not that the laws of Texas in respect of quarantine are invalid, but that the health officer, by rules and regulations framed and put in force by him thereunder, places an embargo in fact on all interstate commerce between the State of Louisiana and the State of Texas, and that the Governor permits these rules and regulations to stand and be enforced, although he has the power to modify or change them. The bill is not rested merely on the ground of the imposition of an embargo without regard to motive, but charges that the rules and regulations are more stringent than called for by the particular exigency, and are purposely framed with the view to benefit the State of Texas, and the city of Galveston in particular, at the expense of the State of Louisiana, and especially of the city of New Orleans.

'But in order that a controversy between States, justiciable in this court, can be held to exist, something more must be put forward than that the citizens of one State are injured by the maladministration of the laws of another. The States cannot make war, or enter into treaties, though they may, with the consent of Congress, make compacts and agreements. Where there is no agreement, where

breach might create it, a controversy between States does not arise unless the action complained of is state action, and acts of state officers in abuse or excess of their powers cannot be laid hold of as in themselves committing one State to a distinct collision with a sister State.

'In our judgment, this bill does not set up facts which show that the State of Texas has so authorized or confirmed the alleged action of her health officer as to make it her own, or from which it necessarily follows that the two States are in controversy within the meaning of the Constitution.'"

It was admitted in the case of *Louisiana vs. Texas* "that quarantine laws belong to that class of state legislation which is valid until displaced by Congress, and that such legislation has been expressly recognized by the laws of the United States almost from the beginning of the government," and it was the improper enforcement of such a quarantine law of which the State of Louisiana complained, because it alleged that thereby some of its citizens were prevented from engaging in interstate commerce with citizens of Texas.

If, therefore, the statement of this Court that:

"* * * Inasmuch as the vindication of the freedom of interstate commerce is not committed to the State of Louisiana, and that State is not engaged in such commerce, the cause of action must be regarded not as involving any infringement of the powers of the State of Louisiana, or any special injury to her property, but as asserting that the State is entitled to seek relief in this way because the matters complained of affect her citizens at large."

be considered with reference to the facts of the case

and the situation there described, it will be manifest that the same cannot affect the question of jurisdiction in this case, where the complaint is that the State of West Virginia has passed a law that is unconstitutional, and which law affects the lives, health, comfort and convenience of millions of the citizens of the State of Pennsylvania.

There is no question here of the complainant State undertaking to vindicate the right of its citizens to engage in interstate commerce. The case in controversy comes squarely within the principle laid down by this Court in the authorities above referred to.

The only other question, therefore, that would seem to be open is: Is the question at issue in this controversy justiciable? In other words, applying the rule laid down by Mr. Justice Brewer in *Kansas v. Colorado,* the jurisdiction "must be held to embrace all controversies of a justiciable nature arising within the territorial limits of the nation no matter who may be the parties thereto."

That action by a State prohibiting, interfering with or imposing a burden upon interstate commerce, or impairing the obligations of contracts, or taking property without due process of law, or denying to citizens of other States the privileges and immunities granted to its own citizens, presents questions justiciable under the Constitution and laws of the United States has been decided by this Court again and again. There are hundreds of such cases in the reports of the decisions of this Court. The questions presented by the complaint, and the questions raised by the answer, in the case in controversy, are therefore justiciable questions. That

the State of Pennsylvania acting under authority of and by virtue of directions contained in the resolutions adopted by the legislature of that State, approved by the Governor, to take such action as *parens patriae* and trustee of its people as the officials of that State deemed proper, has the right to maintain such action, has been adjudicated by this Court in the foregoing authorities. If such State has no such right to proceed, then are millions of its citizens affected in their lives, health, comfort, convenience and property wholly without remedy. None of them under the Eleventh Amendment could institute a proceeding against the State of West Virginia to have this law declared unconstitutional. Before the Eleventh Amendment was adopted such a suit could have been maintained by individual citizens, and this Court would have had jurisdiction because a justiciable question was presented. Why then may not the State, as the representative of the welfare of its citizens, whose lives and health are threatened, maintain such a suit, and is the question thus presented any the less justiciable? It is just such a situation as is presented in this controversy which, before the adoption of the Constitution, would have led to embargoes and reprisals, **perhaps war.**

As graphically stated by Mr. Justice McKenna, in *Oklahoma v. Kansas Natural Gas Co.*, 221 U. S. 229, of a statute which attempted by indirection to prohibit interstate commerce in natural gas:

> "If the States have such power a singular situation might result. Pennsylvania may keep its coal, the Northwest its timber, the mining States their minerals, and why may not the products of the field be brought within the principle? Thus enlarged, or without that enlargement, its influence on interstate commerce need not be pointed out.

> To what consequence does such power tend? If one State has it all states have it; embargo may be retaliated by embargo and commerce will be halted at state lines."

The foregoing argument has taken no account of what ought to be a complete answer to this question of jurisdiction. The State of Pennsylvania, as shown by the bill of complaint and by the proofs, as the owner of a large number of State institutions, using natural gas, as well as through its municipal subdivisions using natural gas—all under contract—are directly and in its own interest pecuniarily and otherwise interested in this controversy. On that account alone it has the right to maintain this suit for the protection of those rights, whether or not any of its citizens or people were likewise so interested. It will not do for the State of West Virginia to attempt to brush aside this interest with the statement (page 75, defendant's brief of argument):

> "The substantial ground upon which the plaintiffs sue is the individual grievances of their citizens sought to be redressed by the plaintiffs in their character of *parens patriae*. Subsidiary and trifling in comparison are their complaints of shortage of gas in municipalities and public institutions."

True it is that comparing the property rights of the State involved in this controversy with those rights of its citizens, the losses by the State of Pennsylvania would be out of proportion (but not even then "subsidiary and trifling"), aggregating perhaps only a few millions of dollars, as compared with hundreds of millions, and that in comparison with the lives, health, comfort and convenience of the millions of its citizens, the lives, health, comfort and convenience of only some

thousands of the wards of the State would appear disproportionate. Nevertheless the State has the right, and it is its duty, to protect the lives, health, comfort and convenience of these its own particular wards, though they aggregate but a few thousand. In fact, it owes to them a peculiar duty of protection, because they were so unfortunate as to have become State wards. So, too, the State has the right to protect its own property interests.

The argument (Defendant's brief, p. 75), "that while sovereign States have sued, these cases are controversies between West Virginia and certain gas companies," is wholly gratuitous. There is not a scintilla of evidence to justify this statement. It impugns the honesty and integrity not only of the Governor, the Attorney General, and other State officials, but of the members of the legislature of Pennsylvania which by unanimous action passed resolutions directing the State officials to institute this action.

In the bill of complaint Pennsylvania specifically sets forth that as party complainant it brought its suit for the protection of its own rights and interests, and in its own behalf, as well as in its representative capacity. Considered solely with reference to the protection of the rights and interests of the State as a State, complainant would have the same standing in this suit as a private party to demand the protection of those rights. That the value of the property, directly owned by the State, and the number of its own peculiar wards, the lives and health of whom the State is taking this action to protect, are so much less in comparison with the property rights of its people and their numbers, the lives and health of whom the State is taking this action to protect, naturally casts into shadow the direct inter-

tests of the State. Considered alone, however, those direct interests would be great and important enough to engage the attention of this Court or any other judicial tribunal in the world.

Treating the cases as brought by complainant in its representative capacity, it is respectfully submitted that this Court has jurisdiction of this controversy, whether the question of jurisdiction be tested by the principles laid down by this Court, by the principles upon which our government was established, or by the universal rule of construction of considering the mischief and the remedy. Thus, as has been shown, this Court laid down the general principle *"if the health and comfort of the inhabitants of a State are threatened the State is the proper party to represent and defend them," "as parens patriae, trustee, guardian or representative of all or a considerable portion of its citizens."*

There was a still broader principle enunciated by this Court, applicable to the present controversy, when this Court said the jurisdiction *"must be held to embrace all controversies of a justiciable nature arising within the territorial limits of the nation, no matter who may be the parties thereto."*

There is still another foundation of jurisdiction, comprehensive and far-reaching, referred to by this Court in *Kansas v. Colorado, supra.* That ground involves the fundamental considerations upon which this nation was formed. It was said by this Court, through Mr. Justice Brewer, in the above stated case, (page 80):

> "It is well, therefore, to consider the foundations of our jurisdiction over controversies between States. It is no longer open to question that by

the constitution a nation was brought into being and that that instrument was not merely operative to establish a closer union or league of States."

After referring to the enumerated legislative powers, as contrasted with the entire judicial power, granted to the nation, this Court laid down the principle that the judicial power of the nation extended to all controversies justiciable in their nature, the parties to which, or the property involved in which, may be reached by judicial processes, etc.

That the question involved here, if this suit had been brought by a private party, is justiciable, to wit, an inquiry as to whether a statute is in violation of the Constitution,—is shown by the hundreds of cases in this Court in which those questions have been considered and decided. That they should be justiciable as between States, the same as between private parties, would seem to follow. Why may not one of the States of the Union complain in this Court of another State of the Union enacting a statute in violation of the very agreement which created this Union, bound the States together, and gave jurisdiction to this Court to enforce that agreement. If the jurisdiction of this Court is tested by the general rule of construction to consider the mischief, and then the remedy by which the same is to be removed, again every reason appeals for the retention of jurisdiction. The power to negotiate and contract, make reprisals, establish embargoes, and resort to force, was taken away from the States by the Constitution. In place thereof, jurisdiction in this Court was substituted. The usual procedure if the States had remained sovereign, and West Virginia had passed the statute in controversy,—a statute claimed by Pennsylvania to grievously affect its inhabitants,—would

have been, first, protestations and then negotiations; this failing, reprisals by one embargo and then another. Perhaps total exclusion of all intercourse would have followed, or a wall of customs duties established. West Virginia would no doubt have retaliated; result, ultimately war. But Pennsylvania can neither negotiate, contract, establish embargoes, institute reprisals, or resort to force. Its only remedy, provided by the Constitution, is suit in this Court.

If this Court under the facts of this case, has no jurisdiction, then, notwithstanding surrender by the States to the Nation of the power to protect their people, the people of the State are at the mercy of any State which influenced by selfish or mistaken policy enacts a law, frankly in conflict with the Constitution of the United States. If under such circumstances a State cannot sue a State in this court, the people cannot sue a State anywhere under the Eleventh Amendment, and therefore a law frankly in conflict with the Constitution can be enforced by the enacting State, though it inflicts the loss of life, health and property upon the citizens of sister States.

III.

IS THE ALLEGED OBLIGATION OF THE PUBLIC SERVICE GAS COMPANIES IN WEST VIRGINIA (AUTHORIZED BY CHARTER TO SUPPLY GAS IN WEST VIRGINIA AND ELSEWHERE) TO FURNISH WEST VIRGINIA CONSUMERS WITH A REASONABLY ADEQUATE SUPPLY OF GAS, SO MANDATORY AND PREFERENTIAL THAT THEY ARE COMPELLED TO OBSERVE THIS OBLIGATION AS SUPERIOR AND PRIOR TO THEIR OBLIGATIONS AS TRANSPORTERS OF SAID GAS IN INTERSTATE COMMERCE, AND CAN THE STATE OF WEST VIRGINIA, CONSEQUENTLY, EVEN WHEN THE GAS IS IN TRANSIT IN INTERSTATE COMMERCE, COMPEL THESE INTERSTATE TRANSPORTATION COMPANIES TO DIVERT THIS GAS FROM SAID INTERSTATE TRANSPORTATION IN ORDER TO FURNISH THIS ADEQUATE SUPPLY TO CONSUMERS IN WEST VIRGINIA?

This question involves the consideration of:

1st. What is the obligation of public service natural gas companies to the State of West Virginia?

2nd. When does this natural gas, after being reduced to possession, enter into the stream of interstate commerce?

3rd. If in conflict, which is paramount,—obligations under the constitution and laws of West Virginia, or obligations under the constitution and laws of the United States?

Apply this contention of the State of West Virginia to a public service company engaged in the business of transporting coal, such as a railroad company. The railroad company is a public service corporation in the State of West Virginia, the same as a natural gas company. It owes to the State the obligation adequately to serve the public of West Virginia. It has the right of eminent domain and the right of condemnation of rights of way, the same as a natural gas company. It must be assumed that those rights are granted on condition (as argued in the brief of defendant with reference to natural gas companies) that the corporation furnishes this adequate service to the public of West Virginia. Could the State of West Virginia demand, and by statute compel, the railroad company to adequately supply cars to all of the public of West Virginia along its lines, even if thereby the railroad company was prevented from carrying freight in transit to points outside the State?

Again, apply the contention to an oil pipe line company transporting oil from West Virginia into other States. The pipe line company has the right of eminent domain, condemnation, etc., and owes as a public service corporation the same obligations to the State as does a natural gas company. Could the state by statute compel delivery to the refineries in West Virginia along the line of this pipe line company of the oil in the pipe lines which was in transit to points beyond the State until such refineries had obtained an adequate supply, if the effect thereof would be to prevent the delivery to refineries outside the State of the oil in transit to them under contract for delivery?

To maintain the position of West Virginia there must be some State Divinity, heretofore unknown to the law, which doth hedge this natural gas about, and which is applicable to no other product of the State.

1st. WHAT IS THE OBLIGATION OF PUBLIC SERVICE NATURAL GAS COMPANIES TO THE STATE OF WEST VIRGINIA?

It is not proposed to repeat here the argument under VII (a), pages 94 to 101 of the brief of the State of Pennsylvania, heretofore filed. Brief reference will be made to additional authorities, and some of the authorities cited by defendant will be analyzed so as to show their inapplicability.

Act of 1891, Chap. 113; West Virginia Code, Chap. 52, Sec 24, provides:

> "that a company organized for the purpose of transporting natural gas, petrolem or water * * may enter upon any land for the purpose of examining and surveying a line for its tubing and pipes, and may appropriate so much thereof as may be deemed necessary * * such appropriations shall be made and conduced in accordance with the law providing for compensation to the owners of private property taken for public use * * *. Such company shall, for the purpose of transporting natural gas, oils and water, be considered and held to be a common carrier, and subject to all the duties and liabilities of such carriers under the laws of this State."

Code of West Virginia, Ch. 42, Sec. 20, provides that where a public utility desires to condemn a right

of way and objection is made to the valuation placed upon the land by the Commissioners, such public utility shall have the right to enter upon the premises and commence its work upon paying into court the sum ascertained by the report of the Commissioners. However, as to "a pipe line company organized for the purpose of transporting carbon oil or natural gas, or both, by means of pipes or otherwise", such companies, instead of paying into court the sum ascertained by the report of the Commissioners, may elect to give bond for such sum, and thereupon may enter upon the premises and proceed with the laying of their line.

The business of these companies was twofold:

1st. Transporting and supplying gas in the State of West Virginia, constituting but a small percentage of their business, as admitted by the defendant.

2nd. Transporting gas through the State of West Virginia to markets in other States, which was and is their principal business, as contended by the defendant. (It assigning from 74% to 80% to export; Defendant's brief, page 19).

In the brief of the State of West Virginia attention is called to certain petitions filed by certain natural gas companies in condemnation proceedings in West Virginia, to show that these companies intended to use such lines to supply gas to the public in West Virginia. An examination of such petitions, however, shows that the petitioning company named those cities, towns or localities to which it was supplying gas, which it had of its own accord undertaken to supply, or that the petition was for the purpose of building a transportation line, in accord with the powers granted to such companies in their charters and in Chapter 52, Sec. 24, quoted above.

On page 89 of its brief the State of West Virginia states:

> "That these companies would have received the above special rights and privileges except upon the terms of affording adequate service to the public of West Virginia, or in contemplation of the subordination of that service to that of the people of other States, is unthinkable."

This statement ignores the chronology of events. The statute granting these powers was passed in 1891, over 30 years ago. The charters to these gas companies gave them the right to produce, transport and supply gas not only in West Virginia, but "*elsewhere.*" Two of the largest of these companies, The Manufacturers Light & Heat Company and the Carnegie Natural Gas Company, were chartered by other States and were engaged in the natural gas industry in other States, and came into West Virginia to get a supply of gas for those other States as well as for such consumers as they might thereafter obtain in West Virginia.

As stated in the brief for the State of West Virginia, speaking of the inception and growth of this transportation of gas for consumption in other States, (page 16):

> "No program of conservation was adopted or attempted, nor were efforts made to restrict the enormous and continually increasing volume of gas which, in later years, certain of its public service corporations transported, or sold for transportation, to consumers in other States. The right of these public service corporations so to dispose of their surplus in other States was not only recognized, but substantially sanctioned by permitting

them to exercise the power of eminent domain for the construction of pipe lines transporting chiefly for foreign consumption."

While this statement in the brief has the qualification that it was,

"subject only to the duty of first serving West Virginia consumers in the territory through which such lines extended."

this qualification begs the whole question at issue. The quotation is given for the facts admitted. The qualification is an argument only.

The evidence shows that at this time the enormous production of gas in West Virginia was far in excess of any demand in West Virginia, and this encouragement to the natural gas companies engaged in transportation to other States was an inducement to invest millions upon millions of dollars to develop the resources of the State. This, as has already been shown, resulted in great benefit to the State.

Oil companies were given the same powers and privileges for the same reasons, which resulted, in like manner, in the development of the oil territory of the State, to its great advantage.

It will be noted that the statute refers to companies engaged in the business of *transporting*. In no single sentence is the word "supplying" or "furnishing" even mentioned.

These companies were made common carriers under the statute. The statement of West Virginia, on page 90 of its brief, that "these companies * * * refuse to transport for other producers gas which might serve the

public in West Virginia," is wholly gratuitous, because not supported by a scintilla of evidence. It may be that the use of such companies as common carriers of gas may not be usual, but that may be explained by the peculiarities of the transportation of natural gas. Unlike coal or other commodities, gas cannot be taken out of the pipe line at a certain destination and put into cars, tanks, barrels, or on a platform. The consignee at destination must have a pipe line system, compressors, etc., and a market for its distribution.

The proposition that these natural gas companies, because public utilities, owe to the State of West Virginia the obligation of furnishing a reasonably adequate supply "for public use within the territory of this State," or if these words of the statute be disregarded or restricted and this obligation be construed "for the use of the public and every part of the public within the territory of this State in or from which such gas is produced or through which said gas is transported or which is served by such person," must be supported in one of three ways:

(a) By the common law.

(b) By statutory obligation.

(c) By the charter of the company.

(a) *No Such Obligation as that Claimed Exists at Common Law; the Statute Enlarges the Territory to be Supplied.*

That this obligation, thus enlarged, is not a common-law obligation has been shown by the authority of this and other courts in the brief of the Commonwealth of Pennsylvania, pages 94 to 103, and will not be here

repeated. The authorities cited to the contrary in the brief of the State of West Virginia do not sustain its contention, with the exception of the forced construction put upon the case of *Gas Company v. Swiger*. That decision is not binding upon this Court for two reasons:

(a) The particular statement in the opinion quoted in defendant's brief was mere dicta not directly involved in the issues before the Court.

(b) The courts of the United States are not bound by the decision of a State court as to what is or is not the common law of that State, but will decide that question according to their own judgment, as was said by this Court in *Smith v. Alabama*, 124 U. S. 465:

> "A determination in a given case of what that law (the common law) is may be different in a court of the United States from that which prevails in the judicial tribunals of a particular State. This arises from the circumstance that the courts of the United States in cases within their jurisdiction where they are called upon to administer the law of the State in which they sit or by which the transaction is governed, exercise an independent though concurrent jurisdiction and are required to ascertain and declare the law according to their own judgment. This is illustrated by the case of Railroad Company *v. Lockwood*, 17 Wall. 357. The common law prevailing in the State of New York with reference to the liabilitiy of common carriers for negligence received a different interpretation from that placed upon it by the judicial tribunals of the State."

In *Gas Co. v. Swiger*, 72 W. Va. 557, relied upon by the State of West Virginia, it was said by Judge Miller, delivering the opinion of the court (as quoted with the asterisks from the brief of the State of West Virginia, p. 91):

> "We observe that the Legislature, by general law, has conferred upon pipe-line companies, organized for transporting oil and natural gas, the right of eminent domain, and has thereby necessarily imposed upon them, as public service corporations, the right and duty of performing a public service. That right and duty is fixed as firmly as if written into the statute. * * * Pipe-line companies organized for transporting gas must serve the public with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves or by statute, or by contracts or ordinances of municipalities. * * The rights of the people are thus protected in nearly every case where the public is served by public service corporations, furnishing water, gas, electricity, or transportation."

(Citing *Charleston Gas Co. v. Lowe*, 52 W. Va. 662; *Hydro-Electric Co. v. Liston*, 70 W. Va. 83; *Calor Oil & Gas Co. v. Franzell* (Ky.) 109 S. W. 328; *Olmstead v. Morris Aqueduct*, 47 N. J. L. 311; *Gibbs v. Consolidated Gas Co.*, 130 U. S. 396; *Munn v. Illinois*, 94 U. S. 133).

Taking those words of Judge Miller with their context and inserting the omitted words shown by the asterisks, it will appear that what Judge Miller was referring to was that the public use must be fixed and definite and on terms and charges fixed by law. The whole paragraph (72 W. Va. 571) is as follows:

"On the first proposition, that the public use must be fixed and definite, and on terms and charges fixed by law, we observe first, that the legislature by general law has conferred upon pipe line companies, organized for transporting oil and natural gas, the right of eminent domain, and has thereby necessarily imposed upon them, as public service corporations the right and duty of performing a public service. That right and duty is fixed as firmly as if written into the statute. Pipe lines for transporting oil must carry oil, as railroads must carry passengers and freight, at reasonable rates, if such rates are not fixed by statute. Pipe line companies organized for transporting gas must serve the people with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves, or by statute, or by contracts or ordinances of municipalities. Are not the rights of the public so fixed sufficiently definite to answer the requirements of the law? We think so. The rights of the people are thus protected in nearly every case where the public is served by public service corporations, furnishing water, gas, electricity, or transportation. *Charleston Gas Co. v. Lowe, supra*, and *Pittsburgh Hydro-Electric Co. v. Liston*, 70 W. Va. 83, recent decisions of this court support these conclusions. *Calor Oil & Gas Co. v. Franzell* (Ky.) 109 S. W. 328, as well as *Olmsted v. Proprietors of the Morris Aqueduct*, 47 N. J. L. 311, are likewise in point. So also are the cases of *Gibbs v. Balt. Gas Co.*, 130 U. S. 396; *Munn v. Illinois*, 94 U. S. 133."

In other words, as gas transportation companies are made common carriers by the statute, they must

serve the public with gas along the entire line by receiving same for transportation and transporting and delivering the same for reasonable rates, like railroads and oil pipe line companies.

However, all of this is mere dicta. The issues involved in that case were the condemnation of a right of way under the statute, the construction of the provisions of the statute as to giving bond, and whether or not the pipe line company was a public service corporation. The extent of its powers and obligations as a public service cororation were in no sense, directly or indirectly, involved.

The cases cited by Judge Miller to support his proposition are not in point, if the excerpt be interpreted as claimed by defendant, and some of them are to the contrary.

The first is *Charleston Gas Co. v. Lowe*, 52 W. Va. 622. The court there held that it was the duty to furnish gas to the people within the city who applied therefor, because the municipality had granted the franchise to the gas company for the purpose of supplying the people of that city, and the gas company had accepted the same.

The next case is *Hydro-Electric Co. v. Liston*, 70 W. Va. 83. This case was decided under the express provisions of a statute which provided that electric companies occupying highways under the Act should furnish electric service to all persons upon its lines desiring same. Here was an express statutory requirement for the supply of service along the lines.

The next case is *Calor Oil & Gas Co. v. Franzell* (Ky.), 109 S. W. 328. That case arose under condemnation proceedings, and contains nothing whatever supporting the proposition of Judge Miller.

The next case is *Olmsted v. Morris Aqueduct*, 47 N. J. L. 311. This was also a condemnation proceeding under a statute which gave the water company the right to extend its mains outside and beyond the corporate limits of the city or town which it was supplying. It contains nothing whatever to justify the statement of Judge Miller.

The next case is *Gibbs v. Consolidated Gas Co.*, 130 U. S. 395. That case involved the question of a contract to prevent competition and create a monopoly in the supply of gas to the city of Baltimore, and neither directly nor indirectly sustains the statement of Judge Miller.

Munn v. Illinois, 92 U. S. 133, the last case cited by Judge Miller, need not be analyzed to this Court to show that it is no authority for the statement of Judge Miller.

The misapplication of the authorities quoted or referred to in the brief of the State of West Virginia is well illustrated by a citation, (Defendant's brief, page 94), from Mr. Justice Clarke, in *New York v. McCall*, 245 U. S. 345. The language quoted is as follows:

> "Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve, and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render."

In the above case the company had a franchise to supply the inhabitants of the Third Ward of the Borough of Queens, New York. What this Court decided was that having accepted the franchise for that district it had undertaken the duty to supply the inhabitants of that district, and was therefore obligated to render adequate service to such inhabitants and extend its lines accordingly, and is not an authority for the purpose cited by the defendant.

This Court's attention is particularly directed to the fact that the statute in controversy expressly enlarges the territory to be served by the gas company over that which "is served by such" company. The statute reads:

> "furnish for public use within the territory of this state and for the use of the public and every part of the public within the territory of this State in or from which such gas is produced, or through which said gas is tranported or *which is served by such person.*"

In other words, the statute provides that the company must, in addition to the territory "which is served by such person," also serve all the other territory described, whether the gas company has devoted its property to this service or not.

That a state has no such power was held in *Atch., T. & S. F. R. R. Co. v. Railroad Commission of Cal.*, 173 Cal. 577; 2 A. L. R. 975, at page 980; *et seq*:

"Again, in *Del Mar Water, Light & P. Co. v. Eshleman*, 167 Cal. 666, 680, 140 Pac. 597, Mr. Justice Shaw, said: 'But even a constitutional declaration cannot transform a private enterprise, or a part thereof, into a public utility, and thus take property for public use without condemnation and payment. The provisions of this Act could not authorize the Commission to compel such corporation to dedicate additional property to public use without additional compensation. When a corporation voluntarily devotes a part of its property to public use, it is to be presumed that it makes the dedication because it is satisfied with the return which it expects to receive and in that way it is deemed to have been compensated for such dedication. But when it is forced to devote to public use additional property which it has not dedicated to public use, or is compelled to extend its service to supply uses or territory not embraced in the original dedication, it must under our constitutional provisions, as a condition precedent, be compensated for the value of the new property taken or new use exacted. This may be done under the power of eminent domain.' * * * * .

A public utility, undertaking to supply a given public need, submits itself to the regulation and control of public authority with respect to the service which it has thus undertaken. * * * * *. But to require a public utility to devote its property to a service which it has never professed to render is to take that property, *pro tanto*, and such taking cannot be justified except under the power of eminent domain—i. e. upon just compensation."

The *Del Mar v. Eshelman* case, in 167 Cal., cited and relied upon in the above citation from the Supreme Court of California, is cited with approval and followed in *Van Dyke v. Geary*, 244 U. S. 39, by this Court in an opinion by Mr. Justice Brandeis.

(b) *The Statute Law of West Virginia, Before the Passage of this Statute in Controversy, Imposed no Obligation Upon These Natural Gas Companies of Furnishing a Reasonably Adequate Supply "For Public Use Within the Territory of this State," or, if These Express Words of the Statute be Disregarded, "For the Use of the Public and Every Part of the Public Within the Territory of This State in and From Which Such Gas is Produced or Through Which Said Gas is Transported, or Which is Served by Such Person."*

There was no statute in the State of West Virginia which purported to impose in any manner such a requirement until the statute in controversy was passed. There was such a statute relating to telegraph, telephone and electric light and power companies. (Ch. 13, Act 1907, reenacting Section 2, Ch. 4, Code of W. Va. 1899). This however was subsequently repealed.

As has already been argued, when the statutes relating to oil and gas transportation companies were passed, the State of West Virginia was anxious to encourage the development of the oil and gas industry in said State, by the transportation of oil and gas out of the State, and, accordingly, the rights and privileges to natural gas and oil transportation companies were granted without any restrictions whatever.

Under the authority cited in the original brief of the State of Pennsylvania (pages 94 to 103), and hereinabove, it has been shown that there was no such obligation under the common law, and there is no statute which so provided. This obligation, therefore, if any such exists, must be sought in the charters of these gas companies.

(c) *The Charters of The Gas Companies do Not Provide or Imply That These Natural Gas Companies as Public Utilities Owe to The State of West Virginia the Obligation of Furnishing a Reasonably Adequate Supply "For Public Use Within the Territory of this State," or if These Words of the Statute be Disregarded "For the Use of the Public and Every Part of the Public Within the Territory of this State in and from Which Such Gas is Produced or Through Which Such Gas is Transported or Which is Served by Such Person."* .....

It is significant that the State of West Virginia did not put in evidence the charters of these respective companies, to maintain its contention that these companies, or any of them, under their charters were so obligated. The State of West Virginia did put in evidence certain petitions in condemnation proceedings by some of these companies, which recited certain provisions of the charters and showed that the company was chartered to produce, transport and supply gas in West Virginia and "*elsewhere.*" In almost all cases in these petitions the towns, cities or municipalities in West Virginia that were being supplied by said companies were named and specifically set forth. Two of the companies, in fact among the largest, were Pennsylvania corporations—the Carnegie Natural Gas Company and The Manufacturers Light & Heat Company—and when they entered West Virginia they then had plants and property and

supplied consumers in other States. No inference as to charter limitation can be drawn by the State of West Virginia against those companies whose charter rights have not been specifically set forth in evidence by the State of West Virginia. Some of them have already been before this Court, as the United Fuel Gas Company—containing the same provision in its charter as to supplying gas in West Virginia "*and elsewhere.*"

Whatever may have been the charter powers or privileges, however, something more is required than the right or privilege or permission *in the charter* to supply certain or general territory. It must be shown either (a) that such provisions in the charter are mandatory, not merely permissive, or (b) that the company has actually engaged in the service, before such companies can be compelled to supply even the territory named in the charter.

In the case of *Northern Pacific R. R. v. Dustin*, 142 U. S. 492, this Court, by Mr. Justice Gray, said (p. 498):

> "If, as in *Union Pacific R. R. v. Hall*, 91 U. S. 343, the charter of a railroad corporation expressly requires it to maintain its railroad as a continuous line, it may be compelled to do so by mandamus. So if the charter requires the corporation to construct its road and to run its cars to a certain point on tide-water (as was held to be the case in *State v. Hartford & New Haven Railroad*, 29 Conn. 538) and it has so constructed its road, and used it for years, it may be compelled to continue to do so. And mandamus will lie to compel a corporation to build a bridge in accordance with an express requirement of a statute. *New Orleans etc. Ry. v. Mississippi*, 112 U. S. 12; *People v. Boston & Albany Railroad* 70 N. Y. 569.

But if the charter of a railroad corporation simply authorizes the corporation, without requiring it, to construct and maintain a railroad to a certain point, it has been held that it cannot be compelled by mandamus to complete or to maintain its road to that point, when it would not be remunerative. *York & North Midland Railway v. The Queen*, 1 El. & Bl. 858; *Great Western Railway v. The Queen*, 1 El. & Bl. 874; *Commonwealth v. Fitchburg Railroad*, 12 Gray 180; *State v. So. Minnesota Railroad*, 18 Minn. 40."

Where a charter is permissive and not mandatory, and there is no obligation either by contract or by profession or offer of service to enter upon those permissive services there is no unrestricted or uncontrolled power or authority at law to require such corporation to perform such public services.

See *Towers v. United R. & Elec. Co.*, 126 Md. 478.

Public Service Comm. v. Phila., B. & R. Co., 122 Md. 438.

Scranton v. Scranton R. Co., P. U. R. 1915 C 890.

This principle of law was applied to a natural gas company, and shown to be peculiarly applicable, in *Fidelity Title & Trust Co. v. Kansas Natural Gas Co.*, 219 Fed. 614 (1913). In that case, Marshall, D. J., at page 616, said:

"But what are the limits of the duty to the state or public? There was no specific contract or charter provision, no exclusive right granted so as to imply a contract to supply the full needs of those dependent on the monopoly and for whose

interest the grant was made. The action of the state was only permissive. The company was not obligated to build any pipe line or to furnish any gas. So far as it availed itself of this permission, its property used for the quasi-public service was affected by the public interest, and its use of the property in this business was subject to valid state regulation, but it did not become a mere agency of the state, and was under no obligation, contractual or other, to increase its investment or build new lines. It did not manufacture gas. It purchased wells and transported gas by pipe line. These wells were gradually exhausted. The lines were exteneded and more distant wells obtained until the system extended into several states. The security of the bondholders is constantly dissipated by the consumption of the property, and this method has led to the insolvency of the corporation. If by its entry into Kansas the company entered into an obligation to constantly buy new wells and extend its lines to new gas fields so as to constantly furnish to the cities of Kansas an adequate supply of gas, the security of the bondholders was, indeed, illusory. The undertaking was one necessarily ending in bankruptcy.

It is well settled that a railroad company chartered to build a particular line under a permissive charter is not liable to the state for a failure to build it, and that only so far as it does build is its property affected by the public interest. *York etc. Ry. v. Regina*, 1 El. & Bl. 858, 864; *Edinburgh, etc. Ry. Co. v. Philip*, 2 Macqu. App. Cas. 526; *State v. So. Minn. R. R. Co.*, 18 Minn. 40 (Gil. 21); *Weymouth v. Penobscot Log Driving Co.*, 71 Me. 29. And *a fortiori*, that such a company cannot be required to construct a new or branch line. I know of no reason why this well-settled principle is not applicable in this case."

The absurdity of any contrary principle cannot be better illustrated than by the case under consideration. The charters in evidence provide for the supply of certain territory in West Virginia "and elsewhere." Could any community in the States of Pennsylvania, Ohio, New York, or adjoining States to West Virginia, or elsewhere, because these companies had charters to supply gas "elsewhere", compel them to extend their lines throughout Pennsylvania, Ohio, New York, Kentucky, Indiana, or even from Maine to California?

In the decision of the court in *Del Mar Water etc. Co. v. Eshleman*, 167 Cal. 666 (1914), (which is cited with approval by this Court in *Van Dyke v. Geary*, 244 U. S. 39), a thorough discussion of this question is given. It is too long to quote at length.

> "The fact that the articles of incorporation empower the company to engage in public service does not, of itself, constitute proof that it is engaged in such public service, or that it has dedicated such property as it may own to such public service. * * * The only effect of the adoption of such articles by a corporation is to give it the capacity to engage in such public service if it so desires. After having become incorporated in this manner, it has the power to engage in such service in the same sense that an individual has power to engage in such service. It may or may not do so, and until it does, it cannot be said to be subject to the jurisdiction of the railroad commission."

2nd. When Does Natural Gas, After Being Reduced to Possession, Enter into the Stream of Interstate Commerce?

Among the priceless gifts of nature to man, natural gas has been one of the most valuable. But the rights of property therein are peculiar. As said by this Court in *Oil Co. v. Indiana*, 177 U. S. 190:

> "The owners of the surface of the land within the gas field, whilst they had the exclusive right on their own land to sink wells for the purpose of extracting the oil and gas, had no right of property therein until by the actual drawing of the oil and gas to the surface of the earth they reduced these substances to physical possession."

Wandering hither and thither, disregarding proptery and State lines, they have been likened to animals *ferae naturae*, but in the case above quoted the want of identity of the rules of law applicable to oil and gas and to animals *ferae naturae* was clearly distinguished. The right of the public to reduce to possesion natural gas, like animals *ferae naturae*, was denied. When natural gas is once reduced to possession, as has already been shown by the authority of this and other courts (Brief filed by State of Pennsylvania) it becomes a commodity of commerce, intrastate or interstate as the case may be. After being reduced to possesion gas is always in motion on its way to market. When the shell which in all cases overlies the strata in which Nature has deposited this gas, and through which it flows, is pierced with the point of the drill of the person who has the legal right to reduce this gas to possession, the gas rushes by its power of expansion up through the tubing and casing of the well and into the line

of the natural gas company on its journey to market. As was said in the natural gas primer issued by the Smithsonian Institution, approved by George H. Ashley, State Geologist of Pennsylvania, at page 7:

> "The gas is never at rest, but is a constantly seething, moving mass, traveling in the mains at enormous velocities—at a speed many times exceeding that of the fastest trains—and requires constant attention at the well and until it is burned at the consumer's fixtures."

If it flows into the lines of one of these companies engaged in the business of supplying consumers in other States, (the large bulk of the gas in the lines being so destined for export,) then, even though such company also supplies from its lines a comparatively small percentage of this gas to consumers in the State of West Virginia, nevertheless this gas so entering the lines is in interstate commerce. Moreover, as has been shown, there being no absolute property in this gas until it is actually reduced to possession, and when it is actually reduced to possession it having been committed to interstate commerce, there is no period or time when the State of West Virginia could lay its hands upon it so as to burden, interfere with or prevent its transmission in such interstate commerce.

The decision of this Court on December 12, 1921, (not yet reported) Mr. Justice Holmes delivering the opinion, *United Fuel Gas Co. v. Walter J. Hollanan et al.*, thus refers to this interstate transportation:

> "In short the great body of the gas starts for points outside the State and goes to them. That the necessities of the business requires a much smaller amount destined to points within the State

to be carried undistinguished in the same pipes does not affect the character of the major transportation. Neither is the case as to the gas sold to the three companies changed by the fact that the plaintiff, as owner of the gas, and the purchasers after they receive it might change their minds before the gas leaves the State and that the precise proportions between local and outside deliveries may not have been fixed, although they seem to have been. The typical and actual course of events marks the carriage of the greater part as commerce among the States and theoretical possibilities may be left out of account. There is no break, no period of deliberation, but a steady flow ending as contemplated from the beginning beyond the State line. *Ohio R. R. Commission v. Worthington*, 225 U. S. 101, 108; *United States v. Reading Co.*, 226 U. S. 324, 367; *Western Union Telegraph Co. v. Foster*, 247 U. S. 105, 113."

This United Fuel Gas Company, which was a party to that case, is one of the seven companies referred to in the answer and brief of the State of West Virginia in the case at bar. All of the evidence in that case, as to the matters referred to by this Court, and more, is in the record in this case. In fact, under the evidence in the record before this Court in this case some of the great interstate companies occupy even a stronger position than the United Fuel Gas Company as to their interstate business.

It is not claiming too much to contend that the very instant this gas is reduced to possession by the strata being tapped by the drill, it is destined for and committed to interstate commerce. The facts have a language of their own. They speak in terms admitting

of no contradiction. If, as is conceded by the State of West Virginia, the seven great interstate companies referred to on page 21 of the brief of the State of West Virginia, sold from 1911 to 1919 inclusive, to consumers in West Virginia, only from 11% to 17% of their net supply, and the balance was transported by these companies for consumption in other States, then it follows inevitably that from 83% to 89% of this gas was at some time while in the State of West Virginia in course of transportation or transmission from the State of West Virginia to other States, and then and there committed to interstate commerce. In other words, as shown by the uncontradicted evidence, the vast bulk of the gas in the lines of these companies is in interstate commerce; or as stated by Mr. Justice Holmes, "The great body of the gas starts for points outside the State and goes to them," under contracts for the delivery thereof previously made, or to which these companies have been committed by their engagements to supply certain other companies and certain municipalities in other States. And yet the State of West Virginia proposes by the statute in controversy to compel the diversion of this very gas, this great body of the gas which has stared for points outside the State, while in transit to these points outside the State, to the supply of consumers in West Virginia, and to divert and hold it until such consumers in West Virginia shall have obtained an adequate supply, consumers in territory the gas company may never have undertaken to supply, even if thereby, as the uncontradicted evidence shows, all the gas produced in the State of West Virginia will be appropriated under the statute to supply these consumers in West Virginia, thereby preventing and prohibiting the export of any of said gas.

In fact, the State of West Virginia in its Answer claims the right, and sets forth the alleged legal grounds upon which it claims that right, to monopolize this gas. Complainants in their original brief and in this supplemental brief have already argued the unsoundness of this contention.

The *argumentum ad hominem* has been ably, ingeniously and adroitly made on behalf of the State of West Virginia that these seven great interstate companies have acquired so large a proportion of the developed and undeveloped gas territory in the State of West Virginia, that if they continue their present interstate business, consumers in West Virginia, although the gas is produced in the State of West Virginia, will be deprived substantially of all gas for consumption in said State.

As to the utter lack of foundation of allegations of monopoly or combination of the seven companies, sufficient has been said in contradiction and denial, in the original brief on behalf of the State of Pennsylvania.

The enforcement of the principle of non-interference by a State with interstate commerce, provided by the Constitution of the United States, will not lead to the result apprehended, namely, to deprive consumers in West Virginia of the use of natural gas.

It may serve a useful purpose to show from the evidence that this apprehension is a mere figment of the imagination. It may be wise to make this showing for the reasons given by Mr. Justice Holmes in his opinion in the *Northern Securities Case, viz*:

> "Great cases like hard cases make bad law. For great cases are called great not by reason of

their real importance in shaping the law of the future but because of some accident of immediate overwhelming interest which appeals to the feelings and distorts the judgment. These immediate interests exercise a kind of hydraulic pressure which makes what previously was clear seem doubtful and before which even well-settled principles of law will bend."

Mr. Lakin, a witness for the State of West Virginia (page 1138 *et seq.*, vol. 2, Transcript of Record, who stated his official position to be a member of the State Board of Control of West Virginia, which Board has charge of all the State educational, penal, charitable and correctional institutions) gave a list, on page 1139, of such State institutions and of the companies supplying gas to these institutions. Of these 17 institutions only 5 were supplied by any one of these seven companies, the others being supplied by local companies. This is shown at page 1155 *et seq.*, Transcript of Record. The witness testified that, while the gas service by the local companies was bad, that the service by the interstate companies was good, and that each one of the institutions that was supplied by any one of these seven interstate companies obtained good service. For example, the service of the West Liberty Normal School, supplied by The Manufacturers Light & Heat Company, the witness stated was very good. At the Spencer State Hospital at Spencer, W. Va., supplied by the United Fuel Gas Company, he stated the service was excellent. The service at the Huntington State Hospital, supplied by the United Fuel Gas Company, he stated was excellent. At the West Virginia penitentiary at Moundsville, supplied by The Manufacturers Light & Heat Company, he stated the service was very good. The service at the

West Virginia Industrial Home for Girls, of Industrial, W. Va., supplied by the Pittsburgh & West Virginia Gas Company, he stated has been very good.

Witnesses for the State of West Virginia also admitted (Vol. 2, pp. 1245 to 1250, Transcript of Record) that some of these local companies had a large acreage, one of them about 12,000 acres, of developed territory which it did not drill, and that private individuals had obtained large acreages which they had drilled and were drilling to obtain gas for use in their own plants.

At pages 1347 *et seq.*, witnesses for the State of West Virginia testified that Clarksburg and vicinity were supplied by local companies only, some of which were not public service companies. This is significant because of the testimony of Governor Cornwell that he was influenced to ask the legislature to pass the statute in controversy because of representations of shortage of gas at Clarksburg made to him by manufacturers and consumers of Clarksburg.

At pages 1001, 1002 and 1003, vol. 2, Transcript of Record, a witness for the State of West Virginia gave a table showing the acreage held in West Virginia *by natural gas utilities* on December 31, 1919, there being 48 in addition to the seven companies. This table showed that such local companies held a certain percentage of undeveloped and developed territory, as compared with the seven companies, of about 7% to 93%. Some of these local companies, however, hold large acreages both of undeveloped and developed territory.

Let it be noted, however, that this list and these figures wholly ignore the large amount of gas territory held and developed by individuals, by manufacturing corporations in the State for their own use, and by the

large number of oil companies and oil operators. Such territory so held by others than the natural gas utilities listed by the witness will approximately equal in acreage the amount held by all the gas utilities in the State, certainly the seven companies. (See Vol. 1 Exhibits, pp. 1608 to 1618.)

As was shown by the testimony, gas was being developed and produced from time to time by oil operators and wildcatters (those adventurers who take up a block of leases and drill one or more wells in the hope of finding oil or gas). The gas thus developed or produced is generally sold to the nearest gas line.

Moreover, these seven interstate companies deliver to consumers in West Virginia (see admission in brief of West Virginia, page 21) from about 11% to 18% of their whole production. Figured therefore solely with reference to the West Virginia gas utilities and consumption and deducting from the acreage holdings of the seven companies the percentage devoted to West Virginia, West Virginia would be incomparably better off than any other State. As shown by the evidence, these interstate gas companies furnish satisfactory service, so that the consumers supplied by the seven companies have no cause whatever for complaint. In other words, the shortage of gas complained of, and shown by the evidence of the State of West Virginia, to consumers in West Virginia, was occasioned by the local companies not engaged in interstate commerce, which failed to perform their function as public service companies and not by the seven interstate companies. These local companies had the same or better opportunities for securing leases, drilling wells and purchasing gas from others as had the seven companies. If they failed to embrace their opportunities for want of foresight, business judgment or capital they cannot on this account de-

mand sympathy and the ignoring of the Constitution. Had any of these seven interstate gas companies failed in their function as public service companies to supply communities served by them in the State of West Virginia, they could have been, and no doubt would have been, brought before the Public Service Commission of West Virginia, upon complaint of such communities, or some of their consumers, and orders accordingly demanded. So far as the record shows, and as the fact is, no complaint has ever been made against any of these interstate gas companies on account of any failure to fully and completely perform their public service duties to the consumers in West Virginia, nor is there any evidence that they did not fully and completely perform such duties and obligations. As was shown by the evidence the West Virginia domestic consumers have not only obtained their full proportion of the available supply, but they have been lavishly supplied as compared with all others, consuming twice as much as the consumers in Pennsylvania and five times as much as those in Ohio.

From the foregoing facts it is manifest that the apprehension that all of the gas produced in West Virginia might be taken out of the State to other States and no gas, though produced in the State, supplied to consumers in West Virginia, has nothing to justify it. When the supply of gas shall have become greatly diminished the management of the great interstate companies it must be assumed will be affected by the ordinary rules and usages of trade. Such companies in the natural course of business will find it unprofitable to transport comparatively small quantities of gas long distances, and will seek their markets nearer their sources of supply, namely, consumers in the State of West Virginia.

As stated, this argument is submitted not because complainant believes it affects the determination of the principles of law involved, or that this Court could be swerved from the straight line of judicial application of settled principles of law; yet, as stated by Mr. Justice Holmes, "great cases like hard cases make bad law," and it cannot be harmful to demonstrate that there are no hardships to consumers in West Virginia to be reasonably apprehended from an inflexible enforcement of the constitutional inhibition against State interference with interstate commerce in natural gas.

3rd. If in Conflict, which are Paramount,—Obligations Under the Constitution and Laws of West Virginia, or Obligations under the Consitution and Laws of the United States?

It is unthinkable that an irresistible force can meet an immovable body. Either the power of the State of West Virginia to compel public service natural gas corporations doing business in that State to furnish to consumers in West Virginia a reasonably adequate supply of gas,—whether or not, by so compelling, interstate commerce in natural gas is interfered with, burdened, prevented or prohibited,—is the supreme law of the land; or the power of the United States to enjoin any State, including West Virginia, from interfering with, burdening, preventing or prohibiting, interstate commerce in natural gas, is the supreme law of the land.

Stripped of its dress of rhetorical plausibility, the contention of the State of West Virginia in its nakedness is this: That to enforce the duty of a public service corporation to the State of West Virginia the State

may not only burden and interfere with, but if necessary absolutely prevent and prohibit, the export of natural gas from West Virginia into other States.

It is not always easy to unflinchingly apply even thoroughly established principles of law to a fact situation where such application has a tendency to inflict on one of the parties an apparent hardship. Every case that comes before a court involves a fact situation. Thus, at this instant there is not produced in West Virginia enough natural gas to furnish a reasonably adequate supply to all of the consumers in West Virginia, domestic, industrial and others, who may now and hereafter desire the same, however wasteful may be the uses for which said gas is desired, and at the same time continue the interstate transportation of natural gas to consumers in other States, as has been the course of conduct of the business for over a generation.

Let this condition that now confronts the state be first considered with reference to the admitted fact situation which obtained when this interstate business was undertaken, instead of solely with reference to the situation in West Virginia as it exists today.

Those natural gas corporations that were incorporated in the State of West Virginia were given the right to do an interstate business. Those that were engaged in interstate business when they came into West Virginia were given the right also to do business in West Virginia. The production of gas and its consumption were of great value to the State of West Virginia. There was not enough demand in the State in the earlier stages of the natural gas development to consume but a small portion of the gas there produced. The State of West Virginia encouraged the transportation of this gas into other States, where a market there-

for could be found. It profited greatly thereby. It encouraged, permitted, acquiesced in, and authorized, the expenditure of hundreds of millions of dollars by the interstate gas companies in the development of the gas fields, the laying of pipe lines, and the building up of this interstate business. What the State of West Virginia might have done in the beginning it is not now worth while to consider. Having no title to the natural gas in the ground, and the gas not becoming an article of commerce until reduced to possession by the party having the right so to do, we are not now concerned with what if any power the State had over this gas before it was so reduced to possession.

So, too, whether or not the gas company must satisfy its consumers as they come along, those nearest getting the first service and those furthest away what is left, is not involved in this controversy, because that is what is now being done and the statute in controversy does not seek that end.

The evidence shows that interstate natural gas companies are giving their West Virginia consumers at the present time a reasonably adequate supply.

What the statute in controversy seeks to compel these interstate natural gas companies now to do is to take on in West Virginia other consumers, in territory and districts that they have never heretofore undertaken to supply, to supply to other public service corporations in West Virginia any deficit which exists upon the lines of such other public service corporations, and to discriminate against their consumers in other States in favor of every one in West Virginia who may desire to use gas for any purpose.

The statute does not undertake to equitably and ratably distribute this gas among all the consumers on the lines,—consumers in West Virginia and in other States who came on, if not by the invitation, at least by the sanction and with the approval, of West Virginia, but this statute in the boldest and baldest manner, wholly ignores the rights and claims of consumers in other States, and undertakes to discriminate in the most ruthless and cruel manner against such consumers in other states and to appropriate to the use of all persons in West Virginia who may desire to use the same all the gas produced and transported in West Virginia. In so attempting, not only is there no equity to justify this attempted wrong, but there is law to prevent its successful consummation.

It clarifies the mind, stimulates the reason, and leads to directness of application, to review even thoroughly established and elementary legal principles.

Article VI of the Constitution provides:

> "This Constitution and the laws of the United States which shall be made in pursuance thereof * * * shall be the supreme law of the land * * * anything in the constitution or the laws of any State to the contrary notwithstanding."

It was said by Mr. Justice Harlan, delivering the opinion of this Court in *Northern Securities Co. v. United States*, 193 U. S., at page 335:

> "By the express words of the Constitution, Congress has the power to 'regulate commerce with foreign nations and among the several States, and with the Indian tribes.' In view of the numerous decisions of this court there ought not, at this day, to be any doubt as to the general scope of such power."

He quotes with approval the words of Chief Justice Marshall, in *Gibbons v. Ogden*, 9 Wheat. 1, 196, 197:

> " * * that such power 'is complete in itself, may be exercised to its utmost extent, and acknowledges no limitations other than are prescribed in the Constitution.' "

And again, (p. 345):

> "* * No State can, by merely creating a corporation, or in any other mode, project its authority into other States, and across the continent, so as to prevent Congress from exerting the power it possesses under the Constitution over interstate and international commerce, or so as to exempt its corporation engaged in interstate commerce from obedience to any rule lawfully established by Congress for such commerce. It cannot be said that any State may give a corporation, created under its laws, authority to restrain interstate or international commerce against the will of the nation as lawfully expressed by Congress. Every corporation created by a State is necessarily subject to the supreme law of the land."

And again (p. 347), referring to the power of the United States over interstate commerce, he continues:

> "* * The court has steadily held to the doctrine, vital to the United States as well as to the States, that a state enactment, even if passed in the exercise of its acknowledged powers, must yield, in case of conflict, to the supremacy of the Constitution of the United States and the acts of Congress enacted in pursuance of its provisions."

While there were dissents of some of the Justices of this Court in the Northern Securities case, none of the dissenting Justices questioned these propositions, but based their dissent upon other grounds.

If, therefore, as the uncontradicted evidence in this case shows, the enforcement of this statute will inevitably result in burdening, interfering with, and in fact preventing and prohibiting, interstate commerce in natural gas by those corporations now engaged in transporting it from West Virginia to other States, then surely it must follow that whatever duty or obligation as a public service corporation any of these corporations owed to West Virginia, which duty or obligation if observed by said corporation, would bring about and cause this burden, interference, prevention and prohibition, such duty or obligation could not be enforced by the State of West Virginia.

Suppose the State of West Virginia had passed a statute which had frankly enacted:

> "All public service corporations, now engaged in West Virginia in the business of producing and transporting gas for export to other States, before exporting the same to such other States, in accordance with the custom and usage authorized and sanctioned by this State for over a quarter of a century, shall deliver to all manner of persons throughout the State of West Virginia who may desire the same, an adequate supply of gas, even though the effect thereof will be to consume all of the gas in West Virginia, and prevent the carriage of any thereof outside of the State."

Would such a law be constitutional? Under the express terms of the statute in controversy and the evidence in this case, wholly uncontradicted, that is substantially what the enforcement of the statute in controversy would effect. That effect is what the State of West Virginia avows in its Answer it seeks by the statute in controversy to accomplish, and declares in its Answer it has the right so to do.

The charm "the obligations to the public of the State of the public service corporations of the State," is the abracadabra by whose magic the State would ward off the power of the Nation and would overthrow the mandate of the Constitution of the United States with a statute of the State of West Virginia. It is submitted that the magic of the charm has been overestimated; it is not so prodigiously potent.

Respectfully submitted,

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APPENDIX.

Exhibit "A."

A JOINT RESOLUTION

Authorizing action by the authorities of this Commonwealth to prevent discrimination against the citizens of this Commonwealth in the use of natural gas which would result from the law recently enacted by the State of West Virginia.

Whereas There are millions of domestic and hundreds of industrial consumers of natural gas citizens of this Commonwealth who have expended enormous sums of money to equip their houses and plants respectively with appliances adapted for burning this fuel and to restrict and diminish the supply to any considerable extent would affect the domestic consumers in their health, their comfort their convenience and their welfare would subject them to enormous property losses in rendering useless their present appliances and necessitating the substitution of others in many cases requiring the reconstruction of dwellings while the industrial consumers if thus restricted and the supply of gas greatly diminished would not only suffer great loss but be placed at a disadvantage in competition with manufacturers in other States where by law an adequate supply was provided.

And Whereas Citizens of this Commonwealth have invested hundreds of millions of dollars in the exploration for and the development of natural gas wells and fields in the State of West Virginia and in the installation of transportation systems for the transmission of the gas thus found from West Virginia into Pennsylavania in order to obtain a supply for its citizens and to this end have made contracts and entered into obligations with cities and boroughs as well as with industrial plants and others and

Whereas The citizens of said cities and boroughs and the owners of said industrial plants and others are to a large extent dependent upon and have relied for their supply upon the gas transported from the State of West Virginia into the State of Pennsylvania the natural gas available from other sections being wholly inadequate a large proportion of said gas now consumed in Pennsylvania coming from West Virginia and

Whereas In order to restrain and restrict the transmission of this gas from West Virginia into Pennsylvania and to discriminate against the citizens of Pennsylvania and in favor of the citizens of West Virginia the State of West Virginia on the seventeenth day of February one thousand nine hundred and nineteen did enact a law the effect whereof is that the gas produced in said State should be first applied to the full satisfaction of all the domestic, industrial and other demands of the citizens of that State before any thereof could be transmitted into Pennsylvania thus disregarding the rights of citizens of Pennsylvania and the obligations of their contracts and

Whereas By cumulative fines and penalties civil and criminal said law of West Virginia is designed to deter

parties engaged in the production and transmission of natural gas in West Virginia into Pennsylvania from instituting legal proceedings to have tested and adjudicated the right of said State so to restrict and prevent the transmission of gas from West Virginia until after all of the demands of its citizens have been first adequately supplied and

Whereas The citizens of this State who will suffer in their health, comfort, convenience, welfare and property by the enforcement of this law are without remedy or redress except through action by this Comonwealth and

Whereas The enforcement of said law of West Virginia would be in conflict with the Constitution of the United States which inhibits the placing of burdens and restraints upon interstate commerce and prevents laws impairing the obligation of contracts and

Whereas The framers of the Constitution of the United States by the provisions of said Constitution sought to prevent any State from husbanding and applying its natural resources solely for the benefit of its own citizens to the detriment and loss of the citizens of other States well knowing if this policy were pursued it would result in reprisals and all of the evils attendant thereon and vested in the Federal courts the power to prevent any State from entering upon any such course of conduct now therefore

Be it Resolved By the Senate of the Commonwealth of Pennsylvania with the concurrence of the House of Representatives that the Attorney General be and he is hereby authorized and directed to institute such legal proceedings and to do all other acts necessary to protect the rights and interests of the Commonwealth of

Pennsylvania and of its citizens from any and all violation or infringement by the State of West Virginia or by any of its constituted authorities under or in pursuance of said law of West Virginia affecting or intended to affect consumers of natural gas in Pennsylvania.

E. E. BEIDLEMAN,
President of the Senate.

ROBERT S. SPANGLER,
Speaker of the House of Representatives.

Approved—The 18th day of April, A. D. 1919.

WM. C. SPROUL.

Office Supreme Court, U. S.
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IN THE

Supreme Court of the United States

OCTOBER TERM, 1922.

NOS. 15-16, ORIGINAL.

THE COMMONWEALTH OF PENNSYLVANIA,
Complainant,
vs.
THE STATE OF WEST VIRGINIA, Defendant.

THE STATE OF OHIO, Complainant,
vs.
THE STATE OF WEST VIRGINIA, Defendant.

9

CONSOLIDATED BRIEF FOR DEFENDANT, THE STATE OF WEST VIRGINIA.

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INDEX.

PAGE

STATEMENT—

Statute 1
Nature of case 8
Exhaustible character of gas 10
West Virginia gas development and utilization 14
Gas shortage in West Virginia 18
Cause of shortage,—statistics 19
West Virginia public service gas companies 25
Seven companies 28
Status of seven companies 30
Charters, right to alter 30
Public service corporations 30
Service engaged in 33
Pipe lines, holding out as to 39
Franchise 41
Violation of duties of seven companies 42
Gas control of seven companies 43
Gas controlled, volume 43
Gas territory 44
Gas purchases 46
Wells 46
Monopoly through pipe lines, &c. 47
Acquisition of gas control, methods 49
Instrumentalities of exports 55
Gas sales contracts 60
Pipe line systems 64
Commingling of gas 64
Delivery points of gas 66

PAGE

Use of gas in other states 68
Domestic, industrial, &c. 68
Statistics of consumption 68
Production of other states, how used 70
Local companies,—service and supply 74
Communities served by seven companies 74
Communities served by local companies 75
Gas territory of local companies 75
Previous supply to local companies by seven companies 77
Gas supply, present and future 79
Remedies for gas shortage 82
Effect of statute 89
Contentions of West Virginia 93

ARGUMENT—

I. Bill does not present cause justiciable between the States 95
II. Prematurity of suits 111
Not premature because no action by West Virginia 111
Premature because statute not tested in practice, and no clear proof of threatened injury of serious magnitude 111
III. Peculiar nature of gas, and gas companies, and exceptional rules applicable 122
IV. Statute does no more than require reasonable adequate service within reasonable territorial limits 124

PAGE

Construction of statute 124
Section 1 124
Persons to whom statute applies..... 124
Area of service and persons to be supplied 128
Quantity of gas to be furnished..... 133
Purpose or use of gas to be furnished 135
Extent of gas supply from which service rendered 136
Distribution of insufficient gas 138
Section 2 142
Supply to other gas companies..... 142
Sections 3 and 4 144
Public Service Commission,—jurisdiction 144
Section 5 145
Penalties 145
Section 6 146
Civil actions 146
Section 7 146
Definitions 146
Section 8 146
Separability of clauses, etc. 146
V. Public service gas companies obligated, irrespective of statute, to furnish reasonably adequate supply of gas.... 147
Special rights and privileges of gas companies 147
Duties of gas companies to West Virginia public 151
Gas business and gas affected with public interest 158

PAGE

Lack of power to disable themselves from performance of public duties.... 163

VI. Right and power of State to regulate gas companies 166

Implied condition accompanying grant 166

Right to alter and repeal charters and laws 168

Police power 170

VII. Police power,—statute legitimate exercise of 171

Power as to general subject..... 173

Industrial use of gas 180

Supply of gas to local companies..... 183

VIII. Plaintiffs claim through gas companies, and have no higher right..... 186

IX. Statute does not violate constitutional guaranties 189

Impairment of obligation of contracts.. 190

Due process of law 190

Equal protection of laws 190

Abridgement of privileges and immunities 196

X. Interstate commerce,—statute does not regulate 197

By public service corporations..... 199

Interference, if any, indirect and incidental 207

Local character of gas supply 215

Point of entrance into interstate commerce 215

Table of Cases.

A.

PAGE

American Steel & W. Co. vs. Speed, 192 U. S., 500 ..... 217, 222
Arkadelphia Mill Co. vs. St. Louis S. W. R. Co., 249 U. S., 134 ..... 108, 187, 217
Ashley vs. Ryan, 153 U. S., 436 168
Atlantic Coast Line R. Co. vs. North Carolina Corp. Com., 206 U. S., 1 ..... 1697, 195, 215
Atlantic Coast Line R. Co. vs. Goldsboro, 232 U. S., 548 ..... 176, 193
Atlantic Coast Line R. Co. vs. Georgia, 234 U. S., 280 213
Attorney General vs. Haverhill Gas L. Co., 215 Mass., 394; 101 N. E., 1061 164
Austin vs. Tennessee, 179 U. S., 343 211

B.

Bacon vs. Illinois, 227 U. S., 502 ..... 217, 222
Bacon vs. Rutland R. Co., 232 U. S., 135 ..... 114, 118
Bacon vs. Walker, 204 U. S., 311 ..... 123, 124, 160, 176
Bailey vs. Fayette Gas Fuel Co., 193 Pa., 175; 44 Atl., 251 158
Barbier vs. Connolly, 113 U. S., 27 196
Bardsley vs. Boise Irr. & L. Co., 8 Idaho, 155; 67 Pac. 428 141
Blake vs. McClung, 172 U. S., 239 197
Block vs. Hirsh, 256 U. S., 135 ..... 160, 161
Brown vs. Farmers &c. Co., 26 Colo., 66; 56 Pac., 183 141
Brown vs. Houston, 114 U. S., 622 .....
Brown vs. Spilman, 155 U. S., 665 ..... 132, 219

PAGE

Brown vs. Vandergrift, 80 Pa., 42 219
Browning vs. Waycross, 233 U. S., 16 163

C.

Caldwell vs. Sioux Falls Stockyards Co., 242 U. S., 599 177
Calor Oil & Gas Co. vs. Franzell (Ky.), 109 S. W., 328 152
Camfield vs. United States, 167 U. S., 518..... 176
Capital City Dairy Co. vs. Ohio, 183, U. S., 238.... ..... 178, 211, 212
Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557; 79 S. E., 3..... 27, 28, 127, 131, 147, 148, 151, 154, 166
Carter vs. Tyler Co. Court, 45 W. Va., 806; 32 S. E., 216 219
Central Lumber Co. vs. South Dakota, 226 U. S., 157 178
Central Transp. Co. vs. Pullman P. C. Co., 139 U. S., 24 165
Champlain Realty Co. vs. Brattleboro, U. S. Adv. Ops. 1922-23, p. 165..... 220, 222
Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 662; 44 S. E., 410..... ..... 27, 125, 147, 148, 152, 154, 158, 165, 166
Cherokee Nation vs. Georgia, 5 Pet. 1..... 107
Chesapeake & O. R. Co. vs. Conley, 230 U. S., 513.... 146
Chesapeake & O. R. Co. vs. Public Service Com., 242 U. S., 603..... 167
Chicago, B. & Q. R. Co. vs. Illinois, 200 U. S., 561.... 176
Chicago, B. & Q. R. Co. vs. McGuire, 219 U. S., 549.. 192
Chicago, B. & Q. R. Co. vs. Railroad Commission, 237 U. S., 220..... 214

PAGE

Chicago, M. & St. P. R. Co. vs. Iowa, 233 U. S., 334 ..... 185, 215
Chicago, R. I. & P. R. Co. vs. Arkansas, 219 U. S., 453 213
Chicago & A. R. Co. vs. Tranbarger, 238 U. S., 66..... 175, 176, 193
Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638; 100 S. E., 551..... 25, 33, 145, 148, 156, 158, 180
Cleveland, C., C. & St. L. R. Co. vs. Illinois, 177 U. S., 514..... 214
Coal & Coke R. Co. vs. Conley, 67 W. Va., 129; 67 S. E., 613..... 114, 146
Coe vs. Errol, 116 U. S., 517..... 216, 220
Cotting vs. Goddard, 183 U. S., 79..... 191
Craig vs. Manufacturers Light & H. Co., No. 3585, Pa. Pub. Service Com..... 156
Crescent Cotton Oil Co. vs. Mississippi, U. S. Adv. Ops., 1921-22, p. 55..... 217
Crossman vs. Lurman, 192 U. S., 189..... 213
Cumberland Tel. & T. Co. vs. Kelly, 160 Fed., 316..... 133, 155

D.

Dahnke-Walker M. Co. vs. Bondurant, U. S. Adv. Ops., 1921-22, p. 114 ..... 108, 117
Davis vs. Cleveland, C. C. & St. L. R. Co., 177 U. S., 157 213
Delaware, L. & W. R. Co. vs. United States, 231 U. S., 363 151
Delaware, L. & W. R. Co. vs. Yurkonis, 238 U. S., 439 216

PAGE

Denver & R. G. R. Co. vs. Denver, 250 U. S., 241..195, 203
Des Moines Gas Co. vs. Des Moines, 238 U. S., 153 ..... 119, 183
Diamond Match Co. vs. Ontonagon, 188 U. S., 82..... 222
District of Columbia vs. Brooke, 214 U. S., 138..... 175

E.

Erb vs. Morasch, 177 U. S., 584..... 213
Erie R. Co. vs. Williams, 233 U. S., 685..... 169
Erie Railroad Co. vs. Board of Public Utility Com., 254 U. S., 394 ..... 163, 170, 195, 203
Eubank vs. Richmond, 226 U. S., 137..... 175, 176, 177
Eureka Pipe Line Co. vs. Hallanan, U. S. Adv. Ops., 1921-22, p. 127 199

F.

Fair Haven & W. R. Co. vs. New Haven, 203 U. S., 379 169
Farmers Loan & T. Co. vs. Galesburg, 133 U. S., 156 166
Franke vs. Johnstown Fuel Supply Co., 70 Pa. Super. Ct., 446 ..... 126, 153, 158, 160, 206, 208, 217

G.

Georgia vs. Tennessee Copper Co. 206 U. S., 230..... 96, 98, 101
Geer vs. Connecticut, 161 U. S., 519..... 203, 211, 212
General Oil Co. vs. Crain, 209 U. S., 211..... 217, 222
German Alliance Ins. Co. vs. Lewis, 233 U. S., 389 ..... 25, 159, 177, 179, 194, 205
Gibbs vs. Consolidated Gas Co., 130 U. S., 396..... 126, 152, 163

PAGE

Giozza vs. Tiernan, 148 U. S., 657 196
Gladson vs. Minnesota, 166 U. S., 427 215
Grand Trunk R. Co. vs. Michigan R. Com., 231 U. S., 457 ..... 119, 185, 215
Greenwood vs. Union Freight Co., 105 U. S., 13 169
Grenada Lumber Co. vs. Mississippi, 217 U. S., 433 .. 178
Grover, &c., Land Co. vs. Lovella, &c., Irr. Co., 21 Wyo., 204; 131 Pac., 43 154

H.

Hagood vs. Southern 117 U. S., 52 97
Hall vs. Geiger-Jones Co., 242 U. S., 539 ..... 175, 177
Hall vs. Vernon, 47 W. Va., 295, 34 S. E., 764 219
Hammer vs. Dagenhart, 247 U. S., 251 216
Hamilton Gaslight & C. Co. vs. Hammond, 146 U. S., 258 169
Hammond Packing Co. vs. Arkansas, 212 U. S., 322 .. 170
Haus vs. Louisiana, 134 U. S., 1 98
Hardman vs. Cabot, 60 W. Va., 664; 55 S. E., 756 ..... 27, 41, 125, 126, 148
Haskell vs. Kansas Nat. Gas Co., 224 U. S., 217 .. 199, 206
Heisler vs. Thomas Colliery Co., U. S. Adv. Ops., 1922-23, p. 119 ..... 216, 220
Holden vs. Hardy, 169 U. S., 366 178
Home Ins. Co. vs. New York, 134 U. S., 594 168
Hooper vs. California, 155 U. S., 648 124
Hooper Teleph. Co. vs. Nebraska Teleph. Co., 96 Neb., 245; 147 N. W., 674 186
Hudson County Water Co. vs. McCarter, 209 U. S., 348 ..... 163, 194, 200, 212
Hurtado vs. California, 110 U. S., 516 177

PAGE

Hydro Electric Co. vs. Liston, 70 W. Va., 83; 73 S. E., 86 ..... 147, 152, 153, 157

I.

Illinois C. R. Co. vs. Illinois, 163 U. S., 142 214
Illinois Central R. Co. vs. Mulberry Hill Coal Co., 238 U. S., 275 215
International Harvest. Co. vs. Kentucky, 234 U. S., 199 178
Interstate Consol. S. R. Co. vs. Massachusetts, 207 U. S., 79 168
Interstate Commerce Com. vs. Baltimore & O. R. R. Co., 225 P. S., 326 157
Interstate Commerce Com. vs. Union Pac. R. Co., 222 U. S., 551 145

J.

Jamieson vs. Indiana Natural Gas & O. Co., 128 Ind., 555; 28 N. E., 76 212
Jeffrey Mfg. Co. vs. Blagg, 235 U. S., 571 ..... 107, 187
Jones vs. Forrest Oil Co., 194 Pa., 379, 44 Atl., 1017 219

K.

Kansas vs. Colorado, 185 U. S., 125 ..... 99, 101, 109, 121
Kansas vs. Colorado, 206 U. S., 46 ..... 99, 101, 120
Kansas vs. United States, 204 U. S., 331 ..... 95, 97
Kansas City S. R. Co. vs. United States, 231 U. S., 423 192
Kansas Nat. Gas Co. vs. Haskell, 172 Fed., 545 162
Kentucky vs. Dennison, 24 How., 66 97

PAGE

Kelly Axe Mfg. Co. vs. Public Service Com., 87 W. Va., 368; 105 S. E., 152 ..... 33, 145, 148, 153, 154, 156, 180

Kelley vs. Ohio Oil Co., 57 Ohio St., 317; 49 N. E., 399 219

Kohl vs. United States, 91 U. S., 367 153

Kidd vs. Pearson, 128 U. S., 1 ..... 211, 212

Knoxville Water Co. vs. Knoxville, 189 U. S., 434 194

Knoxville vs. Knoxville Water Co., 212 U. S., 1 ..... 119, 183, 191, 192

L.

Lake Shore & M. S. R. Co. vs. Ohio, 173 U. S., 285 ..... 166, 167, 215

Lemke vs. Farmers Grain Co., U. S. Adv. Ops., 1921-22, p. 275 ..... 199, 222

Lewis, Em. Dom. (3d ed.), sec. 310 153

Lincoln Gas & El. Co. vs. Lincoln, 223 U. S., 345 191

Lindsley vs. Nat. Carbonic Gas Co., 220 U. S., 61 ..... 173, 174, 181

Lombard vs. Stearns, 4 Cush. (Mass.), 60 .....

Louisiana vs. Jumel, 107 U. S., 711 97

Louisiana vs. McAdoo, 234 U. S., 627 97

Louisiana vs. Mississippi, 202 U. S., 1 98

Louisiana vs. Texas, 176 U. S., 1 ..... 98, 102, 104, 105, 108

Louisville & N. R. Co. vs. Mottley, 219 U. S., 467 ..... 179, 189, 194

Louisville & N. R. Co. vs. United States, 238 U. S., 1 184

Lukrawka vs. Spring Valley Water Co., 169 Cal., 318; 146 Pac., 640 132

Mc.

PAGE

McCluskey vs. Marysville & N. R. Co., 243 U. S., 36 ... 217
McDermont vs. Anaheim Union Water Co., 124 Cal., 112, 56 Pac., 779 ... 141

M.

Manigault vs. Springs, 199 U. S., 473 ... 194
Manufacturers' Gas & O. Co. vs. Indiana Gas & O. Co., 155 Ind., 545; 58 N. E., 706 ... 206
Manufacturers Light & H. Co. vs. Ott, 215 Fed., 940 ... 27, 33, 148, 158, 163, 169, 200, 208
Merrick vs. Halsey, 242 U. S., 568 ... 177
Michigan C. R. Co. vs. Michigan R. Com., 236 U. S., 615 ... 215
Mill Creek Coal & C. Co. vs. Public Service Com., 84 W. Va., 662; 100 S. E., 557 ... 25, 158, 170, 180, 208
Miller vs. Wilson, 236 U. S., 373 ... 178
Minnesota vs. Hitchcock, 185 U. S., 373 ... 97
Mississippi R. Com. vs. Illinois C. R. Co., 203 U. S., 335 ... 214
Missouri P. R. Co. vs. Larabee Flour Mills Co., 211 U. S., 612 ... 215
Missouri P. R. Co. vs. Kansas, 216 U. S., 262 ... 166, 167, 195, 211, 215
Missouri vs. Chicago, B. & Q. R. Co., 241 U. S., 533 ... 119, 183
Missouri vs. Illinois, 180 U. S., 208 ... 97, 98, 99, 101, 108, 121
Missouri vs. Illinois, 200 U. S., 496 ... 120, 121
Mobile, J. & K. C. R. Co. vs. Mississippi, 210 U. S., 187 ... 214

PAGE

Mountain Tie & T. Co. vs. Washington, 243 U. S., 219 185
Muller vs. Oregon, 208 U. S., 412 ..... 177, 178
Munn vs. Illinois, 94 U. S., 133 ..... 128, 152, 158, 159, 170
Murray vs. Wilson Distilling Co., 213 U. S., 151 97

N.

Nashville, C. & St. L. R. Co. vs. Alabama, 128 U. S., 96 213
New Hampshire vs. Louisiana, 108 U. S., 76 ..... 97, 100, 101, 104
New Jersey vs. Anderson, 203 U. S., 483 168
New Orleans Gas L. Co. vs. Louisiana Light, &c., Co., 115 U. S., 650 170
New Orleans Waterworks Co. vs. Louisiana, 185 U. S., 336 166
New York vs. Hesterberg, 211 U. S., 31 ..... 203, 212
New York vs. Louisiana, 108 U. S., 76 ..... 97, 101
New York vs. McCall, 245 U. S., 345 ..... 25, 131, 132, 155
New York vs. New Jersey, 256 U. S., 296 ..... 99, 101, 121
New York, C. & H. R. R. Co. vs. Gray, 239 U. S., 583 194
New York Central R. Co. vs. White, 243 U. S., 188 ..... 108, 185, 187
New York El. L. Co. vs. Empire City S. Co., 235 U. S., 179 167
New York & N. E. R. Co. vs. Bristol, 151 U. S., 556 169
New York, N. H. & H. R. Co. vs. New York, 165 U. S., 628 213
1 Nichols, Em. Dom., sec. 29 154
Noble State Bank vs. Haskell, 219 U. S., 104 ..... 159, 182, 185, 205
Nonamaker vs. Amos, 73 Ohio St., 163; 76 N. E., 949 219

PAGE

North Carolina Pub. Serv. Com. vs. Southern P. Co., 282 Fed., 837 184
North Dakota vs. Chicago & N. W. R. Co., U. S. Adv. Ops., 1921-22, p. 199 107
Northern Pacific R. Co. vs. North Dakota, 216 U. S., 579; 236 U. S., 585 ..... 119, 183

O.

Ohio Oil Co. vs. Indiana, 177 U. S., 190 ..... 74, 123, 173, 174, 181, 218
Oklahoma vs. Atchison, T. & S. F. R. Co., 220 U. S., 277 ..... 97, 104
Oklahoma vs. Gulf, C. & S. F. R. Co., 220 U. S., 290 ..... 97, 106
Oklahoma Nat. Gas Co. vs. Oklahoma, U. S. Adv. Ops., 1921-22, p. 333 155
Oklahoma Nat. Gas Co. vs. Russell, U. S. Adv. Ops., 1922-23, p. 395 ..... 118, 134
Olmstead vs. Morris Aqueduct, 47 N. J. L., 311 152
Oregon R. & N. Co. vs. Oregonian R. Co., 130 U. S., 1 164

P.

Pacific Teleph. & Teleg. Co. vs. Wright-Dickenson H. Co., 214 Fed., 666 186
Patapsco Guano Co. vs. Board of Agriculture, 171 U. S., 345 213
People ex rel. Western Union Tel. Co. vs. Public Service Com., 230 N. Y., 95; 129 N. E., 220 184
Pioneer Teleph. Teleg. Co. vs. State, 38 Okla., 554; 134 Pac., 398 186
Pennsylvania vs. Wheeling & B. Bridge Co., 13 How., 518 ..... 99, 107

PAGE

Pennsylvania Gas Co. vs. Public Service Co., 252 U. S., 23 ..... 134, 157, 158, 168, 172, 206, 208, 217

Peoples vs. Chicago Gas Trust Co., 130 Ill., 393; 22 N. E., 803 152

People ex rel. Pennsylvania Gas Co. vs. Public Service Co., 189 N. Y. Supp., 478 140

People ex rel. Woodhaven Gaslight Co. vs. Deehan, 153 N. Y., 533; 47 N. E., 787 131

People's Gas Co. vs. Tyner, 131 Ind., 277; 31 N. E., 59 218

Pittsburgh & W. Va. Gas Co. vs. Nicholson, 87 W. Va., 510; 105 S. E., 784 21

Plumley vs. Massachusetts, 155 U. S., 461 ..... 178, 212, 213

Plymouth Coal Co. vs. Pennsylvania, 232 U. S., 531 ..... 108, 187

Postal Cable Tel. Co. vs. Cumberland Tel. & T. Co., 177 Fed., 726 ..... 149, 184

Postal Tel. Cable Co. vs. Alabama, 155 U. S., 487 197

Prentis vs. Atlantic Coast Line Co., 211 U. S., 210 ..... 117, 118, 170

Preston vs. White, 57 W. Va., 278; 50 S. E., 236 219

Price vs. Illinois, 238 U. S., 446 178

Producers Transp. Co. vs. Railroad Com. of California, 251 U. S., 228 ..... 128, 148, 155

Public Service Co. vs. Corboy, 192 U. S., 286 .....

Public Service Co. vs. Corboy, 250 U. S., 153 114

Public Utilities Com. vs. Landon, 249 U. S., 236 ..... 168, 199, 206, 208, 217

R.

PAGE

Railroad Com. vs. Cumberland T. & T. Co., 212 U. S., 414 ..... 191, 192
Randall Gas Co. vs. Star Glass Co., 78 W. Va., 252; 88 S. E., 410 33
Rast vs. Van Deman, 240 U. S., 342 194
Reagan vs. Farmers L. & T. Co., 154 U. S., 362 170
Rearick vs. Pennsylvania, 203 U. S., 507 .....
Re Kemmler, 136 U. S., 436 196
Russell vs. Sabastian, 233 U. S., 195 ..... 131, 133, 155

S.

St. Louis, I. M. & S. R. Co. vs. Arkansas, 240 U. S., 518 213
St. Mary's, &c., Petroleum Co. vs. West Virginia, 203 U. S., 183 ..... 27, 169
San Antonio T. Co. vs. Altgelt, 200 U. S., 304 169
San Diego Flume Co. vs. Souther, 112 Fed., 228 141
San Diego L. & T. Co. vs. National City, 174 U. S., 739 191
San Diego L. & T. Co. vs. Jasper, 189 U. S., 439 191
Savage vs. Jones, 225 U. S., 501 213
Schollenberger vs. Pennsylvania, 171 U. S., 1 213
Seaboard Air Line R. Co. vs. Railroad Com., 240 U. S., 324 215
Selover vs. Walsh, 226 U. S., 112 197
Shriver vs. Manufacturers Light & H. Co., No. 3563, Pa. Pub. Serv. Com 156
Simpson vs. Shepherd, 230 U. S., 352 ..... 191, 192, 209
Slaughter House Cases, 16 Wall., 36 196
Sligh vs. Kirkwood, 237 U. S., 50 ..... 175, 176, 178, 212
Smith vs. Alabama, 124 U. S., 465 213

PAGE

Smyth vs. Ames, 169 U. S., 446 ..... 114, 119
South Covington & C. Street R. Co. vs. Covington, 235 U. S., 537 202
South Covington & C. S. R. Co. vs. Kentucky, 252 U. S., 399 ..... 163, 165, 201
South Dakota vs. North Carolina, 192 U. S., 586 ..... 100, 101
Southern Iowa El. vs. Charlton, 255 U. S., 539 25
Southern R. Co. vs. King, 217 U. S., 324 213
Spring Valley Water Co. vs. Schottler, 110 U. S., 347 169
Stafford vs. Wallace, U. S. Adv. Ops. 1921-22, p. 469 ..... 25, 199
Standard Oil Co. vs. Missouri, 224 U. S., 270 178
Standard Stock Food Co. vs. Wright, 225 U. S., 540 .. 213
Stanislaus Co. vs. San Joaquin & K. R. C. & I. Co., 192 U. S., 201 ..... 169, 191
State vs. Consumers Gas Trust Co., 157 Ind., 345, 61 N. E., 674 ..... 139, 141
State vs. Flannelly, 96 Kan., 372; 152 Pac., 22 208
Stone vs. Farmers L. & T. Co., 116 U. S., 307 170
Stone vs. South Carolina, 117 U. S., 430 197
Susquehanna Coal Co. vs. South Amboy, 228 U. S., 665 217
2 Sutherland, Stat. Const. (Lewis 2 Ed.), Sec. 422 .. 135
Sutton vs. New Jersey, 244 U. S., 258 169
Swift vs. United States, 196 U. S., 375 199

T.

Tanner vs. Little, 240 U. S., 369 ..... 89, 182, 204
Thomas vs. Railroad Co., 101 U. S., 71 163
Thornton vs. Duffy, 254 U. S., 361 ..... 179, 194

PAGE

Title Guaranty & S. Co. vs. Idaho, 240 U. S., 136.... 197
Town of Gassaway vs. Gassaway Gas Co., 75 W. Va., 60; 83 S. E., 189 165
Trombley vs. Humphrey, 18 Wend., 9..... 153

U.

Union Dry Goods Co. vs. Georgia Pub. Service Corp., 248 U. S., 372..... 158, 159, 195, 208
United Fuel Gas Co. vs. Hallanan, U. S. Adv. Ops., 1921-22, p. 130..... 130, 199, 221, 222
United Fuel Gas Co. vs. Public Service Com., 73 W. Va., 571; 80 S. E., 931..... 33, 145, 148, 170
United Mine Workers vs. Coronado Coal Co., U. S. Adv. Ops., 1921-22, p. 643..... 216
United States vs. Delaware & H. R. Co., 213 U. S., 366 ..... 151, 179
United States vs. Michigan, 190 U. S., 379..... 100
United States vs. North Carolina, 136 U. S., 211.... 100
United States vs. Ohio Oil Co., 234 U. S., 548..... ..... 48, 54, 148, 150, 155
United States Tel. Co. vs. Central Union Tel. Co., 202 Fed., 66..... 132, 133, 155

V.

Van Dyke vs. Geary, 244 U. S., 39..... 25, 125
Virginia vs. West Virginia, 11 Wall., 39..... 98
Virginia vs. West Virginia, 206 U. S., 290; 220 U. S., 1; 238 U. S., 202..... 100, 101
Virginia vs. West Virginia, 246 U. S., 565..... 98
Visalia Gas & El. Co. vs. Sims, 104 Cal., 326; 37 Pac., 1044 165

W.

PAGE

Wadley vs. Southern R. Co., 235 U. S., 651 ..... 118, 145, 146
Walls vs. Midland Carbon Co., 254 U. S., 300 ..... 74, 123, 124, 160, 161, 173, 174, 181, 218
Warren vs. Boggs, 83 W. Va., 89, 97 S. E., 589 219
Washington vs. Fairchild, 224 U. S., 510 ..... 195, 215
Waters-Pierce Oil Co. vs. Texas, 212 U. S., 86 178
Weems Steamboat Co. vs. Peoples Steamboat Co., 214 U. S., 345 128
West vs. Kansas Nat. Gas Co., 221 U. S., 229 ..... 162, 199, 205, 206, 218
Westmoreland & C. Nat. Gas Co. vs. Dewit, 130 Pa., 235; 18 Atl., 724 ..... 123, 219
Western Turf Assoc. vs. Greenberg, 204 U. S., 359 .. 197
Western Union Tel. Co. vs. Commercial Mill Co., 218 U. S., 406 196
Western Union Tel. Co. vs. Call, 181 U. S., 92 .. 149, 152
Western Union Tel. Co. vs. Speight, 254 U. S., 17 ..... 89, 119
Willcox vs. Consolidated Gas Co., 212 U. S., 19 ..... 119, 183, 191
Wilson vs. New, 243 U. S., 332 159
Winchester vs. Winchester Water Works Co., 251 U. S., 192 25
Wood Co. Pet. Co. vs. West Virginia Transp. Co., 28 W. Va., 210 219
Wisconsin vs. Pelican Ins. Co., 127 U. S., 265 ..... 97, 98, 100
Wisconsin, M. & P. R. Co. vs. Jacobson, 179 U. S., 287 ..... 185, 195, 215
1 Wyman Pub. Serv. Corp., Sec. 91 171

PAGE

1 Wyman Pub. Serv. Corp., Sec. 252 141
1 Wyman Pub. Serv. Corp., Sec. 281 131
1 Wyman Pub. Serv. Corp., Sec. 653 141

Y.

Young, Ex parte, 209 U. S., 123..... 114, 115

Statutes Cited.

A.

PAGES

Acts of Congress of June 18, 1910, ch. 309, sec. 7; 36 Stat. at L., 539 172

H.

Hepburn Act of June 29, 1906 (34 U. S. Stat. at L., 584) 151

I.

Indiana, Public Utility Law, sec. 7 (Acts of 1913, ch. 76) 134, 155

N.

New York Public Service Com. Law (Laws of 1910, ch. 480) 134, 155

O.

Ohio General Code, secs. 614-12 ..... 116, 134
Ohio General Code, secs. 522, 614-63 185

P.

Pennsylvania Pub. Laws of 1913, p. 1374; Pub. Service Com. Law, art. 1, sec. 1 ..... 116, 185
Pennsylvania Pub. Laws of 1913, p. 1374; Pub. Service Com. Law, art. 2, sec. 1 ..... 134, 155

W.

PAGES

W. Va. Acts of 1867, ch. 5, sec. 6.....27, 30, 169
W. Va. Acts of 1881, ch. 18, sec. 2..... 149
W. Va. Acts of 1882, ch. 96, sec. 8.....27, 30, 169
W. Va. Acts of 1891, ch. 113.....148, 149
W. Va. Acts of 1913, ch. 9.....8, 33, 34
W. Va. Acts of 1913, ch. 9, sec. 3..... 148
W. Va. Acts of 1913, ch. 9, sec. 8..... 185
W. Va. Acts of 1915, ch. 8.....8, 33, 148
W. Va. Acts of 1915, ch. 8, sec. 24..... 185
W. Va. Acts of 1919, ch. 71.....
..... 1, 111, 124, 125, 129, 135, 136, 142, 144, 145, 146
W. Va. Code (1913), ch. 42, sec. 1..... 149
W. Va. Code (1913), ch. 42, sec. 20..... 149
W. Va. Code (1913), ch. 52, sec. 24..32, 48, 148, 149, 150
W. Va. Code (1913) ch. 53, sec. 8.....27, 30, 169
W. Va. Code (1913), ch. 54, sec. 30..... 31
W. Va. Pub. Ser. Com. Act (1913), secs. 11 and 17 111

IN THE

Supreme Court of the United States

OCTOBER TERM, 1922.

NOS. 15-16, ORIGINAL.

THE COMMONWEALTH OF PENNSYLVANIA,
Complainant,

vs.

THE STATE OF WEST VIRGINIA, Defendant.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA, Defendant.

Consolidated Brief for Defendant, the State of West Virginia.

Statement of the Cases.

On February 10, 1919, the Legislature of West Virginia enacted the following statute (*W. Va. Acts of 1919*, Ch. 71):

"An Act in relation to persons, firms and corporations engaged in furnishing, or required by

law to furnish, natural gas for public use within this State, to provide remedies for the enforcement of this act and penalties and punishment for violations thereof, and to extend the jurisdiction of the public service commission and of the courts of this State with respect thereto.

Be it enacted by the Legislature of West Virginia:

SECTION 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for the public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this State, shall to the extent of his supply of said gas produced in this State, (whether produced by such person or by any other person), furnish for public use within the territory of this State, and for the use of the public and every part of the public within the territory of this State, in or from which such gas is produced, or through which said gas is transported or which is served by such person, a supply of natural gas reasonably adequate for the purposes whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this State, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates.

SECTION 2. That in case any person engaged in furnishing or required by law (whether statutory

or common law) to furnish, natural gas for public use within this State, or for the use of the public or any part of the public within this State, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this State served by such person, then and in that event the public service commission shall have authority, and the same is hereby conferred on it, upon the application of any such person or any of his consumers within this State and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing, or required by law (whether statutory or common law), to furnish natural gas for public use within this State, and producing or furnishing natural gas for public use in said territory, or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections

between the lines, pipes or conduits of such person having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable rules and regulations and provision for the payment of the costs and expense of making the same or for the appointment of such cost and expense as may appear just and reasonable. *Provided, however,* that no person shall, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time, have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this State; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing or required by law to furnish, natural gas for public use in a territory within this State, if and when the said person having said excess shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe, shall actually furnish, to the consumers within said territory a reasonably adequate supply of natural gas.

SECTION 3. That insofar as the same shall not be in conflict with this act, all of the authority, powers, jurisdiction and duties conferred and imposed on the public service commission by the act entitled, "An act to create a public service commission and to prescribe its powers and duties, and to prescribe penalties for the violations of the provisions of this act," passed February twenty-first, one thousand nine hundred and thirteen, as amended by the act entitled "An act to amend and re-enact sections one, two, three, four, five, nine, ten, fourteen, fifteen and twenty-two, of chapter nine of the acts of one thousand nine hundred and thirteen, creating a public service commission, prescribing its powers and duties, and penalties for violation of the provisions of said chapter, and to add thereto six sections to be known as sections twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, enlarging the powers and duties of said public service commission, prescribing additional penalties and giving to the commission power to punish for contempt," passed February tenth, one thousand nine hundred and fifteen, are hereby conferred and imposed on the public service commission in respect to the subject matter of this act, or any part thereof.

SECTION 4. That in case of violation of any provision of this act any person aggrieved or affected thereby may complain thereof to the public service commission in like manner, and thereupon such procedure shall be had, as is provided in respect to other complaints to or before said com-

mission, and all such proceedings and remedies may be taken or had for the enforcement or review of the order or orders of said commission, and for the punishment of the violation of such order or orders, as are provided by law in respect to other orders of said commission. In case of the violation of any provision of this act, the public service commission, or any person aggrieved or affected by such violation, in his own name, may apply to any court of competent jurisdiction by a bill for injunction, petition for writ of mandamus or other appropriate action, suit or proceeding, to compel obedience to and compliance with this act, or to prevent the violation of this act, or any provision thereof, pending the proceedings before said commission, and thereafter until final determination of any action, suit or proceeding for the enforcement or review of the final order of said commission; and such court shall have jurisdiction to grant the appropriate order, judgment or decree in the premises.

SECTION 5. That if any person subject to the provisions of this act shall fail or refuse to comply with any requirement of the commission hereunder, such person shall be subject to a fine of not less than one hundred dollars nor more than five hundred dollars for each offense; and such person, or the officers of the corporation, where such person is a corporation, may be indicted for their failure to comply with any requirement of the commission under the provisions of this act, and upon conviction thereof, may be fined not to exceed five hundred dollars, and in the discretion of the court,

confined in jail not to exceed thirty days. Every day during which any person, or any officer, agent or employee of such person, shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation of such order or direction of this act, as the case may be.

SECTION 6. That any person claiming to be damaged by any violation of this act may bring suit in his own behalf for the recovery of the damage from the person or persons so violating the same in any circuit court having jurisdiction. In any such action the court may compel the attendance of the person or persons against whom said action is brought, or any officer, director, agent or employee of such person or persons, as a witness, and also require the production of all books, papers and documents which may be useful as evidence, and in the trial thereof such witness may be compelled to testify, but any such witness shall not be prosecuted for any offense concerning which he is compelled hereunder to testify.

SECTION 7. That the word "person" within the meaning of this act shall be construed to mean, and to include, persons, firms, and corporations.

SECTION 8. That the sections, provisions, and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations, and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or unforceable,

the remaining parts thereof shall be and remain in full force and effect.

SECTION 9. That all acts and parts of acts in conflict with this act are hereby repealed."

This statute was preceded by the Public Service Commission Act, set forth as Exhibit "B," with the answers of West Virginia, which Act was designed to require reasonableness of rates, service and practices, and to prevent unjust preferences and discrimination, by public service corporations, including natural-gas companies, and to that end provided an administrative commission, to whose jurisdiction the due administration of the Act of 1919, here involved, was confided. (*Acts of 1913*, Ch. 9; *Acts of 1915*, Ch. 8.)

The States of Ohio and Pennsylvania, by their respective bills of complaint, complain that the enforcement of the Act of 1919 will necessarily prevent the transportation of West Virginia gas into Ohio and Pennsylvania, thereby destroying the investment of many of their citizens in natural-gas properties in West Virginia and also affecting the health and comfort, and endangering the lives, of numerous inhabitants of the plaintiff States who are presently consuming West Virginia gas; and thereupon the statute is attacked as unconstitutional and violative of those provisions of the Federal Constitution relating to interstate commerce, impairment of contract obligations, due process of law, equal protection of the laws, and abridgement of the privileges and immunities of citizens of the plaintiff States and of the United States.

Preliminary injunctions, awarded June 3, 1919, prior to answer by West Virginia, and in advance of any test of the statute's actual operation, have prevented its enforcement.

By its motion to dismiss and answer filed in each case, the State of West Virginia first challenges the right of the plaintiff States to maintain these suits, and then answers upon the merits, giving the history of the statute, the local causes and conditions leading to its enactment, and denies that the statute in anywise contravenes the Federal Constitution.

The questions before the Court are:

(1) Whether the bills present causes justiciable between the two States parties to the respective suits.

(2) Whether the suits were not prematurely brought, as no action has been taken by West Virginia or its Public Service Commission under the statute.

(3) Whether the statute, by its true construction, is violative of the Federal Constitution.

(a) As an interference with interstate commerce;

(b) As an impairment of contract obligations;

(c) As depriving the plaintiffs, or their citizens, of property without due process of the law;

(d) As denying to the plaintiff States, or their citizens, the equal protection of the laws;

(e) As abridging the privileges and immunities of citizens of the plaintiff States and of the United States.

EXHAUSTIBLE CHARACTER OF GAS.

In a record of the present bulk, even condensed narrative wears the color of prolixity. And where contemporary causes and conditions combine to produce an ultimate consequence, strict observance of chronological sequence and the avoidance of repetition in the separate chapters concurring to produce the whole are hardly practicable. With these qualifications we proceed to state, as shortly as the record and the importance of the cases seem to admit, the facts and circumstances in the legislative view, and the causes and conditions which created the necessity for, and justify the reasonableness of, the statute and brought about its passage.

Natural gas is produced by drilling wells into gas-containing strata or sands in the earth. The known fields in and from which gas is derived are, as a rule, comparatively few and restricted in area, the outstanding exception being those of West Virginia, which are in size and number so great as to constitute a more or less connected field extending across the State from north to south. As the number of gas wells in any field or other given area increases and the time during which the extraction of gas therefrom lengthens, the volume of the gas and the natural or rock pressure, upon which the output depends, gradually diminish, not only in the individual wells, but also in the entire field. The constant tendency, therefore, is in the direction of depletion of the field and exhaustion of the gas supply therefrom. And while for a considerable period the aggregate quantity of gas produced from a specific field may be increased or maintained at substantial uniform-

ity, this can only be accomplished by the drilling of new wells, the added extraction of gas from which still further accelerates the depletion of the field. For this reason it becomes necessary to sustain the output by exploration for new gas territory, and the development thereof when discovered. But even this extension of territory cannot be continued indefinitely, and the later discovered territories themselves are subjected to the same process of depletion and to the exhaustion of their gas. And so it occurs ultimately that the supply of gas, once adequate to the needs of the population dependent thereon, becomes insufficient for the service of all, and the uses of the gas, or the extent of its distribution and consumption, must be correspondingly curtailed. (Rec. 19-23, 60-63, 131-135, 201, 211, 282, 283, 296, 372, 431, 438, 521-525, 558, 689, 690, 697-700, 702, 719, 726-728, 801-804, 965.)

The foregoing was the experience in Indiana (Rec. 60, 61, 26, 728, 803), Ohio (Rec. 19-23, 61, 62, 685-687, 719, 727, 749, 801, 803, 804) and Pennsylvania (Rec. 19-23, 61, 62, 430, 431, 438, 486, 521-525, 558), where the extensive development and utilization of their own gas and its manifest tendency to depletion, preceded the transportation of West Virginia gas to the other states.

In Pennsylvania the depletion and shortage of gas was observed in certain fields as early as 1888, 1889 and 1890, and again in 1894 or 1895 (Rec. 19, 61, 62, 523, 524, 555, 558). In northern and northwesterly Ohio there were extensive shortages in 1900, 1902 and 1903 (Rec. 62, 719, 762-728, 748, 749, 764). The exhaustion of Indiana gas was manifest shortly after 1891 or

1892, and was extensive in 1900 (Rec. 60, 61, 726, 728, 803). This experience, and the inevitability of its duplication in West Virginia, were well known by the gas companies when they embarked in the business of West Virginia gas transportation to, or distribution in, the other states; and in the very nature of the case must have been known by the gas consumers of those states (Rec. 728).*

The Manufacturers Light & Heat Company entered West Virginia in 1902 or 1903 by the acquisition of local companies, whose business began in 1888 or 1889 (Rec. 63, 64, 94, 96, 97, 1039). The Philadelphia Company of Pennsylvania, through a subsidiary, went into West Virginia in 1897, after experiencing a shortage of Pennsylvania gas; and acquired in 1905 or 1906 the Fairmont & Grafton Gas Company, whose name was changed to the Pittsburg & West Virginia Gas Company, which delivers the bulk of its gas to the Equitable Gas Company and other Pennsylvania distributing subsidiaries of the Philadelphia Company (Rec. 523, 524, 484, 487, 511, 512, 516, 517, 1030, 1031). The Hope Natural Gas Company was organized in 1898 and took over the gas properties and franchises of certain companies (Rec. 322, 340-342 *et seq.*, 1173, 1329); and the Reserve Gas Company in 1902 (Rec. 322, 323, 748). The United Fuel Gas Company was organized in 1903 and expanded in 1909 by the absorption of the United States Natural Gas Company, which previously acquired the properties of local West Vir-

*The gas sales contracts of the exporting companies, hereinafter mentioned, by their provisions for priority service, indicate, as well as the physical facts, that the decline of West Virginia gas was anticipated.

ginia Gas companies (Rec. 359, 386, 1031, 1032). The Columbia Gas & Electric Company was organized and acquired its West Virginia properties in 1906 (Rec. 455, 456).

Of the companies buying gas from the Hope Natural Gas Company, a Standard Oil Company subsidiary, the Peoples Natural Gas Company, also a Standard subsidiary, supplying gas in Pittsburgh territory, experienced a shortage in or before 1903, when its purchases from the Hope commenced (Rec. 424); and the East Ohio Gas Company, also a Standard subsidiary, distributing gas at Cleveland, Akron, Canton and other Ohio points, was organized in 1898 (Rec, 323, 569, 578, 598, 1033), and commenced its Cleveland business in 1903, after the exhaustion of the north and northwest Ohio fields had begun (Rec. 593, 719, 726-728). The Fayette County Gas Company, operating at Uniontown and other Pennsylvania towns, was organized in 1900 and commenced its purchases in 1910 (Rec. 534, 555, 557, 558).

The Ohio Fuel Supply Company, which with the Columbia Gas & Electric Company owns the United Fuel Gas Company, and supplies gas to Cincinnati, Columbus, Springfield, Zanesville and other places in Ohio, was incorporated in 1902, and received no West Virginia gas until 1909, when its purchases from the United Fuel commenced (Rec. 650, 683-686). The Northwestern Ohio Natural Gas Company, supplying Toledo and other Ohio municipalities, organized in 1887, and a subsidiary of the Ohio Fuel Supply Company, began to buy from the Hope Natural Gas Company in 1903 or 1904, after the exhaustion of its north-

western Ohio field had become manifest, and after the Indiana gas had been exhausted (Rec. 658, 671, 718, 719, 726, 727). The Union Natural Gas Corporation, which with the Standard Oil Company owns the Reserve Gas Company, also owns the Logan Natural Gas & Fuel Company and other companies, supplying Dayton, Muncie and other Ohio and Indiana cities. Before the time of its organization, and when the Logan Company was acquired, there had been a sharp decline of their Ohio gas fields; and since about 1904 the Logan Company has received West Virginia gas from the Reserve Gas Company under the latter's contract with the Union Natural Gas Corporation (Rec. 747-755, 758-764, 773).

West Virginia Gas Development and Utilization.

West Virginia is, and for more than twenty years last has been one of the principal gas-producing States. The volume of its production is, and for twelve years last past has been, the largest in the United States (Rec. 1120). At present gas is produced in large quantities in and from the counties of Boone, Braxton, Brooke, Cabell, Calhoun, Clay, Doddridge, Gilmer, Hancock, Harrison, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Mingo, Monongalia, Nicholas, Ohio, Pocohontas, Pleasants, Putnam, Ritchie, Roane, Taylor, Tyler, Upshur, Wayne, Wetzel, Wirt and Wood, being thirty-two of the fifty-five counties; while gas has been found in paying quantities, and large areas are leased and held as prospective gas territory, in six other counties (Rec., 980). The earliest West Virginia development was in the northern section. Originally

considered a nuisance in the oil operations, with which it was first produced, the gas was blown into the air and wasted; but later its value for domestic heating and lighting , as well as for factory fuel and general industrial use, was recognized. Wells were then drilled for gas. The enormous production and very great rock pressure (sometimes called natural pressure) in the early wells enabled the gas to be transported through pipe lines for considerable distances without the assistance of compressors; and aside from the cost of leases and drilling, the mere laying of a pipe line to the point of distribution was practically all of the investment required for local use.

In many instances small companies or individual operators obtained franchises and furnished gas to a municipality or community near at hand. Other and larger concerns connected their gas wells and lines into systems serving under franchises a number of separate municipalities and localities. Beginning in the period between 1889 and 1894, the most important cities and towns in the northern and north-central sections of West Virginia were thus served with gas by local companies, viz., Wheeling, Moundsville, Morgantown, Fairmont, Clarksburg, Grafton, Weston, West Union, Parkersburg, Sistersville, St. Marys, and many other municipalities in the Panhandle section and throughout the counties of Marshall, Wetzel, Monongalia, Marion, Harrison, Lewis, Doddridge, Ritchie, Tyler, Pleasants and Wood (Rec., 1117 *et seq.* 1173, 1174, 1205, 1206, 1218, 1219, 1267, 1343).

Its abundance, cleanliness, convenience and economy over other forms of fuel were so great that the use

of gas spread rapidly, and it soon became the universal and exclusive fuel in the northern and north-central sections of West Virginia for dwelling houses, business buildings, churches, schools, colleges, hospitals, asylums, court-houses, electric light and power plants, water works, municipal street lighting and many other purposes. In the then existing dwellings and buildings, the means and appliances for consumption of other fuel were generally discarded. New houses and buildings were in general constructed and equipped with a view to the exclusive use of gas for heating, and, in many instances, for illumination (Rec. 1119-1122, 1220-1223, 1343). The existing industries adopted gas for fuel, and a great number of new factories and other industries to which cheap fuel was important were established. The local gas companies in many instances, in order to upbuild the municipalities served by them, and thereby to stimulate the consumption of their gas, pursued for many years the policy of encouraging the establishment of new industries by the offer of gas at low prices during long periods of time. The industries thus established were located and constructed for, and their processes and products especially adapted to, the use of gas as fuel. They employed many workmen and laborers, both skilled and unskilled, who were dependent for employment and the livelihood of themselves and their families on the existence and continued operation of the gas-using industries. The population and wealth of the cities, towns and communities so supplied with gas, and of the State as a whole, thus increased; and the added population at once profited the gas companies by adding to the

consumption of their gas, and promoted the general prosperity.

This history was duplicated in the south-central and southern sections as the discovery and development of gas extended southward. In Charleston, Huntington, Spencer, Glenville, Point Pleasant, St. Albans, Kenova, and many other places in the gas-producing counties gas likewise became the universal and exclusive fuel, and the use thereof brought to pass the like development and growth of population, wealth and general prosperity (Rec., 1117 *et seq.*).

From this it followed that the domestic life and the business of a majority of the people of West Virginia were and are modified and their adjustments made with reference to the continued use of gas as fuel; and gas in reasonably adequate quantities for domestic and industrial use became, was and is a necessity throughout the greater part of the State.

According to the United States Geological Survey statistics for 1918 (Rec., 1566, insert p. 145, Pa. Exhibit No. 45), the West Virginia gas consumers in that year were divided into 127,168 domestic and 1,873 industrial users. The domestic users in 1919 were 130,780 (Rec., 849). Estimating, as is usually done, an average of four and one-half or five persons in the family of each domestic consumer (Rec., 908), would show from 585,000 to 650,000 West Virginians dependent on domestic service alone.

Gas Shortage in West Virginia.

Until the winter of 1916-1917, all consumers in the State were adequately served. The extent of the West Virginia fields and the quantity of production until that time were greater than ever before known in the gas industry. The supply in the hands of the public utilities, produced within the State, was at all times from four to five times greater than the total amount used by the domestic and industrial consumers of the State (Rec., 996). Under these circumstances West Virginia and its gas consumers rested in security.

In the winter of 1916-1917, however, the people of West Virginia were rudely disillusioned. Early in that winter began an inadequate service of gas, which, by midwinter, developed into an extensive shortage (Gov. Cornwell, Rec. 1194, 1196; 1139-1154, 1223-4, 1282, 1343-1345. And this recurred in the following winters, (Rec. 840-846). In an effort to meet the situation, and under a rule of the West Virginia Public Service Commission, all industrial gas was shut off; but yet the suppy was inadequate to warm the homes of domestic consumers. For a long period of extremely cold weather the shortage deprived dwelling-houses, hotels, stores, and public and private buildings of sufficient heat, and in some instances, of any heat. In the homes and hotels, cooking was prevented, and in many cases illness was caused or accentuated by the cold. Public schools were closed and churches compelled to forego their customary exercises. Factories were shut down with great loss to their owners, and their workmen thrown out of employment. An extreme example was the State Tuberculosis Sanitarium, at Terra Alta, where the supply failed utterly, and in order to keep the patients from

freezing, the officials were compelled in zero weather to build fires and erect stoves with funnels or stove-pipe projecting from the windows (Rec., 1153). The State Penitentiary at Moundsville in Marshall county, the West Virginia University at Morgantown in Monongalia County, the State Hospitals for Insane at Weston in Lewis County and at Spencer in Roane County, the Industrial School for Girls at Salem in Harrison County, the Industrial School for Boys at Pruntytown in Taylor county, the Fairmont Hospital and the Fairmont Normal School at Fairmont in Marion County, the Glenville Normal School at Glenville in Gilmer County, all State institutions, situate within developed gas territory, were likewise affected and driven to the use of other fuel. Distress or inconvenience to domestic consumers, and the shutting down of industries, occurred practically in all sections of the State where gas was used, from the northern Panhandle southward to Charleston (Rec., 1195). The severity was as great in the sections lying in the most prolific fields as elsewhere and many of the places affected were in proximity to the territory and gas lines of the companies most extensively engaged in the transportation of gas to or for consumption in other States (Rec. 1177 *et seq.*; 842-845; and see maps).

Cause of Shortage.

The cause of this gas shortage is not far to seek. The various statements in the record, too numerous and intricate to set out in detail, and not capable of precise reconciliation in some instances, concur in showing that the shortage in West Virginia, was and is due to the enormous volumes of West Virginia gas

exported by certain public service corporations of West Virginia, to or for consumption in the other States, and the consequent drainage of the West Virginia gas fields, without regard to present or future needs of West Virginia, or the duties of the exporters to the latter State.

The earliest figures available are for the year 1908. The following, (Rec., 1603, 1378, 992), shows the total amounts exported from West Virginia to and including the year 1919 as compared with the total production of the State:*

Year	Total Production	Exports	Per Cent.
	M. Cu. Ft.		
1908	112,181,278	61,644,618	55
1909	166,435,092	96,074,387	58
1910	190,705,869	120,508,811	63
1911	206,890,576	132,867,059	64
1912	239,006,682	151,144,250	63
1913	245,453,985	155,501,876	63
1914	236,489,175	150,161,936	63
1915	244,004,159	154,630,164	63
1916	299,318,907	200,004,740	67
1917	289,898,967	196,679,263	68
1918	280,289,044	174,664,650	62
1919	219,886,837	139,939,062	64

But the foregoing statistics of total production and export, and the calculation of consumption in West Virginia by subtraction of the total export from the total production, while pointed to by the plaintiffs,

*The total production above, except for 1918 and 1919, is as stated by the United States Geological Survey Reports. For 1918 and 1919, the production is computed by the Statistician of the West Virginia Public Service Commission from reports to the Board of Public Works and the Public Service Commission (Rec. 990-992).

are irrelevant. As explained in the margin,* a large proportion of the gas included in the total West Virginia consumption consists of free gas to lessors and gas used by the gas companies in field operations, which are properly operating expenses, and gas produced and consumed by persons and corporations, whose property has not been devoted to public use or affected with a public interest, and which therefore is neither available to the public in fact nor by statutory compulsion.

**Statistics on Production and Consumption.*—In the subsequent statistics, West Virginia has used as a basis the net supply available for service to the public. Before gas is available for public use, the producer must deliver to the landowner the free gas uniformly reserved in gas leases as part of the rental, the ordinary individual consumption whereof has largely exceeded that of the average domestic consumer, and the aggregate amount of which has been very considerable (Rec. 241, 414, 415, 848, 1062).

Large quantities of gas are consumed for field purposes, namely, for fuel used in drilling and cleaning out wells, the operation of compressor or pump stations to transport the gas, and the various other purposes necessary to the production and transportation of gas to market. The quantities so used amount to approximately 7 per cent of the annual production (Rec., 949, 989, 990, 992). Calculation based on the total sales and field gas consumption of the Hope Natural Gas Company in 1919, Rec., 267, gives a similar result.

Again, in West Virginia, as in other States, certain producers (consisting for the most part in West Virginia of carbon-black manufacturers, but also including a few other industries) hold and produce gas from their own territory and for their own consumption and are not public-service corporations (Rec., 989, 990, 992.

None of the free gas delivered in payment for leases, nor that used for field purposes or consumed by such private enterprises, reaches the public. To include the free or field gas as a part of the West Virginia consumption would at once charge West Virginia consumers with what they do not in fact receive, and at the same time free consumers in other States from the proportion chargeable to the production and transportation of the much greater quantities of exported gas. The total of these three items in the past ten years has averaged approximately 15 per cent. of the annual production. (See statistics, Rec., 992.) This gas should be eliminated from the public service gas supply, thus confining the statistics and discussion to the remaining 85 per cent. as the net supply of the public-service corporations available for service (*Pittsburgh & W. Va. Gas Co. vs. Nicholson*, 87 W. Va., 540, 544-546). Statisticians for the plaintiffs, however, include these three items in the supply of West Virginia consumers, and thereby have produced percentages to show that they use more gas *per capita* than the consumers in other States (Rec., 899-901; 948-950).

The distinction between the total production and the net supply available for public service is important in comparison of the amount and proportion used by West Virginia consumers with the exported gas. For example, in 1916 the total production of the State by all operators and for all purposes was 299,318,907 M cubic feet, and there was in the hands of the public-service corporations of the State a net supply of 259,414,200 M cubic feet available for service to the public and disposed of by said corporations (Rec., 992), yet of this latter volume the total served to all West Virginia consumers was only 59,409,460 M cubic feet, or 22.9 per cent. The figures for nine years show that the maximum used by West Virginia consumers never exceeded 25.6 per cent of the net supply, so available for public service (Rec., 996):

Year	Net Supply for Public Service	Sales to W. Va. Consumers	Per Cent. to W. Va. Consumers	Per Cent Exported
	M. Cu. Ft.			
1911	173,132,353	40,265,294	23.3	76.7
1912	203,112,738	51,968,488	25.6	74.4
1913	209,131,295	53,629,419	25.6	74.4
1914	200,762,645	50,600,709	25.2	74.8
1915	207,777,882	53,147,718	25.6	74.4
1916	259,414,200	59,409,460	22.9	77.1
1917	245,620,686	48,942,388	19.9	80.1
1918	227,649,823	52,985,173	23.3	76.7
1919	183,687,047	46,654,098	25.4	74.6

Of the gas available for public service, a proportion ranging from 80.3 per cent. to 91 per cent., has, by

the means hereafter explained, been controlled by seven companies, the Hope Natural Gas Company, Reserve Gas Company, Pittsburgh & West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light & Heat Company, United Fuel Supply Company and Columbia Gas & Electric Company, the companies chiefly engaged in the transportation of West Virginia gas to or for consumption in other States. The quantities and percentages controlled by these seven companies are illustrated by the following tabulation (Rec. 996, 1736, insert p. 414):

Year	Net Supply for Public Service	Net Supply of Seven Companies	Per Cent.
	M. Cu. Ft.		
1911	173,132,353	147,431,246	85.1
1912	203,112,738	172,050,962	84.7
1913	209,131,295	167,897,746	80.3
1914	200,762,645	166,625,730	83.0
1915	207,777,882	170,694,495	82.1
1916	259,414,200	220,892,583*	85.1
1917	245,620,686	223,517,777	91.0
1918	227,649,823	201,685,702	88.6
1919	183,687,047	164,426,341	89.5

And out of the abundance of the supply of the seven companies, the proportion granted to West Virginia consumers extended from 11 per cent to 17.9 per cent, as shown by the following (Rec., 997):

*The figure on Record, page 996, is a typographical error. See Rec., 1736, insert p. 383.

Year	Net Supply of Seven Companies	Sales to West Virginia Consumers	Per Cent.
	M. Cu. Ft.		
1911	147,431,246	17,200,747	11.7
1912	172,050,962	21,101,443	12.3
1913	167,897,746	22,297,677	13.3
1914	166,625,730	20,612,599	12.4
1915	170,694,495	18,860,867	11.0
1916	220,892,583	24,526,859	11.1
1917	223,517,777	26,889,876	12.0
1918	201,685,702	30,120,273	14.9
1919	164,426,341	29,360,811	17.9

The entire balance of their net supply for these years was marketed by the seven companies for consumption in other States. The following statement (deduced from the tabulation at Rec., 997) shows that of the West Virginia gas of the seven companies from 82.1 per cent. to 89 per cent. went to other States in the nine years from 1911 to 1919:

Year	Net Supply of Seven Companies	Amount Exported	Per Cent.
	M. Cu. Ft.		
1911	147,431,246	130,230,499	88.3
1912	172,050,962	150,949,519	87.7
1913	167,897,746	145,600,069	86.7
1914	166,625,730	146,013,131	87.6
1915	170,694,495	151,833,628	89.0
1916	220,892,583	196,365,724	88.9
1917	223,517,777	196,627,901	88.0

1918	201,685,702	171,565,429	85.1
1919	164,426,341	134,065,530	82.1

WEST VIRGINIA PUBLIC SERVICE GAS COMPANIES.

As of December 31, 1919, there were in West Virginia about sixty-seven natural gas public service corporations (Rec. 982, 1365),* all of which, by its language, fall within the purview of the statute in contest. By public service corporations we mean those concerns, whether corporate or individual, commonly denominated as public utilities. (Cf. *Van Dyke vs. Geary*, 244 U. S., 39, 43-45, per Mr. Justice Brandeis; *Southern Iowa El. Co. vs. Charlton*, 255 U. S., 539, 542, 543; *Winchester vs. Winchester Water Works Co.*, 251 U. S., 192, 197, per Mr. Justice Day.) They fall within the category of "corporations which devote their property to a public use" (*New York vs. McCall*, 245 U. S., 345, 351), or whose business is "affected by a public use." (*Stafford vs. Wallace*, U. S. Adv. Ops., 1921-2, p. 469; *Clarksburg L. & H. Co. vs. Public Service Com.*, 84 W. Va., 638, 644-646, 100 S. E., 551; *Mill Creek Coal & C. Co. vs. Public Service Co.*, 84 W. Va., 662, 668, 669, 100 S. E., 557; *German Alliance Ins. Co. vs. Lewis*, 232 U. S., 389.)

*The lists in the Record, pp. 982 and 1365, were compiled from the records of the Board of Public Works and the Public Service Commission. The sixty-seven companies, while reporting to those authorities, include a number only incidentally serving gas, such as oil companies and certain carbon-making and manufacturing plants, which utilize their production in their own private enterprises and whose consumers are limited to their employees or to lessors entitled to free gas. Of this character are the South Penn Oil Company (Rec., 1447), Ohio Fuel Oil Company (Rec., 1004), Columbian Carbon Company, Imperial Oil & Gas Products Company, and Owens Bottle Machine Company, none of which in fact supplies gas to the public, nor do they profess or hold themselves out to be public-service corporations (Rec., 998, 1004, *et seq.*).

Embraced within the sixty-seven companies are not only the Hope Natural Gas Company, the Reserve Gas Company, the Pittsburgh & West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light & Heat Company, United Fuel Gas Company and Columbia Gas & Electric Company, but also the numerous smaller corporations engaged in the public supply of gas (Rec. 1034-1042). Examples are, the Clarksburg Light & Heat Company at Clarksburg (Rec. 842, 1035, 1203); the Charleston-Dunbar Natural Gas Company at Charleston, St. Albans and South Charleston (Rec. 1036); the Huntington Gas & Development Company at Huntington and the vicinity thereof (Rec. 1180); the West Virginia Traction & Electric Company and the Randall Gas Company at Morgantown (Rec. 1034), 1041, 1142); The Monongahela Valley Traction Company at Fairmont (Rec. 1034, 1035, 1220); the Glenville Natural Gas Company at Glenville (Rec. 1034); the Keener's Oil, Natural Gas & Fuel Company at Weston (Rec. 1035, 1147, 1256); the West Virginia Heat & Light Company in Ritchie County towns (Rec. 1035); the Buckhannon Fuel Supply Company at Buckhannon (Rec. 1039); the Comet Oil & Gas in Taylor County, (Rec. 1035), and the Montgomery Gas Company in Kanawha and Fayette Counties, (Rec. 1041).*

*It may be noted in passing that in some instances smaller companies engaged in the public service sell part of their gas to some of the seven companies principally carrying on the export business. Examples are afforded by sales of the Comet Oil & Gas Company to the Hope Natural Gas Company, (Rec., 1736, insert p. 282); Clarksburg Light & Heat Company to the Pittsburgh & West Virginia Gas Company, (Rec., 1036, 1736, insert p. 299); the Charleston-Dunbar Natural Gas Company to the United Fuel Gas Company, (Rec., 1036, 1736, insert p. 316).

To these companies, engaged in the public service of gas, the State extended broad charter powers, but subject to the reserved legislative right to alter any charter and to alter or repeal any law applicable to a company *Code of W. Va.*, Ch. 53, sec. 8: *Acts of 1867*, Ch. 5, sec. 6; *Acts of 1882*, Ch. 96, sec. 8; *Manufacturers Light & H. Co. vs. Ott*, 215 Fed., 940; *St. Mary's &c. Petroleum Co. vs. West Virginia*, 203 U. S. 183). It gave the power of eminent domain, without which the construction of the great pipe-line systems hereinafter mentioned would not have been possible. This power was often exercised, and where not exercised was obviously potential in negotiations for the purchase of rights of way for pipe lines and other facilities (Rec. 1215, 1216, 1802-1917, 246, 382, 520; *Carnegie Nat. Gas Co. vs. Swiger*, 72 W. Va., 557, 79 S. E., 3; *Charleston Nat. Gas Co. vs. Lowe*, 52 W. Va., 662, 44 S. E., 410) County courts granted to them franchises for the free use of the public highways, upon and along which they constructed and maintain pipe lines, boxes, connections, and telegraph and telephone lines (Rec. 74, 246, 247, 519, 1016, 1017, 1917; *Hardman vs. Cabot*, 60 W. Va., 664, 55 S. E., 756). Under like franchises from cities and towns they were given and enjoy the use of streets and alleys (Rec. 70, 247, 248, 382, 386, 519, 1174). The various pipe lines for gathering, transmission and service of gas spread in a network over the gas fields and gas producing counties.

While its liberal policy toward those engaged in the public service of gas was primarily dictated by the motive to provide for its own people, West Virginia was not illiberal toward consumers in other States.

No program of conservation was adopted or attempted, nor were efforts made to restrict the enormous and continually increasing volume of gas which, in later years, certain of its public service corporations transported, or sold for transportation, to consumers in other States. The right of these public service corporations so to dispose of their surplus in other States was recognized by permitting them to exercise the power of eminent domain for the construction of pipe lines transporting chiefly for foreign consumption, subject only to the duty of first serving West Virginia consumers in the territory through which such lines extended. (See *Carnegie Nat. Gas Co. vs. Sweiger,* 72 W. Va., 557, 572, 573, 79 S. E., 3).

The Seven Companies.

We emphasize that the statute in question applies equally to all public-service gas companies. But it is nevertheless true that the marvelous disparity of the gas supply to West Virginia and the manifest discrimination against it in the distribution of its own product, were brought about by the seven public-service gas corporations (in practical interest and effect, five only), whose rights are so strongly sought to be vindicated by the plaintiffs. This was effected by the domination by the seven companies of the major part of the gas territory and gas supply of the State, vesting in them a virtual monopoly, and by the enormous sales of West Virginia gas for consumption in other States, already evidenced by the statistics above presented. While, therefore, the seven companies have not been singled out for hostile legislation, their relation to the present lit-

igation and to the West Virginia gas shortage requires special mention of their circumstances.

The seven companies, either in their original form or in the aspect later assumed, were and are, the Hope Natural Gas Company, Reserve Gas Company, Pittsburg & West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light & Heat Company, United Fuel Gas Company, and Columbia Gas & Electric Company. While seven in number and referred to throughout these causes as "the seven companies," they are, in effect, only five in interest and operation, because of the identity of control of the Hope Natural Gas Company and the Reserve Gas Company and of the United Fuel Gas Company and the Columbia Gas & Electric Company.

The Hope Natural Gas Company is owned, and the Reserve Gas Company is controlled, by Standard Oil Company of New Jersey (Rec., 322); the minority stockholding of the Reserve is presently owned by Union Natural Gas Corporation, a holding corporation controlling a number of companies engaged in producing and marketing natural gas to various cities in Ohio (Rec., 323); Carnegie Natural Gas Company is a subsidiary of the United States Steel Corporation (Rec., 925, 926, 937); Pittsburg & West Virginia Gas Company, formerly the Fairmont & Grafton Gas Company, an independent local company (Rec. 487, 511, 512, 1030), is a subsidiary of the Philadelphia Company of Pennsylvania (Rec., 509-513), a holding company with a number of other subsidiaries engaged in producing and distributing natural gas and owning and operating the street-railway system of Pittsburgh and various

other large enterprises; the Manufacturers Light & Heat Company is a merger of some twenty to twenty-five companies formerly in the natural gas business in Pittsburgh and many municipalities of Western Pennsylvania, and also along the Ohio River in West Virginia and Ohio (Rec., 1029, 65, 71, 73, 78); and the United Fuel Gas Company is presently owned by the Columbia Gas & Electric Company and Ohio Fuel Supply Company (Rec., 378-379), the former owning or controlling the lighting and heating systems in Cincinnati, Covington and other cities in Ohio and Kentucky, in addition to producing and distributing gas elsewhere, and the Ohio Fuel Supply Company being a producing and marketing company in Ohio, selling gas to consumers and local gas companies in Ohio.

STATUS OF THE SEVEN COMPANIES.

All of these seven companies, in common with the other public service gas companies, were chartered or authorized to carry on business in West Virginia in the light of the following pre-existing statute (*Code*, ch. 53, Sec. 8; Acts of 1867, ch. 5, Sec. 6; Acts of 1882, ch. 96, Sec. 8):

> "And the right is hereby reserved to the legislature to alter any charter or certificate of incorporation hereafter granted to a joint stock company and to alter or repeal any law applicable to such company."

As to the nature of the seven companies, when the Act of 1919, now in contest, was passed, we summarize the following:

(1) All seven companies were and are public-

service gas corporations of West Virginia in the sense hereinbefore defined. Five of them, the Hope Natural Gas Company, Reserve Gas Company, Pittsburg & West Virginia Gas Company, United Fuel Gas Company, and Columbia Gas & Electric Company, were chartered under the laws of West Virginia. The Manufacturers Light & Heat Company and Carnegie Natural Gas Company were chartered under the laws of Pennsylvania, but, as a condition precedent to doing business in West Virginia necessarily received from the State authorization to do business under the laws applicable to domestic corporations, and became and were to all intents and purposes, domestic corporations, insofar as concerned their property, business, rights and duties in the State (Rec., 1885; Code W. Va., ch. 54, Sec. 30). In addition, substantially all the gas territory, leases, pipe-line systems, rights of way, franchises and other property of the Manufacturers Light & Heat Company in West Virginia were acquired by absorption of the Wheeling Natural Gas Company and other public-service corporations theretofore chartered and serving the public under the laws of West Virginia (Rec., 63, 69, 1029).

The substance and effect of the charters of these seven companies, set forth with varying degrees of elaboration in their respective condemnation proceedings, sufficiently evidence their character. Thus the Reserve Gas Company and the Hope Natural Gas Company both allege (W. Va. Exs. Nos. 45 and 46, Rec., 1803, 1822) that their charter powers include:

> "The producing, dealing in, buying and selling, acquiring, storing, transporting by pipes and

> otherwise natural gas for its own use and for the selling and supplying of natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and other municipalities and places in the State of West Virginia as well as elsewhere, where the said natural gas may be discovered, purchased, stored or transported by the said * * * Gas Company," * * *

and

> "Also to have, exercise and enjoy the right of eminent domain, and in the exercise of such right to take, condemn, use and enjoy such lands, rights of way, easements and property as shall be necessary to enable it to lay and construct its mains, pipes and conduits, pump stations, telegraph and telephone lines, dams and other structures and appliances necessary and required or convenient to the producing, storing, cooling and transporting of natural gas."

And, though not obeyed or enforced (Rec., 312, 315, 352, 520, 1257, 1425, 1426), the public character of natural-gas pipe lines has been declared in West Virginia since the year 1891, under the provisions of its Code, Chapter 52, Section 24, extending the power of eminent domain to companies organized for the purpose of transporting such gas, and declaring that,—

> "Such company shall for the purpose of transporting natural gas, oils and water be considered and held to be a common carrier, and subject to all the duties and liabilities of such carrier under the laws of this State."

(2) The seven companies, and the constituent companies absorbed by them, pursuant to their charter powers, engaged in the service of natural gas to the people of West Virginia, and have at all times since served a large number of its people. Prior to the Act of 1919, here involved, and now, these companies, like other gas companies, were and are subject to the Public Service Commission Act (*Acts* of 1913, Ch. 9; *Acts* of 1915, Ch. 8; *United Fuel Gas Co. vs. Public Service Com.*, 73 W. Va., 571, 80 S. E. 931; *Randall Gas Co. vs. Star Glass Co.*, 78 W. Va., 252, 88 S. E. 840; *Clarksburg L. & H. Co. vs. Public Service Com.*, 84 W. Va., 638, 100 S. E. 551; *Kelly Axe Mfg. Co. vs. United Fuel Gas Co.*, 87 W. Va., 368, 105 S. E. 102; *Manufacturers L. & H. Co. vs. Ott*, 215 Fed., 940). They have acknowledged their character as public service corporations, and as such have filed their tariffs and schedules before the West Virginia Public Service Commission and accepted the rates and regulations prescribed by that body (Rec., 1365, 1922-1943).

From an application of the Hope Natural Gas Company, the largest of the seven companies, for leave to increase rates (W. Va. Ex. No. 53, Rec., 1923), we quote as an example the following typical averment:

> "That its principal place of business is in the following towns where it distributes natural gas and in the neighboring country districts and villages, viz: Belmont, Clarington, Colliers, Eureka, Fairview, Friendly, Glovers Gap, Littleton, Lima, Lost Creek, Mt. Clare, Mannington, Metz, Minora, Parkersburg, Paden City, Pine Grove, St. Marys, Sistersville, Smithfield, Williamstown and Wiley-

ville, West Virginia, and that it is a public-service corporation engaged in the management and operation of a natural-gas plant in said cities and towns and that as such public-service corporation in the service of natural gas to the domestic consumer it is subject to the provisions of Chapter 9, Acts of the Legislature of West Virginia for 1913 and 1915 and of the Code of West Virginia applicable to this class of corporations."

These seven companies, or some of them operate in thirty-seven counties of West Virginia, having a population of 1,065,980 in 1920, and supply gas in 49 municipalities with a population of 199,469 (Rec. 1012, 1037). Their pipe lines aggregate 7,618 miles (Rec., 1016). The extent of their gas territory and the volume of their gas are referred to elsewhere herein.

(3) The service to West Virginia consumers so authorized and undertaken by the seven companies embraces gas for domestic, industrial, commercial and other purposes. The public professions of the Hope Natural Gas Company and Reserve Gas Company as to such service are exemplified by the following quotation from the printed form used in their applications to the courts of the State for leave to condemn for pipe lines (Rec., 1823, 1804):

> "That since the granting of said new or amended and modified charter or certificate of incorporation, as well as for several years before, petitioner has been and is engaged in the business of selling and supplying natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power

to persons, firms, partnerships, corporations and other consumers and purchasers for use in incorporated cities, towns, villages, districts and other municipalities and places in the State of West Virginia, and has been and is supplying natural gas to the public for fuel, illuminating and other purposes, and has been, and is still, at great expense and cost to it, erecting, laying, maintaining and operating pipes and lines of pipe, etc., for transporting natural gas with which to supply the public and said other purchasers and consumers with natural gas for fuel, illuminating, heat, power and other purposes; and that it has been and is transporting natural gas to be supplied to the public and said other purchasers and consumers for fuel, heat, illuminating, power and other purposes by and through its said pipes and pipe lines."

The attitude of the Pittsburgh & West Virginia Gas Company was expressed in the following language (Rec., 1843):

"1st. That petitioner is a corporation duly organized and existing under and by virtue of the laws of the State of West Virginia, for the purposes of transporting carbon oil and natural gas, or both, by means of pipe lines, or otherwise, for public use; that petitioner is now engaged in the business of producing, transporting and selling natural gas for public use and is now producing large quantities of natural gas within the State of West Virginia, and is transporting the same to market by means of certain pipe lines constructed and maintained by it; that the natural gas so transported

by said lines is being sold to the public in the following incorporated cities, towns and villages, to wit: Grafton, Enterprise, Shinnston, Lumberport, Haywood, Colfax, Worthington, Simpson, Pruntytown, Blueville, Thornton and Flemington, all within the State of West Virginia, and other places in the State of West Virginia not incorporated, and many persons not living in any city, town or village, are likewise being supplied with natural gas for domestic and industrial uses by this petitioner by means of its said system of pipe lines; that the transportation of said natural gas and the sale thereof is for the use of the public generally for the purpose of supplying light and heat to such public; and that your petitioner is ready and willing at all times, and has so held itself out, to sell said gas to the public, or any portion thereof, upon the payment of a reasonable price therefor."

Substantially the same assertions and professions were made by the constituent and predecessor companies, Fairmont & Grafton Gas Company (Rec. 1896) and The Philadelphia Company of West Virginia (Rec., 1857), while the Carnegie Natural Gas Company uses language even broader (Rec., 1876), containing the additional averment that it is a common carrier of natural gas under the laws of West Virginia.

(4) With respect to future consumption and extensions of service for domestic, industrial and other uses of gas, the seven companies expressed their sense of obligation to West Virginia consumers as follows:

The Pittsburgh & West Virginia Gas Company and

its predecessor, Fairmont & Grafton Gas Company, stated of record (Rec., 1843, 1896) that each was:

> "* * * ready and willing at all times, and has so held itself out, to sell said gas to the public or any portion thereof, upon the payment of a reasonable price therefor."

The Philadelphia Company of West Virginia, the other constituent company of Pittsburgh & West Virginia Gas Company, alleged (Rec., 1857):

> "Your petitioner is constantly increasing the number of its consumers and is desirous of largely increasing its sales of gas in the various counties of West Virginia traversed by its lines. Your petitioner is ready and willing to sell gas to all parties within reaching distance of its pipe lines who apply for the same, at reasonable rates. Your petitioner, being a public-service corporation, as hereinbefore stated, is ready and willing to furnish gas at all times to the public, as aforesaid."

The Carnegie Natural Gas Company alleged (Rec., 1876):

> "Your petitioner is constantly increasing the number of its consumers and it is desirous of largely increasing its sales of gas in the various counties of West Virginia traversed by its lines. Your petitioner is ready and willing to sell gas to all parties within reaching distance of its pipe lines who apply for the same at reasonable fixed rates which are in general effect throughout the State of West Virginia, and which rate is as follows: 25 cents per thousand cubic feet of gas; also

flat rate of $1.50 per month for one fire. Your petitioner, being a public-service corporation, as hereinbefore stated, is ready and willing to furnish gas at all times to the public, as aforesaid."

The Wheeling Natural Gas Company, the principal constituent through which the Manufacturers Light & Heat Company was doing business in West Virginia in the year 1906, alleged (Rec., 1905):

"That petitioner in the exercise of its rights, powers, and privileges and in the conducting of its business has been and is supplying the incorporated cities, towns, and villages of Benwood, Chester, McMechen, Moundsville, Newell, and other towns and vicinities and manufactories within the State of West Virginia, and the inhabitants of said cities, towns, and villages, with natural gas, for heating, fuel, illumination, power and other purposes, under ordinances of said several cities, towns, and villages, as well as a large number of unincorporated towns and villages in the said State of West Virginia, and persons residing in and inhabiting such unincorporated towns and villages, and any and all persons residing along the lines of your petitioner, desiring natural gas."

The Hope Natural Gas Company, after an extensive enumeration of the various cities, towns, and communities in West Virginia served by it and its other public services of gas, alleged (Rec., 1825):

"That petitioner, as is its bounden duty, furnishes, and is ready and willing to furnish, at uniform and reasonable rates, natural gas for heating, illuminating, fuel, power, and other purposes

to every inhabitant of the several incorporated cities and towns above named who applies therefor, and complies with the regulations prescribed by the ordinances of such of said cities and towns as have fixed ordinances authorizing the same, and who complies with the regulations fixed by the council of such of said towns as have not a specific ordinance, and also furnishes and is willing to furnish all other consumers therewith, at uniform and reasonable rates."

The Reserve Gas Company stated its attitude in language substantially identical with that of the Hope Natural Gas Company in the quotation immediately preceding (Rec., 1805).

(5) With respect to their pipe lines, the public professions of the seven companies are found in their many applications for leave to condemn made to the courts in the gas-producing counties, specimens of which are exhibited in the record at pages 1802 to 1916. In substance these applications set forth their extensive service of gas to West Virginia consumers; the necessity of obtaining a greater supply for them and the drilling of wells for that purpose; the necessity of laying a pipe line or lines for the purpose of transporting such additional gas to said West Virginia consumers and of condemning over the particular land described, and that the construction of said pipe line is necesary for public use and the same, when constructed, will be so used. Thus the form of application used by the Hope Natural Gas Company and Reserve Gas Company alleged (Rec., 1826):

"That it became necessary for petitioner in

order to supply natural gas to the said several incorporated cities and towns, and their inhabitants, as well as the several other [illegible]vns, individuals, firms, corporations, copartnerst[illegible]tc., for heating, fuel, illuminating, power, and [illegible]r purposes, and to keep up the required and necessary supply of such gas, that it discover and produce an additional supply of natural gas; that to discover and produce the same, it became necessary for petitioner to drill, at large cost and expense, new wells for the purpose in the county of Harrison and several other counties in the State of West Virginia, and to acquire other wells in said counties; and that petitioner has drilled several new wells in said several counties and has discovered and found a large supply of natural gas in the said wells, and has acquired sundry other wells producing natural gas. That from said wells so drilled by it, as well as from said wells so acquired by it, petitioner produces natural gas with which to supply the said incorporated cities and towns and the said inhabitants thereof, aforesaid, as well as said other purchasers and consumers. And that in order to supply said incorporated cities and towns and the inhabitants thereof, as well as other consumers and prospective consumers in Harrison County, and elsewhere, with such natural gas produced from said last-mentioned wells, for heating, illuminating, and other purposes, it is necessary that petitioner lay, construct, and maintain an additional line of pipe from some of the wells in said several counties, through a portion of said Harrison County and portions of other counties in the State of West Virginia, so as to

reach the above-mentioned incorporated cities and towns, and the inhabitants thereof, as well as said other consumers in Harrison County and elsewhere, with said pipe line for the purpose of transporting such natural gas; and it is also necessary that petitioner transport such natural gas through said pipe line, and supply the same for said purposes to said incorporated cities and towns, and the inhabitants thereof, and said other consumers in said Harrison County and elsewhere."

(6) Further urging their public service to the people of the State, the seven companies applied for and were given, in addition to their franchises for use of the streets and alleys of the cities, towns, and villages in West Virginia served by them, the right to lay, maintain and operate pipe lines, connections, boxes, valves and other fixtures, as well as telephone and telegraph lines, along and upon the highways (Rec., 70, 74, 246, 247, 382, 386, 519, 1016, 1017, 1174; *Hardman vs. Cabot*, 60 W. Va., 664, 55 S. E., 756). A large part of their several pipe-lines and transportation systems are thus construed and now used without charge or compensation whatsoever. For an example of the franchises for use of the public highways see W. Va. Ex. No. 52 (Rec. 1917), granting to Reserve Gas Company:

"License and permission to lay and maintain in any of the public roads of this county pipe lines for the conveyance of gas from any well or wells of the said company, said pipe lines to be so laid as not to interfere with the use of said public roads and for that purpose to be covered with a covering of not less than twelve inches above said pipe line and also to be laid in such manner as not to inter-

fere with any other pipe line, now laid in or along said road. If at any time, by reason of working the roads it should become necessary to lower said pipe, at any point, said company shall lower it at its own expense. This franchise is to expire in fifty years from the date hereof."

And in this connection it is pertinent to mention that many of these franchises, and special rights and privileges therewith, as well as the pipe lines constructed thereunder, were acquired by the seven companies through their absorption of local companies.

Violation of Seven Companies' Duties to West Virginia.

These seven companies, through which the plaintiff States derive West Virginia gas and whose alleged rights are so extensively relied on in assertion of the claims of the plaintiffs, have, in manifest disregard of their duties and obligations to West Virginia and its people:

(1) Engrossed the gas supply of the State.

(2) Absorbed important local companies, which, if independent, would have continued to serve West Virginia consumers.

(3) Deprived the remaining local companies of their ability to supply adaquately their localities.

(4) Failed and refused to furnish in later years, when the deficiency of the local companies became acute, gas to make good the deficiency, except out of any surplus remaining after satisfying consumption in other States.

(5) Failed and refused themselves to supply

needed gas to consumers in the territory of their production or their transportation lines.

(6) Subjected to suffering and inconvenience in homes and public institutions and to industrial loss the people of West Virginia.

(7) Transported for consumption out of West Virginia the gas required for reasonably adequate service therein.

(8) Transported their gas for consumption in other States under color of contracts which (except as to the theoretical provision in favor of West Virginia domestic consumers) subordinated the service of West Virginia consumers to the service of the out-of-state gas companies and consumers.

(9) Aided and abetted by the tenor and intent of their contracts and by their practices the unlimited increase of use of West Virginia gas in the other States by providing for the extension of service to additional consumers there.

(10) Arrogated their contracts to superiority over the pre-existing laws of West Virginia, to which they owed their existence and special rights and privileges.

(11) By the contracts and transportation above mentioned, renounced their obligations and duties to West Virginia and disabled themselves from the performance thereof.

Gas Control of the Seven Companies.

As already shown, in 1919 the total gross production in the State by all producers was 219,886,837 M. cubic feet, of which, after deducting the free gas to lessors, gas used in the field, and gas produced and con-

sumed by private industries (which items do not reach or benefit the consuming public), there was a residue of 183,687,047 M. cubic feet, constituting the net supply in the hands of the public service corporations of the State available for service to the public. Of this net public supply, the seven companies produced from their own wells or acquired under purchase contracts a total of 164,426,341 M. cubic feet, or 89.5 per cent. The following table (Rec., 996, 1736, insert p. 414) shows that the like control has existed since 1911:

Year	Net Supply for Public Service	Net Supply of Seven Companies	Per Cent.
	M. Cu. Ft.		
1911	173,132,353	147,431,246	85.1
1912	203,112,738	172,050,962	84.7
1913	209,131,295	167,897,746	80.3
1914	200,762,645	166,625,730	83.0
1915	207,777,882	170,694,495	82.1
1916	259,414,200	220,892,583*	85.1
1917	245,620,686	223,517,777	91.0
1918	227,649,823	201,685,702	88.6
1919	183,687,047	164,426,341	89.5

But the control of the West Virginia gas situation by the seven companies is still further manifest.

The total acreage of gas territory controlled by producers in West Virginia and the other States from 1910 to 1918, as shown by the United States Geological Sur-

*The figure 200,892,583, on Record page 996, is a typographical error. See Rec., 1736, insert p. 383.

vey (the figures for 1919 not being available when the evidence was taken), was (Rec., 1000):

	West Virginia	Ohio	Pennsylvania	Total
1910	3,348,286	1,423,351	1,949,733	6,721,370
1911	3,399,213	1,643,228	2,032,772	6,075,213
1912	3,019,316	1,756,167	2,187,388	6,962,875
1913	3,155,751	1,515,562	2,211,440	6,882,753
1914	3,091,506	1,361,778	2,153,119	6,606,403
1915	3,184,245	1,519,229	2,174,403	6,877,878
1916	3,866,373	1,558,231	2,398,118	7,822,722
1917	3,787,185	2,260,028	2,436,029	8,483,242
1918	3,318,896	2,561,423	2,410,310	8,290,630

The total acreage in West Virginia, operated and unoperated, held by all the sixty-seven public service companies in 1919, was 2,725,798 acres, of which the seven companies together held 2,566,798 acres, or 93.8 per cent., of which 1,866,720 acres were undeveloped and 739,184 acres developed, while the other public service companies held 169,733 acres, of which 119,894 acres were undeveloped and 49,879 acres developed (Rec., 1000-1005).

For the years 1910 to 1919, the aggregate acreage of the seven companies was as follows, (Rec., 1736, insert p. 390; 1003):

Year	Developed	Undeveloped	Total
1910	311,569	2,639,509	2,951,078
1911	351,428	2,382,846	2,734,274
1912	467,664	2,027,469	2,495,133
1913	533,593	2,055,968	2,589,561
1914	572,043	1,852,319	2,424,362
1915	509,414	2,045,032	2,554,446

1916	559,078	2,281,435	2,840,513
1917	618,559	2,152,500	2,771,059
1918	658,880	1,872,843	2,531,723
1919*	689,305	1,866,720	2,556,025

In addition to the acreage directly held under lease, the seven companies indirectly control much other territory by means of purchase contracts for the gas production of a great number of oil companies and other independent producers. Thus, in 1919, of the 245 independent producers selling their gas to the 67 West Virginia public-service corporations, the seven companies acquired the production of 202 of such producers, holding oil and gas leases upon an aggregate of 1,316,807 acres, while the remaining 60 public-service corporations acquired the production of 53 of such operators, holding leases upon 11,394 acres (Rec., 1471-1473).

The total number of producing gas wells in West Virginia at the beginning of 1919 (according to the United States Geological Report for 1918) was 9,687, of which the seven companies owned 7,086, or 73.2 per cent. The additional wells held under contracts with independent producers is not disclosed in the evidence, but a fair inference can be drawn from a con-

*An exhibit filed by the plaintiffs (Pa. Ex. 31, Rec., 1568) assigns to the seven companies 2,954,120 acres, of which 2,169,310 acres, or 73.43%, are unoperated, and 754,810 acres, or 26.57% operated; and to 20 small companies 27,619 acres, of which 10,317 acres, or 37.55% are unoperated and 17,302 acres, or 62.65% are operated. Another tabulation (Pa. Ex. 27, Rec., 1566, insert p. 142), assigns to the seven companies 2,534,673 acres, of which 1,875,437 acres are unoperated and 659,236 acres operated; to the other public service companies 191,015 acres, 142,245 acres operated, and 48,770 acres unoperated.

sideration of the number and extent of territory of the independent producers from whom they purchased, as stated in the preceding paragraph. The total of producing gas wells in the State and the number thereof owned by the seven companies during the years 1910 to 1918 was as follows (Rec., 1021):

Year ended Dec. 31	Total, All Producers	Seven Companies	Per Cent.
1910	4,052	2,890	71.3
1911	4,790	3,354	70.0
1912	5,604	3,897	69.6
1913	6,534	4,578	70.1
1914	7,194	5,037	70.0
1915	7,718	5,458	70.7
1916	8,542	6,161	72.1
1917	9,329	6,763	72.5
1918	9,687	7,086	73.2

For 1919, evidence of the plaintiffs gives a total of 8136 wells, of which the seven companies had 7220 wells and the other public service companies listed, 816 wells (Rec. 1566, insert p. 142).

Added to this control of the sources of supply, and accounting in a large degree for it, is the control of the gas markets built up by means of, and dependent on, the pipe line systems and the compressor stations essential for the transportation of gas to consumers at a distance from the place of production. These pipe lines and stations are themselves, in fact, a monopoly resulting from the command of the large capital, not available to everyone, required to erect them and from the holding of the large areas of gas territory and large amounts of gas production, tributary to the pipe lines

and withdrawn by the seven companies from acquisition by others (Rec., 1016, 1279, 1310, 1329-1336, *et seq.*).*

Nor is this situation altered by the statute, already quoted, of West Virginia, enacted in the year 1891 and yet in force, providing that any company organized for the purpose of transporting natural gas by pipe lines should be considered and held to be a common carrier (*Code W. Va.*, Chap. 52, Sec. 24). The seven companies at all times have refused to transport any gas except their own production and purchases, claiming that to do so would disable them from the public service of gas obligatory upon them as public-service corporations (Rec., 1425-1426, 312, 315, 352, 1257). In this regard the situation is pertinently described by a short passage from *United States vs. Ohio Oil Co.*, 234 U. S., 548, 559, the language there used in relation to oil being equally applicable to gas:

> "Availing itself of its monopoly of the means of transportation the Standard Oil Company refused, through its subordinates, to carry any oil unless the same was sold to it or to them, and through them to it, on terms more or less dictated by itself. In this way it made itself master of the fields without the necessity of owning them, and carries across half the continent a great subject of international commerce coming from many owners,

*The compressor stations of the Hope Natural Gas Company range from 60 to 22025 horse-power, and cost about $150 per horse-power. Its Hastings station cost over $1,000,000 (Rec., 307, 248, 249). The compressor stations of the Reserve Gas Company are from 1500 to 7600 horse-power (Rec., 325).

but, by the duress of which the Standard Oil Company was master, carrying it all as its own."

METHODS OF ACQUISITION OF CONTROL BY THE SEVEN COMPANIES.

In the early days gas territory, both proven and prospective, was available for whomsoever desired to lease. The great majority of the local companies, serving many municipalities and communities in the gas-producing counties, obtained an abundant supply from wells in the immediate vicinity, and acquired only relatively small areas of gas. The seven companies, however, with the foresight and ability to acquire and hold for future realization, common to such combinations of capital, acquired in the aggregate very large areas of gas territory, much of it proven to be productive of gas, and much of it appearing to be valuable in prospect. Much of this acreage was acquired and held as a reserve for future supply, and, although these reserves have since been depleted to a considerable extent, the seven companies yet held in 1919 an aggregate of 1,866,720 acres of undeveloped territory out of their total of 2,566,025 acres (Rec., 1736; insert, p. 390; 1003).

A large part of the gas territory was obtained by direct leases from the land-owners, but the seven companies also acquired a large part of their holdings by the acquisition of other West Virginia public-service gas corporations engaged in the marketing of natural gas, thus eliminating the competition of the latter companies and depriving them of their ability to supply the West Virginia public. This was particularly true of

the Hope Natural Gas Company, a gas subsidiary of the Standard Oil Company in West Virginia, which from time to time took over all of the Standard gas interests in northern and north-central West Virginia theretofore developed and marketed by four other subsidiaries, the South Penn Oil Company, Carter Oil Company, Flaggy Meadow Gas Company, and the Mountain State Gas Company, which had been formed to supply Parkersburg and Sistersville, West Virginia. (Rec., 322, 340-342 *et seq.*, 1173, 1329). The first two were extensively engaged in the oil business and held, especially the South Penn, very great acreages of oil and gas leases in many counties, and in the course of oil explorations had encountered and held many gas wells, while the last two companies were chartered and operated as West Virginia public-service corporations for the purpose of marketing the gas so developed, the Flaggy Meadow Gas Company serving consumers in various municipalities of Marion, Harrison, and Wetzel counties, and the Mountain State Gas Company serving consumers in municipalities of Harrison, Lewis, Doddridge, Wood, Pleasants, Tyler and possibly other counties. In this manner the gas territory, wells, pipe lines and other property of the other oil and gas subsidiaries passed into the hands of the Hope Natural Gas Company and formed part of, and a large nucleus around which were acquired and built up, its present system and immense holdings. In 1910, the Hope Natural Gas Company also purchased all of the gas territory, wells, pipe lines and gas-purchase contracts of the Wheeling Natural Gas Company and Tri-State Gas Company, both West Virginia public-service corporations, in Harrison, Lewis, Gilmer, Upshur, Brax-

ton, and part of Marion County (Rec., 1169-1172, 272-274), in return for a gas-sales contract to the Manufacturers Light & Heat Company, which had theretofore acquired control of the Wheeling and Tri-State Companies (Rec., 1712)*. To this day the Hope Natural Gas Company in northern West Virginia and the United Fuel Gas Company in the southern section receive substantially all the wells, or the gas from wells, discovered by these two large oil companies, the South Penn Oil Company and the Carter Oil Company (Rec., 999, 1019, 1445-7, 1467 *et seq.*), which together hold in West Virginia, 800,616 acres of oil and gas leases (Rec., 1467-1470). The Hope Natural Gas Company also purchased the properties of other smaller gas companies (Rec., 268-270).

The Pittsburgh & West Virginia Gas Company was originally incorporated under the laws of West Virginia as the Fairmont & Grafton Gas Company. It was one of the largest and earliest public-service corporations in the northern section of the State, serving Fairmont, Grafton, Shinnston, Lumberport, and other municipalities in Marion, Taylor and Harrison counties and having a very considerable acreage of gas territory, with many wells and pipe lines through those counties (Rec., 512-513, 1030, 1895-1898). In 1906 its capital stock was acquired by The Philadelphia Company of Pennsyl-

*The Hope Natural Gas Company in 1910 took over from the Mountain State Gas Company 23,610 acres of leases in Ritchie, Gilmer, Wirt and Tyler Counties, and franchises from Parkersburg, Sistersville, St. Marys and County Courts; and in 1911 from the Wheeling Natural Gas Company 65,000 acres of leases in Harrison, Lewis, Marion and Gilmer Countries, gas from 9,839 acres, 100 rights of way and 177,876 feet of pipe lines (Rec., 272-274, 1170, 1173).

vania, which had therefore entered the State through a West Virginia subsidiary chartered as The Philadelphia Company of West Virginia, and acquired territory, drilled wells, built pipe lines and engaged in the marketing of natural gas as a public-service corporation of the State. These two subsidiaries were connected and thence operated as one until 1913, when the name Fairmont & Grafton Gas Company was changed to Pittsburgh & West Virginia Gas Company, and to it the property of The Philadelphia Company of West Virginia was turned over (Rec., 512).

The Manufacturers' Light & Heat Company entered West Virginia through the acquisition of all or the controlling interest in the capital stock of West Virginia public-service corporations, whose property and marketing systems were thereupon connected with its general system. The companies so acquired were Wheeling Natural Gas Company, Ohio Valley Gas Company, Wetzel Gas Company, Tri-State Gas Company, Cameron Gas & Oil Company, New Cumberland Water & Gas Company, and Manufacturers' Gas Company of Wheeling; and until about 1910 all were operated as subsidiaries (Rec., 1029). In that year, all their outstanding stock having been acquired, they were merged into the parent company, which then for the first time formally entered the State (Rec., 65, 94).

In the southern section of the State the United Fuel Gas Company, a West Virginia corporation, was chartered in 1903 and leased a considerable gas territory. Until 1915 its stock was owned by the Standard Oil Company and Ohio Fuel Supply Company, the

Standard having control. Its chief expansion came in 1909 with its acquisition of the United States Natural Gas Company, a West Virginia corporation, which was itself a merger of a number of earlier West Virginia companies holding large acreages and engaged in the service of Charleston, Huntington and many other cities and municipalities in the southern section; and it also took over a great block of leases in that section from the Hope Natural Gas Company. In June, 1915, the Standard Oil Company disposed of its controlling stock interest in the United Fuel Gas Company to the Columbia Gas & Electric Company, and since then the two latter companies have been substantially operated together and under the same management (Rec., 382 *et seq.*; 1029-1033). The Ohio Fuel Supply Company owns the other stock in the United Fuel Company.

Contracts for the purchase of gas from independent operators were another means of engrossing the gas supply. But affording a powerful, and, in many cases, a compelling leverage in the negotiation of sales to the seven companies were the pipe-line systems and latterly the compressor stations. As the cost of pipe lines was practically prohibitive to the independent producer—and much the more so to the landowner himself—and as the independent producer and landowner could not hold their gas for future development or investment, because it was apt to be drained away through wells drilled on neighboring lands, operated by one of the seven companies, their only course was, in general, to sell or lease their gas to one of the seven companies upon terms and conditions made by it. (Rec., 307, 248, 249; 1019, 1020, 1254-1257, 1270, 1273, 1300, 1308, 1330-1334, 1338-

1340, 1346, 1360-1362). As already stated, the condition was like that shown to exist in *United States vs Ohio Oil Co.*, 234 U. S., 548, 559.

The pipe-line systems thus became the market for the independent producers, substantially all of whom sold to the seven companies.* The same liability to loss by drainage through neighboring wells likewise deterred independent operators and local public-service corporations from taking up and carrying leases for future development or investment, while the landowner, moved by the same considerations, could not withhold his land from leasing. Thus the seven companies were enabled at once to discourage competitive leasing and to build up their reserves and control of the available territory. Nor was this condition changed by the subsequently increased demand for gas and increased prices paid therefor in many of the West Virginia cities located in the gas territory; for, insofar as the gas was not held by the seven companies, the increased demands and prices were met and overcome by the increased cost of transportation, due to the decline in rock pressure to the point where the gas ceased to be self-transporting, thus necessitating the additional and prohibitive cost of compressor stations (Rec., 1254-1257, 1269, 1270, 1300, 1330-1334, 1339-1340, 1346, 1359).

In the case of the oil companies which are included in the category of independent producers, even if possessed of the means to build and operate pipe lines and compressors, the scope of the enterprise and the prox-

*The seven companies bought of 202 independent producers, and the other 60 public service companies from 43 independent producers in 1919 (Rec., 1471-1473, 1019).

imity of the pipe lines have occasioned the same result. Such companies incidentally discovering gas while operating for oil, but not being engaged in the business of transporting gas, their only market has generally been the pipe lines of the seven companies in the vicinity of production. Substantially all the oil companies sell most of their gas to the seven companies, and many of them operate upon an extensive scale and hold large acreages. For example, the South Penn Oil Company (Rec., 1444, 1445), Carter Oil Company, Ohio Fuel Oil Company (Rec., 1079), and Pure Oil Company (formerly Ohio Cities Gas Company), Commonwealth Petroleum Company, Fisher Oil Company and Southern Oil Company, all of which sell to the seven companies and most of which are allied in interest with them, together hold 1,147,637 acres, primarily for oil development, but upon which gas is frequently discovered (Rec., 998, 1467-1474).

Instrumentalities of Gas Exports.

Although limited quantities had been from early days marketed along the border lines from West Virginia into Ohio and Pennsylvania, and *vice versa*, especially in the Northern Panhandle of West Virginia, the business of exporting seems not to have reached an extensive scale until about 1902 or 1903. At and for some years before that time the defined gas fields of West Virginia afforded a large surplus over and beyond the demand of its people, and explorations had indicated the probability of productive territory to the southward (Rec., 322). In the meantime the gas fields of Western Pennsylvania had been developed and util-

ized generally for domestic and industrial fuel at an earlier date and to a larger extent than those of West Virginia, chiefly by reason of the larger cities and population and the greater quantities consumed by the steel plants and other industries of Pittsburgh and that section of Pennsylvania. As already stated, these fields began to decline and their production became insufficient to supply Pennsylvania consumers. In like manner the smaller and somewhat scattered gas fields of Ohio, never sufficient to supply more than a small part of the local consumers, also began to decline. In addition to which there were in Ohio many large cities and centers of industry served by local plants with artificial gas, to which the more efficient fuel of natural gas was attractive (Rec., 60-63, 438, 521-524, 543-557, 669, 719, 726, 749, 947). The Indiana fields were depleted. And thereupon commenced the process of expansion of the West Virginia gas industry, which later assumed the proportions of wholesale exploitation.

In disposing of their gas in the other States, the financial resources of the seven companies and their allied or controlling interests played an important part. The deficiency in its own supply in Pennsylvania provided a direct and ready market for the supply of the West Virginia companies acquired by the Manufacturers Light & Heat Company. The Carnegie Natural Gas Company extended its lines through West Virginia to the Pennsylvania line to connect with its system in that State and marketed its surplus production into the steel plants of its parent company, the United States Steel Corporation. The Pittsburg & West Virginia Gas

Company, or its predecessor companies of earlier years, all owned by The Philadelphia Company, laid lines to the Pennsylvania border and there sold and delivered its surplus to the Equitable Gas Company, another subsidiary, which in turn transported to and supplemented the waning supply of the various other subsidiaries marketing to Pittsburgh and elsewhere in Western Pennsylvania.

The West Virginia companies owned or controlled by the Standard Oil Company, viz., the Hope Natural Gas Company and the Reserve Gas Company, adopted a different method. The gas was sold under long-term contracts and delivery made at the State line to purchasing companies in Ohio and Pennsylvania, such as the Peoples Natural Gas Company, the East Ohio Gas Company and the Northwestern Ohio Natural Gas Company, which laid lines from those States to the West Virginia boundary and thence transported and sold the gas, in some instances directly to consumers, and in other cases to local distributing companies, generally subsidiaries, which in turn distributed to consumers in Ohio, Pennsylvania and as far west as Indinana. In part, these purchasing companies were theretofore engaged in the natural-gas business in said other States and had established markets, as was the case with the Peoples Natural Gas Company, and the Manufacturers Light & Heat Company, which had extensive markets in Pennsylvania and with which the Hope Natural Gas Company contracted in 1910 for future deliveries of large quantities of gas, substantially all of which went to Ohio and Pennsylvania consumers.

Markets were created by the incorporation of subsidiaries of the larger interests controlling certain of the seven companies, which subsidiaries constructed pipe lines to the West Virginia border and transported the gas there purchased and received from the West Virginia companies to municipalities in Ohio, Indiana and Kentucky not theretofore using natural gas. This last was the case with the East Ohio Gas Company, an Ohio corporation owned by the Standard Oil Company, which first acquired the franchises and distributing plants of the artificial gas companies serving the cities of Akron and Canton, in the State of Ohio, and later in Cleveland. It built pipe lines to the West Virginia State line to receive deliveries from the Hope Natural Gas Company, also a subsidiary, and transported and served the gas there received to consumers through the artificial gas distributing plants so acquired, and also to consumers in other municipalities in the territory through which its pipe lines were constructed. So also, through the relationship of the United Fuel Gas Company, Columbia Gas & Electric Company and Ohio Fuel Supply Company, and of the Union Natural Gas Corporation, Reserve Gas Company and Logan Fuel and Supply Company, the use of West Virginia gas was introduced into Cincinnati and other cities in Ohio and Indiana, as well as into Louisville and Covington and other municipalities in Kentucky. Further supplies from West Virginia were used to supplement the insufficient production of local companies theretofore serving Dayton, Columbus, Springfield, Toledo and other cities of Ohio and Indiana.

The purchasing companies, thus supplied with West Virginia gas, seeking to increase their business, em-

barked upon a career of ill-regulated extension of their service. (Rec. 21, 424, 431, 486, 800). The statistics of consumers and consumption of these companies, contained in the record, afford repeated illustrations. It is enough to refer to the increase of the consumers of the Peoples Natural Gas Company from 43,315 in 1910 to 79,112 in 1919 (Rec. 614-616), and the threefold expansion of its area of service from 1903 to 1919 (Rec. 431); the increase of the East Ohio Gas Company's consumers from 161,580, using 26,445,512 M cubic feet, in 1910, to 329,005 consumers using 43,469,893 M in 1919; and the increase of the Philadelphia Company's consumers from 16,000 to 144,963, between 1899 and 1919 (Rec. 486, 497).

The various transporting, distributing subsidiary and allied corporations involved in the contracts and arrangements under which transportation and service were made, and the numerous cities and municipalities included in the upbuilding of these markets, in Ohio, Pennsylvania, Kentucky and Indiana, are too numerous and complex to justify further detail here. They are partly referred to elsewhere in this brief. It suffices to say that between the year 1902 and the winter of 1916-17, when the shortages of West Virginia consumers commenced, the seven companies, in addition to the large amounts directly transported out of the State by certain of them, delivered an enormous aggregate of natural gas from the West Virginia fields to many purchasing companies, who transported and sold the same, either directly or through other companies, to consumers in municipalities and communities in Ohio, Pennsylvania, Kentucky and Indiana, under contracts

severally made by the seven companies with the other companies to whom they delivered the gas.

Gas-Sales Contracts.

The principal gas sale contracts above mentioned were and are as follows:

The *Hope Natural Gas Company* so contracted with the following:

1. The Northwestern Ohio Natural Gas Company, which serves Toledo and other cities in Ohio (Rec., 1509). This contract covers the majority share of the production of the Reserve Gas Company, which is sold or taken over by the Hope Natural Gas Company, its allied company. The remaining export gas of the Reserve Gas Company is sold and delivered by its other stockholder, the Union Natural Gas Corporation, to its subsidiary, the Logan Natural Gas & Fuel Company, which serves or sells to local companies serving Athens, Chillicothe, Dover, Logan, Newark, Dayton, and other municipalities in Ohio, and Richmond, Muncie and other places in Indiana (Rec., 319, 321, 749 *et seq*).

2. The Peoples Natural Gas Company, which serves a portion of Pittsburgh and other cities in Western Pennsylvania (Rec., 1524).

3. The East Ohio Gas Company, which serves Akron, Dayton, Cleveland and other cities in Ohio (Rec., 1544).

4. The River Gas Company, which serves Marietta and other Ohio cities (Rec., 1554), this contract being made by the Mountain State Gas Company and subsequently assumed by the Hope Natural Gas Company on its taking over the former company.

5. The Fayette County Gas Company, which serves Uniontown, Connellsville, and other cities in Western Pennsylvania (Rec., 1560).

The *Pittsburgh & West Virginia Gas Company* so contracted with the Equitable Gas Company, which serves consumers in Pittsburgh and other cities in Western Pennsylvania (Rec., 1729).

The *United Fuel Gas Company* so contracted with:

1. The Louisville Gas & Electric Company, which serves the City of Louisville, Kentucky, and vicinity (Rec., 1738).

2. The Portsmouth Gas Company, which serves the City of Portsmouth, Ohio (Rec., 1745).

3. The Central Kentucky Natural Gas Company, which serves Frankfort and other municipalities in Kentucky (Rec., 1752).

4. The Ohio Fuel Supply Company, which serves Columbus, Cincinnati, Toledo, Zanesville and other Ohio municipalities (Rec., 1761).

5. The Columbia Gas & Electric Company, which serves Cincinnati, in Ohio, and Covington, in Kentucky, and their vicinities (Rec., 1791).

In addition to the foregoing, there were and are a number of similar contracts for sales and deliveries within the State of West Virginia of large quantities of gas by certain of the seven companies to others of the seven, the major portion of which deliveries is either transported and sold directly, or sold and delivered to other companies at the State line under the contracts above listed, which transport to consumers in Ohio, Pennsylvania and Kentucky. Thus the Hope Natural

Gas Company so contracted with the Manufacturers Light & Heat Company for a large supply, the major portion whereof the latter company transports and markets in Pennsylvania, with a small part in Ohio and another small part in West Virginia (Rec., 1712). The United Fuel Gas Company so contracted with the Hope Natural Gas Company (Rec., 1769, 1776, 1777) and with the Pittsburgh & West Virginia Gas Company (Rec., 1780-1788), which vendee companies in turn sell and deliver the major portion of the quantities so purchased to other companies at the State line under the contracts above mentioned.

These contracts contain a number of provisions more or less common, though in varying language. Among the most important in their bearing on this litigation may be pointed out the provision, found in most of them, that the amount of gas delivered shall be sufficient to supply all the then domestic consumers of the purchasing companies, as well as all those which may be thereafter acquired, throughout the term of the contracts, together with a frequently added covenant by the purchasing companies to use their best efforts to extend their service; the provision for payment, in some cases, in the form of a percentage of the gross receipts of the purchasing companies from their consumers, thus directly interesting the vendor companies in the marketing in other States; and especially the provision whereby the vendor companies are compelled to deliver the contract quantities in preference to all other purchasers or consumers, save only the domestic consumers of the vendor company then on its lines in West Virginia, thereby disabling themselves from serving gas

for the other public uses of heating and lighting schools, churches, hotels, hospitals, municipal and other governmental buildings, and all industrial use. (See, for example, Rec., 1533, 1546). And in this connection it is important to remark that all of the companies purchasing from the seven companies market a portion of the gas for industrial use, and that, as we shall later observe, the contracts of purchase contemplate industrial consumption by consumers of the distributing companies.

In the light of the contention of the plaintiffs that the obligation of these contracts is impaired by the Act of 1919, and also as manifesting the anticipation of the contracting parties that the decline and ultimate exhaustion of West Virginia gas was inevitable, further elements of these contracts are important:

1. The reserved priority to West Virginia domestic consumers and in some instances to domestic consumers in other States. (Rec., 1533, 1534, 1546, 1547, 1556, 1565, 1744, 1748, 1759, 1764, 1773, 1796).

2. The apportionment of gas between certain purchasing companies, in case of insufficiency of the vendor's gas. (Rec., 1553, 1547).

3. The preference of supply reserved to some purchasing companies over others. (Rec., 296, 2971, 1533, 1546, 1547, 1565, 1744, 1748, 1759, 1764, 1774, 1785, 1786).

4. The limitation of the vendor's obligation to the extent of its gas supply and against liability for failure of supply not due to its fault. (Rec., 1510, 1511, 1520, 1522, 1539, 1541, 1546, 1555, 1564, 1565, 1743, 1744, 1748, 1750, 1758, 1759, 1763, 1764, 1773, 1774, 1785, 1795, 1796).

PIPE LINE SYSTEMS AND COMMINGLING OF GAS.

The gas of the seven companies going to Ohio, Pennsylvania and other States is transported by, and delivered out of, their general pipe-line systems, which, in general, are not confined to interstate transportation. These systems, which are more or less welded into one by the connections of the seven companies among themselves, constitute a reservoir, both to receive gas and to transport and distribute it. Throughout the gas-producing counties, from the interior of the State to its boundaries, the gas is fed into the main pipe lines by smaller lines leading mediately or immediately from the wells, and gas is fed out through distributing lines leading to the consumers or communities served along the lines. Whether consumed in West Virginia or in other States, the gas is commingled and carried in the same trunk lines. And the process of feeding by gathering lines and feeding out by distributing lines continues substantially to the limits of the State. (Rec., 33, 70, 99, 108, 110, 245, 246, 309, 310, 380, 381, 383, 387, 392, 394, 466, 518).

When fed into the pipe-line system from a particular well, or from wells in a particular section, the gas is at once commingled into a common and homogeneous stock. From its very nature, no mark of identification can ever be placed upon, nor is it possible to identify, any atom or specific quantity thereof. And so it is that, until in the progress of the gas through the trunk lines the last connection of a pipe devoted to local service in West Virginia has been passed, it is not and cannot be ascertained whether any particular part of the gas,

in the aspect of a physical entity, will be consumed in West Virginia or will pass to and be consumed in another State (Rec., 381, 384, 933).

The situation is sufficient set forth in the following excerpt from the testimony of the plaintiffs' engineer Wyer (Rec., 933, 934):

"Q. In the case of a well feeding into a line, which line in turn carries gas partly to points of consumption in West Virginia, and partly to points of consumption in Pennsylvania and Ohio, does that gas have any label on it?

A. It does not. There is no original package, no identity, nothing to distinguish ownership, all intermingled.

Q. Well, how do you find out then where this gas is going when it comes out of the well and finds its way into a line?

A. Well, for any particular well in West Virginia, it might be very difficult—in many cases absolutely impossible—to tell, the way the well is connected to some of these large trunk lines, whether that gas is ultimately going to get to Pennsylvania, or Ohio, or, in other cases, whether it is going to get to Ohio or Indiana.

Q. In a company like the Hope Natural Gas Company, which is supplying gas partly in West Virginia, and supplying it partly to companies which in turn supply the other States, can you tell when that gas starts on its continuous journey, as you call it, from the well, where that gas is going?

A. No, sir.

Q. Can anybody?

A. No, sir. That is, I mean, you could not state that this particular thousand feet of gas is going to be used in West Virginia, and this particular thousand feet of gas in the Hope property, will be used through the Peoples Company in Pennsylvania, and this one through the East Ohio Company in Ohio. The gas is all intermingled, without any chance for identity.

Q. And where does the opportunity first occur for identifying the gas which is going into Pennsylvania or Ohio or any other States?

A. There would be no chance for identifying the gas from particular individual wells. The only gas that you could identify would be the gas passing the measuring station at the State line, and that would be merely a total volume measurement giving you the total volume passing that point, without any relation as to whether it came from any particular well in West Virginia."

The main pipe lines of some of the seven companies extend only to the State boundary (Rec., 190, 196, 210, 317, 319, 394, 514), while in other instances the pipe lines reach into the adjacent States. The West Virginia gas furnished by the Hope Natural Gas Company, Reserve Gas Company and Pittsburgh & West Virginia Gas Company, no one of which operates outside of West Virginia, is all delivered to the purchasing companies at, or practically at, the State line. (Rec., 303,

304, 317, 318, 514, 1529, 1524, and see 1555). Of the total amount sold under contract by the United Fuel Gas Company to other companies, about one-fifth is delivered just across the State line in Kentucky and Ohio and the remaining four-fifths are delivered in part to the Ohio Fuel Supply Company at the State line (Rec., 1762), but in the much greater part at points within the State to others of the seven companies, viz., the Columbia Gas & Electric Company (Rec., 1793), Hope Natural Gas Company (Rec., 1770, 1772), and Pittsburgh & West Virginia Gas Company (Rec., 1780-1782), which receive such deliveries into their general system. The Manufacturers Light & Heat Company (Rec., 1712, 1716) and Columbia Gas & Electric Company, while both producing and marketing in West Virginia, acquire much the greater part of their respective supplies in West Virginia under their purchase contracts from the Hope Natural Gas Company and United Fuel Gas Company, above mentioned, and thereupon transport out of the State; the Manufacturers Light & Heat Company about four-fifths of its entire net supply, and the Columbia Gas & Electric Company substantially all (Rec., 1736; insert, 380, 415). The Carnegie Natural Gas Company has no contracts for out-of-state deliveries, but transports and markets directly to the steel works of its parent company in Pennsylvania.

USE OF GAS IN OTHER STATES.

In all the States here involved, West Virginia, Ohio and Pennsylvania, as well as in Kentucky and Indiana, gas is used for both domestic and industrial consumption.

Of the West Virginia gas exported to the other States, much was and is furnished directly to manufacturers and other industrial consumers. In other cases, West Virginia gas was and is utilized to supply the domestic consumption of purchasing companies, whose own production was and is diverted to industrial service. This diversion is expressly contemplated under the contracts made by the Hope Natural Gas Company with Manufacturers Light & Heat Company and Peoples Natural Gas Company, above mentioned, and is impliedly contemplated and fully effectuated under the provisions of a number of the other contracts requiring the vendor companies to deliver all the natural gas needed to supply all of the present and future domestic consumers of the vendee companies (Rec., 1524, 1544, 1560, 1712, 1761).

Of the gas companies furnishing gas in the other States, substantially all supply gas for industrial consumption therein. The record embraces the following examples for the year 1919:

Manufacturers Light & Heat Company (Rec., 86, 87): In Pennsylvania, domestic, 7,966,544 M cubic feet; public institutions, 192,354 M; industrial, 5,757,124 M. In Ohio, domestic, 2,614,181 M cubic feet; public institutions, 54,800 M; industrial, 3,679,143 M. In West

Virginia, domestic, 1,084,023 M cubic feet; public institutions, 31,854 M; industrial, 3,293,747 M.

United Fuel Gas Company (Rec. 367, 377): Outside of West Virginia, (evidently by direct service, see Rec. 367, 377, 393), domestic, 1,491,447 M cubic feet; industrial, 2,507,654 M. In West Virginia, domestic, 4,336,112 M cubic feet; industrial, 6,986,926 M.

Peoples Natural Gas Company (Rec., 418): In Pennsylvania, domestic, 9,654,042 M cubic feet; industrial, 12,264,921 M.

Union Gas & Electric Company (Rec., 457): In Ohio and Kentucky, domestic, 12,400,000 M cubic feet; industrial, 1,800,000 M.

Philadelphia Company Subsidiaries (Rec., 513, 514, 527): In Pennsylvania, domestic, 18,569,553 M cubic feet; industrial, 13,758,717 M. In West Virginia, domestic, 554,350 M cubic feet; industrial, 3,123,804 M.

Fayette County Gas Company (Rec., 551): In Pennsylvania, domestic, 1,205,622 M cubic feet; industrial, 702,748 M.

East Ohio Gas Company (Rec., 625): In Ohio, domestic, 36,969,772 M cubic feet; industrial, 6,630,987 M.

Northwestern Ohio Natural Gas Company (Rec., 721): In Ohio, domestic, 5,689,621 M cubic feet; industrial, 313,948 M.

Columbus Gas & Fuel Company and allied companies in year ended March 31, 1920 (Rec., 740): In

Ohio, domestic, 13,310,970 M cubic feet; industrial, 1,790,396 M.

Hope Natural Gas Company (Rec. 234): In West Virginia, domestic, 2,512,816 M cubic feet; industrial, 3,869,729 M.

Reserve Gas Company (Rec. 411, 412, 414): In West Virginia, domestic, 78,429 M cubic feet; industrial (which includes field gas for itself and sold to other companies), 1,235,769 M.

Logan Natural Gas & Fuel Company (Rec., 794): In Ohio and Indiana, domestic, 8,895,399 M cubic feet; industrial, 4,545,050 M.

Carnegie Natural Gas Company (Rec., 172, 173, 849, 850, 925, 926): While no figures are given, substantially all of its gas is consumed by steel mills in the Pittsburgh district.

The following affords a comparison of the industrial consumption of some of these companies with their supplies produced and purchased in the States in 1919:

Manufacturers Light & Heat Company (Rec., 80, 81): In Pennsylvania, industrial consumption, 5,757,124 M cubic feet; Pennsylvania gas, 7,737,722. In Ohio, industrial, 3,679,143 M; Ohio gas, 100,679 M. In West Virginia, industrial consumption, 3,293,747 cubic feet; West Virginia gas, 19,385,381 M.

Peoples Natural Gas Company (Rec., 417): In Pennsylvania, industrial consumption, 12,264,921 M cubic feet; Pennsylvania gas, 14,699,552.

Philadelphia Company Subsidiaries (Rec., 494-496): In Pennsylvania, industrial consumption, 13,-758,717 M cubic feet; Pennsylvania gas, 9,134,864 M. In West Virginia, industrial consumption, 3,123,804 M cubic feet; West Virginia gas, 26,871,560 M.

Fayette County Gas Company (Rec., 551): In Pennsylvania, industrial consumption, 702,748 M; Pennsylvania gas (including all not purchased from Hope Natural Gas Company), 470,917 M.

East Ohio Gas Company (Rec., 539): In Ohio, industrial consumption, 6,630,987 M cubic feet; Ohio gas, 8,201,376 M

Northwestern Ohio Natural Gas Company (Rec., 718, 719): In Ohio, industrial consumption, 313,948 M cubic feet; Ohio gas, substantially none.

Columbus Gas & Fuel Company and allied companies (Rec., 629): In Ohio, industrial consumption, 1,700,396 M cubic feet; Ohio gas, 11,127,809 M.

Logan Natural Gas & Fuel Supply Company (Rec. 773, 794): In Ohio and Indiana, industrial consumption, 4,545,050 M cubic feet; Ohio gas, apparently 11,929,421 M.

Hope Natural Gas Company (Rec. 233, 234): In West Virginia, industrial consumption, 3,869,729 M cubic feet; West Virginia gas, 67,945,432 M.

Reserve Gas Company (Rec. 411, 412, 414): In West Virginia, industrial consumption (which includes field gas for itself and sold to other companies), 1,235,-769 M cubic feet; West Virginia gas, 22,178,819 M.

United Fuel Gas Company (Rec. 367, 377): Outside of West Virginia, industrial consumption, 2,507,654 M cubic feet; Ohio and Kentucky gas purchased (production not stated), 689,848 M. In West Virginia, industrial consumption 6,265,795 M cubic feet; West Virginia gas purchased (production not stated), 11,456,842 M.

The statistics for the importing States at large from 1915 to 1918, yield results similar to that of 1919. (Rec., 1103-1112; 1736, insert pages, 440-447). It suffices to refer to 1918.

In Pennsylvania (Rec., 1103, 1104), the entire consumption was 177,139,804 M cubic feet; domestic consumption, 59,839,730 M or 32.72%; and industrial consumption, 117,300,074 M or 66.28%. The amount transported into the State was 53,326,446 M, or 30.11% of the whole; produced in the State, 123,813,358 M, or 69.89%. The industrial consumption in Pennsylvania (exclusive of gas for field purposes) was 73.74% of the Pennsylvania production, and almost 15,000,000 M in excess of the 52,985,173 M supplied to West Virginia by all public service corporations.

In Ohio (Rec., 1105, 1106), the entire consumption was 143,585,260 M cubic feet; domestic consumption, 98,023,666 M. or 68.27%; and industrial consumption, 45,561,595 M, or 31.73%. The amount transported into the State was 82,324,191 M, or 57.34% of the whole; produced in the State, 61,261,069 M, or 42.66%. The industrial consumption (exclusive of field gas) was 34.81% of the Ohio production.

In Indiana (including, however, Chicago, Illinois), the entire consumption was 4,516,585 M cubic feet; domestic consumption, 2,428,003 M, or 53.76%; and industrial, 2,088,580 M, or 46.24%. The amount transported into the State was 2,849,761 M, or 63.10% of the whole; produced in the State, 1,666,822 M, or 36.90%. The industrial consumption (exclusive of field gas) was 48.23% of the Indiana production. (Rec., 1108, 1109).

In Kentucky (Rec., 1110-1112), the entire consumption was 12,200,190 M cubic feet; domestic consumption, 7,922,941 M, or 64.94%; and industrial consumption, 4,277,249 M, or 35.06%. The amount transported into the State was 9,177,751 M, or 75.23% of the whole; produced in the State, 3,022,439 M, or 24.77%. The industrial consumption (exclusive of field gas) was 104.33% of the Kentucky production.

The statistics for earlier years (Rec., 1103-1112; 1736, insert pages 440-447) indicate still higher proportions of industrial consumption by the four States.

For comparison we add West Virginia (Rec. 1092-1097): Based on figures of the United States Geological Survey (which vary from the figures of the statistician of the Public Service Commission heretofore given), the entire consumption for all purposes was 107,587,945 M cubic feet; domestic consumption 20,399,914 M, or 18.91%; industrial consumption 87,248,031 M, or 81.09%. Based on the same figures, the total production of West Virginia in 1918 was 265,160,917 M (Rec. 1093); and the industrial consumption (includ-

ing carbon-black, but excluding field gas) was 23.52% of the West Virginia production.

We do not overlook that much of the industrial consumption above occurs in the summer months, when domestic use is diminished. Rec., 289, 350). We recognize, also, the concurring statements of the officials of the principal gas companies that the industrial consumption is "the life of the business" (Rec., 698, 151, 289, 327, 328), and that its discontinuance would necessitate greatly increased domestic rates (Rec., 151, 289, 290, 526). But we think that the character of this consumption, and the application of the production of the other States, become highly material, when those States, making no attempt to restrict their own use of gas. (*Walls vs. Midland Carbon Co.*, 254 U. S., 300; *Ohio Oil Co. vs. Indiana*, 177 U. S., 190), appeal to this Court in the name of their domestic consumers, and rail at the industrial consumption of West Virginia.

LOCAL COMPANIES—SERVICE AND SUPPLY.

We have referred to the shortage of gas in West Virginia, resulting from the control of the seven companies and the transportation of gas to other States. Recurrence must be had to the situation of the local companies.

The seven transporting companies supply gas by direct service to forty-nine municipalities, with an aggregate population of 199,469 (Rec., 1011, 1012). Other cities and towns formerly served by local companies, whose properties were acquired by the seven companies, or one of them, have been abandoned by the latter.

In some of the oldest and richest gas counties, where one or more of the seven companies hold ample supplies and facilities, they furnish either substantially no gas or none at all by direct service.*

Clarksburg, Fairmont, Huntington, Morgantown, Weston, Buckhannon, Shinnston, Lumberport, Weston, Glenville, South Charleston, St. Albans, and other cities and towns, are supplied in whole or in part by local companies. (Rec., 842, 1026, 1034-1036, 1039, 1041, 1203, 1220).

The local companies operated contemporaneously with the development and expansion of the seven companies, produced from the same pools, and transported and marketed to consumers in the same West Virginia territory in which the seven companies produced and marketed; and in some instances the same community was partially served by both. In the earlier years the volume of the wells was large, the rock pressure great, and the gas easily marketed through its own native force; and, having an abundant supply and no present

*In Harrison County, with an area of 266,240 acres, in 1919, five of the seven companies owned and operated an aggregate of 171,996 acres of territory 1,674 wells, and 1,157 miles of pipe line and bought the gas of 161 wells from 57 independent producers. These five companies served not more than 900 domestic consumers and no industries in that county although their pipe-line systems, gas territory and production surrounded, and in some cases extended into, the cities of Clarksburg and Salem, Shinnston and other municipalities, which have been without an adequate supply of gas since 1916. In Lewis County, having an area of 251,520 acres, in the same year, four of the seven companies owned and operated an aggregate of 176,739 acres, of territory, 1,106 wells, and 795 miles of pipe line and bought the gas from 66 wells owned by 16 independent producers. These four companies sell gas to no industries and no local utilities, nor serve any incorporated cities or towns in that county, their service being limited to approximately 1,200 consumers in rural communities, chiefly lessors receiving free gas as rental (Rec., 1026-1028).

or prospective market other than the particular communities then served, these smaller companies in most cases acquired and held only a limited territory, close to the place of consumption, and acquired little or no reserve territory (Rec., 38, 136, 212-213, 1001-1003, 1020, 1021, 1568). While the opportunity to obtain reserve acreage was open to them equally with the seven companies, before and at the time when the latter began their activities in this direction, yet it was neither wise nor financially possible to acquire extensive territory. To have developed additional acreage for which they had no market, would have defeated the very object of a reserve; and to hold such acreage in reserve until an additional supply was needed rendered it probable that the gas would be drained away through the operations of the seven companies in surrounding territory. And when later they required additional gas by reason of the decline of the supply from their own wells or the growth of the communities served, the smaller companies found not only that substantially all available territory had been acquired by the seven companies, but also that such occasional and isolated tracts of gas territory as could be secured were worthless; for the cost of pipe lines to reach these scattered parcels was beyond their financial resources and out of proportion to the value of the project, and the enormous quantities of gas theretofore extracted from the pool by the seven companies had reduced the rock pressure of all wells in the field to the point where compressor stations were necessary adjuncts to transmission of the gas through the lines. In like manner the local companies were unable to reach out into the field to secure the production of the independent producers, for the

amount of such production not held under contracts of sale to the seven companies were small and scattered and entailed the like disproportionate and prohibitive cost of lines and compressor stations (Rec., 1254, 1256. 1269, 1270, 1272, 1278, 1279, 1290, 1291, 1308, 1312, 1330, 1334, 1338, 1361-1362).

PREVIOUS SUPPLY TO LOCAL COMPANIES BY THE SEVEN COMPANIES.

Until the gas shortage of 1916-1917, the lack of reserve territory by the local companies and the diminishing volume of the gas occasioned no practical difficulty in West Virginia; for, notwithstanding the export business of the seven companies and the contracts under which that business was carried on, the local companies, whose own stocks of gas became insufficient, were able to, and did, make up the deficiency by purchases from one or more of the seven companies. (Rec., 1034-1036, 1724, 1728; 1736, at insert pp. 402, 414, 280, 297, 314, 345, 349). The quantities so purchased were readily and easily furnished, since the seven companies were possessed of an ample surplus, and one or more of their trunk lines lay within the immediate vicinity of, or traversed, the areas of service of the smaller companies, and often served consumers in the same community or territory (Rec., 275-277, 1011, 1012, 1037). It was thus a mere matter of connecting the lines of the two companies and discharging gas from the one to the other. Sales by the seven companies to local companies were thus customarily affected for some years prior to the commencement of the shortages to West Virginia

consumers in 1916-1917. The Hope Natural Gas Company was connected with and supplied deficiencies of the several local companies serving Fairmont, Clarksburg, Weston, Pennsboro and elsewhere (Rec., 186, 210, 237, 238, 1035, 1209, 1210). The Carnegie Natural Gas Company was connected with and supplied the several local companies serving Fairmont and Morgantown (Rec., 1034, 1912, 1220). The Pittsburgh & West Virginia Gas Company was connected with and supplied the deficiency of the local companies serving Fairmont and Glenville (Rec., 1034). The United Fuel Gas Company was connected with and supplied the deficiency of the local company serving Dunbar, South Charleston and St. Albans (Rec., 395, 400, 1036).

Many of these sales yet continue during the milder periods of the year, but since the demands in other States have equalled or exceeded the supply, the seven companies have asserted priority of their sales contracts and their obligations to the consumers abroad, and have declined and refused to sell to the local companies during the winter periods, when the requirements of the domestic consumers are greatest, both in amount and necessity (Rec., 276, 277, 1209, 1210, 1230, 1231, 1724, 1728). This refusal has been one of the chief causes of the suffering, inconvenience and losses by West Virginia consumers.

As a result of the foregoing the local companies and the consumers supplied by them are dependent upon the seven companies for a part of their supply. As the production of the local companies decreases, this dependency will necessarily become greater. And if and when the seven companies resort to the process

of suction (to which the compressor stations are readily applicable) to increase the output of their West Virginia wells, the wells and territory of the local companies will be so far depleted as to render their dependence substantially complete (Rec., 1279, 1310-1312). This suction is now a common practice in Pennsylvania, has already begun in West Virginia, and eventually will be resorted to by all the companies (Rec., 345, 346, 1311, 1312). This, of course, means the suction of gas from the entire territory surrounding the pump station, and that no well therein will be capable of producing except by the employment of the like suction or other artificial means of extracting the gas; and, as a necessary result, all local companies dependent upon natural pressure to market and distribute their supply will be effectually driven out of business unless supplied by the seven companies.

PRESENT AND FUTURE GAS SUPPLY.

It is uncontroverted that the gas fields in Ohio, Pennsylvania and Indiana are either exhausted or in progressive process of exhaustion; and that the West Virginia production has passed its peak and for several years has declined rapidly; that no other gas fields are known or in prospect in Ohio, Pennsylvania, West Virginia or neighboring States; that the aggregate production is insufficient to meet the requirements of the consumers in all the States; and that the shortage will increase. (Rec. 132, 210, 296, 327, 328, 335, 431, 458, 459, 558, 701, 702). One of the witnesses for the plaintiffs quotes Dr. I. C. White, a leading authority, to the effect that seventy-five per cent. of the West Vir-

ginia and Ohio gas is gone. (Rec. 607). This witness refers to gas as "a vanishing product." (Rec. 698). He says, "We are approaching the end;" that the termination of the gas business will come "ultimately, just as we know every man will die some time." (Rec. 702, 703).

As already pointed out it was from the very beginning of the use of West Virginia gas by the people of the plaintiff States, inevitable that the production of the West Virginia fields would decline and the gas supply therefrom become insufficient for all consumers. The day came in the winter of 1916-1917. It is now admitted by the seven companies, and by the companies purchasing from them, that their present supplies of gas, including the production in the other States, have been for several years insufficient in winter periods to furnish fuel for the heating of dwellings or otherwise to supply their consumers in Ohio, Pennsylvania, Kentucky and Indiana; and that their ability to serve such consumers has become less and less with each succeeding year. Hence, taking as true the testimony for the plaintiffs, the predicted lack of sufficient West Virginia gas to heat the dwellings and otherwise serve these consumers in the plaintiff States, so elaborately and gloomily charged in the bills of complaint as the necessary result of enforcing the statute in controversy, has already come to pass, has existed for several years, and this lack will certainly increase in the future. This has resulted, and will result, by the process of nature, and not as an effect of the statute, which has never been put into force.

At Columbus, Ohio, there is already a shortage of fifty per cent. in the winter (Rec. 635). A shortage

of twenty-five per cent. on the lines of the Ohio Fuel Supply Company in the winter of 1920-1921, was predicted in testimony given in 1920. (Rec. 697, 698). At Cleveland, served by the East Ohio Gas Company, there was a shortage of over 50,000,000 feet a day in the winter of 1918-1919 (Rec. 577).

The vice-president of the Hope Natural Gas Company fixes the maximum life of the present gas supply at ten or fifteen years (Rec. 349). The president of The Philadelphia Company states that at the present rate of consumption he will be very much surprised if it lasts ten years (Rec. 507). The record contains other estimates of similar character, with some variation in estimated periods (Rec. 481, 943).

The seven companies have an aggregate territory in West Virginia, which, since the year 1910, at all times has exceeded 2,400,000 acres with only 689,205 acres thereof developed up to 1920 (Rec. 1736, insert p. 391). The required quantity of gas for all consumers probably could be provided by the drilling of additional wells. In 1919, the last year for which statistics are available, the seven companies drilled fewer wells than during any other year in the ten years covered by the statistical table (Rec. 1023); and there was a marked decrease in the number drilled in 1918 as compared with those drilled in 1917. The United Fuel Gas Company, holding the second largest acreage and the least developed territory of the seven companies in 1919, drilled only 15½ producing gas wells and abandoned the same number (Rec. 1736; insert p. 313). A managing officer of the Hope Natural Gas Company and Reserve Gas Company frankly recognizes that the required sup-

ply could be had if enough wells were drilled, and that it is merely a question of whether the residuum of gas in the West Virginia fields is to be produced and utilized over a shorter or longer period. He says, "It is just up to the people what they are going to do with it;" that the companies "can use it up in two or three years," or "can extend it over a period of ten or fifteen years." (Rec. 349). If development is to proceed as before, in the known fields and sands, and the rate of well drilling is to go on as previously, so that the natural decline will be overcome, the exhaustion of the West Virginia gas will only be hastened.

There remain, aside from the complete development of the presently commercial sands by the customary methods of drilling and operation, the tenuous hope (Rec. 713), none too confidently expressed, that additional paying gas sands may be discovered by the highly expensive and yet unsuccessful drilling of deeper wells (Rec. 135, 325, 433, 435); and the application of suction to the wells in the known sands, which process will but hasten the depletion of the sands and the exhaustion of the gas (Rec. 345, 346, 1311, 1312).

Remedies for Gas Shortage.

What is a reasonably adequate supply of gas to the individual consumer is better expressed by description than by definition.

The consumption of gas has its distinguishing characteristics. Its supply has been aptly described in the record as the rendition of a service rather than the delivery of a commodity (Rec. 1434, 1435, 1652). For cooking, hot water heating and the heating of dwelling-

houses, stores, office buildings, churches, schools and other public and private buildings, as well as for the conduct of industries, gas is valuable according to its constant availability and adequacy. No reserve can be stored on the consumers' premises, as with coal, oil or wood. When needed it is needed immediately and the cost of equipping the premises for the occasional use of other fuel is as great as for a complete change. An intermittent service is undesirable, and unless the service of gas can be made constant and dependable, the value of its use is substantially destroyed. Continuity and dependableness of supply are essential, especially to domestic service. (Rec. 48, 214, 674, 675, 677, 525). This feature, admitted throughout the testimony, is well expressed by Judge Reed, president of The Philadelphia Company, in testifying as to the practicability of apportioning an inadequate supply. He says (Rec. 525):

"A. * * * You can't satisfy a man by giving him 50 per cent. of his requirements. His wife can't cook with it, and his house is cold. He either wants all or nothing.

Q. * * * The fact is, that to properly supply a thousand consumers is better than to improperly supply 2,000; is that the fact?

A. That is the fact; yes, sir."

To the same effect is the testimony of the witness Wyer (Rec. 1437, 1668), who says "that usable service to a limited number is better than poor or no service to a large number," and recognizes this feature to be one of "the inherent characteristics and natural limitations of the natural gas industry."

This being the character of gas consumption and service, if the volume is insufficient for all, it is obvious that a remedy devised and enforced by someone is essential, and that if man does not voluntarily provide the remedy nature will compel it. The manifest course, in view of what has been said, is the limitation of consumption either in respect of the purpose of use or by restriction of the area of service. And it appears that ultimately the restriction of area of service must come, even in the absence of the statute. The witnesses for the plaintiffs admit that in any event, in time of shortage, the shortage is first and most severely felt at the points farthest from the sources of supply, and that consumers nearest those sources obtain relatively the better service. (Rec. 392, 393, 1436). It is also admitted that service to remote consumers is more costly and subject to losses by leakage in transportation. The contracts already referred to show that the gas companies themselves have theoretically recognized the paramount claims of the domestic consumers of West Virginia. (And see Rec. 50, 51).

But without anticipating the argument, our present purpose is to point out that though the seven companies oppose the legislative remedy, they and their officers are in the main wedded to the doctrine of *laissez faire*, with the corollary of uncontrolled discretion of themselves. And, where in cross-examination these specialists have been driven to suggest a remedy, they are at sea and disagree among themselves, agreeing only that West Virginia consumers are getting too great a share of West Virginia gas. Certain of them advocate restriction of the use to cooking and hot water heating for domestic purposes (Corrin, 348); others sug-

gest limiting the quantity allowed to each consumer (Tonkin, 441-3); others are positive the real remedy lies in increasing the price to the point where the consumer will himself cut down the amount used (Daly, 608; Freeman, 475-477); others say that eventually the number of consumers must be decreased and the area of service contracted toward the source of supply (Quay, 134, 163-9; Denning, 698, 703, 704; McMahon, 732; Whitcomb, 805; Anderson, 855, 856). One suggests that the constantly increasing inadequacy of service will eventually remedy itself by driving many consumers to the use of other fuel, leaving the small volume of gas to fewer and more persistent customers (Rec. 134). Some of the officials of gas companies frankly confess that they do not know what can be done (Judge Reed, 525; Sullivan, 297).

All of these witnesses, officers of gas companies, declare necessary the use of gas for industrial purposes whenever there is a surplus over the needs of the domestic consumers, and state that the industrial consumption is financially necessary to the gas company and aids to keep down domestic rates (Rec. 288, 328, 437, 476, 525-526). One witness for the plaintiffs (Wyer, 942), advocates the complete elimination of gas for industrial use and the limitation of the classes of domestic use, as a matter of conservation, and eventually the cutting off of consumers in the remote areas of service. This, he says, will diminish the volume transported from West Virginia to other States. (Rec. 942, 943, 967, 968).

The enrichment of natural gas with artificial gas has been suggested, with ultimate resort to artificial

gas alone. (Rec. 803). But it is stated that the combination of artificial with natural gas has not yet been successful. (Rec. 506, 507). The substitution of artificial gas in the pipe-line systems is still in an experimental stage. (Rec. 428).

Since, then, the major portion of the gas used by consumers in the plaintiff States comes from West Virginia through its public service corporations, the necessary result of each of these suggestions, except that of contraction of area of service, is the same; that the adjustments of West Virginia consumers must be made, and their uses of gas must be regulated and restricted, according to the requirements of the consumers in Ohio, Pennsylvania, Indiana and Kentucky, and without regard to the character or extent of the public service undertaken by these corporations in West Virginia and their duties to that State.

The reasonable anticipation, if regulation were to be left to the gas companies, is accurately gauged by the denial of the plaintiffs of West Virginia's regulatory power, if and when its regulations affect the quantity of gas transported to the other States, regardless of consequences in and to West Virginia; by the predictions of injury to the other States and gas companies operating therein, by the withdrawal of any West Virginia gas from export (Rec. 222, 447, 526, 587, 605, 606, 673, 729, 854, 972, 973); by the insistence by an officer of one of Ohio gas companies on his company's peak load requirement in time of shortage (Rec. 697); and by the thought expressed by some witnesses for the plaintiffs, exemplified by Anderson, another engineer of these companies, that, irrespective of the

statute, any increased consumption in West Virginia, even because of increased population, would prejudice the other States (Rec. 854):

"Q. Would any increase of consumption in West Virginia have the result of depriving Pennsylvania and Ohio consumers?

A. It would have the result of depriving them to that extent, I think.

Q. That is, for every 1,000 feet of added consumption in West Virginia, consumers in Pennsylvania and Ohio will be deprived to that extent?

A. I think so.

Q. And to the extent that the gas companies are prevented from furnishing that 1,000 feet in Pennsylvania or Ohio, those companies will suffer a loss in their plants, or the operation of their plants?

A. And profits.

Q. I want to ask you whether the inconvenience in Pennsylvania and Ohio, resulting from the consumption of this extra 1,000 cubic feet of gas in West Virginia, would occur, whether that extra consumption were brought about by the enforcement of this statute, or brought about by additional consumers, or some other cause?

A. It would occur in the same way and to the same extent.

Q. In other words, if some citizen of New York or New Jersey should move to Clarksburg, West Virginia, and add to the population that way, and consume gas for domestic purposes, some Pennsylvania or Ohio consumer, or the consumers in those States in the aggregate,

would be deprived and inconvenienced to that extent?

A. Providing he was located on the lines of some of these interstate companies.

Q. That is what I mean.

A. Where he could obtain some of their supply, or possible supply."

And see, in similar strain, the testimony of Wyer (Rec. 972, 973):

"Q. It is, however, your idea, regardless of the class of consumption that, to the extent of the increase of every thousand feet of consumption in West Virginia, there would be a corresponding diminution of supply in the other States?

A. If the act in question were enforced, there would be no supply in the other States coming from West Virginia.

Q. Suppose we forget about the act and answer the question in the light of the fact that you have declared it unconstitutional?

* * * * * * *

Q. Putting the thing in this way: Suppose that for some unknown reason a resident and citizen of Massachusetts moves to Clarksburg, West Virginia, with his family, and by reason of the added population, theoretically assumed to be five, you have one more gas consumer and a matter of consumption of 5,000 cubic feet of gas a month. Would the effect of that added 5,000 cubic feet of consumption be to diminish the supply in Pennsylvania and Ohio and that regardless of this statute?

A. It would not affect the supply in Pennsyl-

vania or Ohio, but it would reduce the amount of gas that could be transported out of the State by the amount that would be used in West Virginia. * * *

Q. Put it at 1,000 instead of 5,000. There would be in principle and in effect a corresponding diminution and increase?

A. Yes, an increased demand which must, of course, be met from the local gas supply. I think you misunderstood my former answer. The thing I wanted to drive home was that the consumption per domestic consumer would not be very greatly increased unless there were a very radical reduction in prices from the condition you have now.

Q. You would expect to cut down the domestic consumption by raising the price?

A. A raise in price will cut it down. The increased price is the only thing that will adequately conserve natural gas."

EFFECT OF THE STATUTE.

Many predictions are made by witnesses for the plaintiffs as to the injurious effect on the gas supply of the other States, if the statute here involved, is enforced. These, of course, are "mere prophesies which are ventured" (*Tanner vs. Little*, 240 U. S., 369, 385). The statute has not been tested in operation. "The fact must be tested by the actual transaction" (*Western Union T. Co. vs. Speight*, 254 U. S., 17).

Some of the witnesses for the plaintiffs admitted that a reasonably adequate supply of gas for domestic

use in West Virginia would permit "a fairly adequate service" in Pennsylvania and Ohio, "a reasonably adequate service" to domestic consumers along the lines of their companies in the other States (Rec. 145, 146, 406, 407).

The stress of the contention of the plaintiffs is directed to West Virginia industrial consumption, and to the carbon-black industry. The facts concerning the relatively small and uninfluential carbon-black business are referred to in the margin.*

Gas Used by Carbon Companies.—Carbon-black manufacturing companies in West Virginia consumed in 1919 approximately nine per cent. of the production of the State. An engineer for some of the seven companies, testifying for the plaintiffs, argues the alleged wastefulness of this use of gas, and points out that the quantities so used would provide the deficiency in supply of West Virginia consumers. It is shown by West Virginia that gas for carbon making has never been a customary or public use of gas; that no tariff or provision therefor has been made by the Public Service Commission, and that no public service corporation uses or serves gas for such purpose, except the United Fuel Gas Company, which operates a carbon plant for the utilization of isolated, low-pressure gas (Rec., 991-993, 1060, 1061, 1075). A like plant is operated by the South Penn Oil Company, an oil subsidiary of the Standard Oil Company owning the Hope Natural Gas Company, to which the South Penn markets most of its gas.

In addition to the private character of these carbon companies and their gas supply, their product can only be made from natural gas, and is an essential element of important manufactured products (Rec., 1100, 1101, 1130, 1131, 1137). Generally their gas territory and production are located at remote points. They are rapidly going out of business because of the increase in value of the gas for other purposes (Rec., 993, 1040, 1060, 1098, 1151, 1137, 1327, 1349). And since the lines of the seven companies afford practically the only market therefor, the gas of the carbon companies now marketed does not materially aid West Virginia consumers; nor would the entire diversion thereof from carbon-black add appreciably to the supply of West Virginia consumers (Rec., 1349). Aside from the questionable right of the plaintiff States to dictate the employment of West Virginia gas, compare the practically exclusive use by Carnegie Natural Gas Company of its supply from both West Virginia and Pennsylvania fields for steel making, in which other fuel is readily usable; the amount of West Virginia gas so used by this one company averaging three-fourth of the annual quantity used for carbon-black in West Virginia during the last decade (Rec., 925, 926, 992; also W. Va. Exhibit No. 19, Rec., 1736, insert pp. 414-423).

In the light of what has already been said, and the concurring views of the officials of the seven companies, already referred to, that the industrial use is advantageous both to the companies and the domestic consumers, and that gas always has been, and is still used in large volumes in the plaintiff States and elsewhere, no special reference to the past use seems requisite.

As to the present it is to be observed that many of the factories in West Virginia have already been altered so as to consume coal and produce gas artificially manufactured from coal (Rec., 1229, 1230, 1345), thus reducing the industrial gas requirements of the State.

In respect of the future, the high price of natural gas, constantly rising, prevents profitable competition with producer gas, except in the few processes to which natural gas is more especially adapted (Rec., 1226-1227, 1230, 1345, 1346, 509), and when once an industry has installed producer gas, even a temporary seasonal supply of natural gas—as in the summer—would not compensate for the disorganization consequent on the change from producer to natural gas (Rec., 1228).

Testimony was given on behalf of the plaintiffs to the effect that the enforcement of the statute would absorb for West Virginia its entire gas production. This, as already said, lies in assertion and prophecy, based largely on speculation and hearsay, coupled with the erroneous assumption that the statute compels not reasonably adequate service to the particular consumers and distributing companies in specified territory,

but that the whole production of the State is to be pooled and all consumers are to receive all the gas they may choose to demand (Rec., 123, 300-302, 446, 840, 841, 970, 971). These general forecasts, of course, also leave out of view the circumstances already detailed, diminishing the probable industrial consumption in West Virginia and the jurisdiction of the Public Service Commission to limit consumption to reasonable adequacy, as well as to compel reasonably adequate service.

The character of the plaintiffs' evidence on the point may be summarized by reference to the testimony of their witness Anderson, an engineer employed by several of the seven companies, who supplies alternative estimates of increased industrial consumption in West Virginia, in case of the enforcement of the statute, as follows: on one theory, 98,628,380 M cubic feet; on another, 55,017,359 M cubic feet; on another, 38,468,334 M cubic feet, and on still another, 32,959,471 M cubic feet (Rec., 824, 825, 836-839).

The fallacy of Anderson's figures, as well as the speculative general forecasts of other witnesses seems sufficiently to appear from the fact that in the year of its largest consumption, the whole consumption of gas available for public service, was only 59,409,460 M cubic feet out of a total supply of 259,414,200 M cubic feet in the hands of the public service companies (Rec., 996). Witnesses for West Virginia testify, and the industrial conditions already stated are persuasive, that even this 1916 consumption will, insofar as the industrial element is concerned, be greatly reduced (Rec., 1345-1346).

CONTENTIONS OF WEST VIRGINIA.

It is the contention of West Virginia:

1. That these cases present no controversy between States, but are in reality controversies between West Virginia and its public-service gas companies, in attempted vindication of whose alleged rights the plaintiffs have become nominal suitors.

2. That these suits are premature, since at the time of their commencement the statute in controversy had not been tested in practice; and there was no threatened injury of serious magnitude, clearly or convincingly proved or susceptible of such proof.

3. That the West Virginia gas companies, and especially the seven companies controlling the West Virginia gas supply and transporting the major part of the gas to or for consumption in other States, while a shortage exists in West Virginia, are West Virginia public service corporations, owing their existence and their ability to transport gas to other States to the special rights and privileges granted by West Virginia upon the condition that a reasonable adequate service would be rendered to West Virginia consumers.

4. That the business of the gas companies and their gas, in the existing condition of shortage, are affected with the public interest of West Virginia.

5. That the duty to render a reasonably adequate service to West Virginia consumers extends alike to domestic users, public buildings and institutions and industrial users.

6. That under the conditions of existence of the gas companies, both implied and expressly reserved, and in the exercise of the police power, it was within

the province of West Virginia to enact the statute in contest, and that the statute was and is necessary and reasonable in its provisions.

7. That the requirement of reasonable adequacy of service to industrial consumers, and the clauses requiring in certain circumstances (and under the safeguards of a hearing and determination before the Public Service Commission, with opportunity for judicial review) the furnishing of gas deficits to local companies, were and are justified and proper.

8. That the gas companies cannot by engagement in interstate commerce, or the desire so to do, evade or abandon their duty to render reasonably adequate service in West Virginia, and that if interstate commerce is engaged in by them, it is and must be in subordination of their duty to West Virginia and the regulating power of that State.

9. That interstate commerce is not regulated, nor was it intended so to be; that any effect on such commerce would be only indirect and incidental.

10. That the statute does not infringe upon any guaranty of the Federal Constitution.

11. And that the plaintiffs have no just ground for complaint against West Virginia and have established no case against it.

Argument.

I.

THE BILL IN EITHER CASE DOES NOT PRESENT A CAUSE JUSTICIABLE BETWEEN THE TWO STATES PARTIES TO THE ACTION.

In the motions to dismiss contained in the answers we have assigned, among other grounds, that these cases present no controversy between States within the meaning of Article 3, Section 2, of the Constitution. The general trend of the evidence has fortified in fact the objection in law. The jurisdictional objection is emphasized by the fact, not to be blinked, that while sovereign States have sued, these cases are controversies between West Virginia and certain gas companies. Respecting the plaintiff States and their dignity, West Virginia shrinks from impugnment of their motives. But without intimating any unworthy design, we have no alternative except to question the jurisdiction—the preliminary question in every case. And, indeed, in *Kansas vs. United States,* 204 U. S., 331, this Court said:

> "In these circumstances we think it apparent that the name of the State is being used simply for the prosecution in this Court of the claim of the railroad company, and our original jurisdiction cannot be maintained."

The substantial ground upon which the plaintiffs sue is the individual grievances of their citizens sought

to be redressed by the plaintiffs in their character of *parens patriae.*

The statute complained of is local in character and applies to gas produced within West Virginia, while yet within its borders and in the hands of its public service corporations. The plaintiffs have no ownership of, or property interest in, the gas in its original character as a natural resource of West Virginia, or at any time thereafter during the successive stages of production, transportation or marketing thereof to the ultimate consumer. Neither does the statute in anywise affect, modify or trench upon any governmental or corporate power of the plaintiffs; nor does its operation impair the integrity of, or exert any force upon, or prejudicially affect any land, stream or other property within the territorial jurisdiction of the plaintiffs. The thing most clamorously complained of is the assumed interference with the export of the gas in interstate commerce, and the consequential interference with the ultimate delivery thereof to citizens of Ohio and Pennsylvania. Subsidiary and trifling in comparison are the complaints of shortage of gas in municipalities and public institutions,—a matter aptly characterized in the language of Mr. Justice Holmes in *Georgia vs. Tennessee Copper Co.*, 206 U. S., 230, 237, as "merely a make-weight." A further grievance sought to be appropriated by the plaintiffs as their own, is the alleged injury to the companies and persons engaged in West Virginia gas operations, the property and business of which, it is predicted, will be prejudiced by the enforcement of the statute.

The mere fact that States are named as parties does not conclude the question of jurisdiction, or characterize a cause as justiciable between States.

Kentucky vs. Dennison, 24 How., 66;
New Hampshire vs. Louisiana, 108 U. S., 76, 89;
New York vs. Louisiana, 108 U. S., 76, 89;
Wisconsin vs. Pelican Ins. Co., 127 U. S., 265, 287;
Missouri vs. Illinois, 180 U. S., 208, 239;
Kansas vs. United States, 204 U. S., 331, 341;
Oklahoma vs. Atchison, T. & S. F. R. Co., 220 U. S. 277, 289;
Oklahoma vs. Gulf, C. & S. F. R. Co., 220 U. S. 290, 298.

Whether a suit is against a State, in the constitutional sense, is a matter of substance and effect, not to be determined by the names of the parties.

Louisiana vs. Jumel, 107 U. S., 711, 726;
Hagood vs. Southern, 117 U. S., 52, 69;
Minnesota vs. Hitchcock, 185 U. S., 373, 387;
Murray vs. Wilson Distilling Co., 213 U. S., 151, 158;
Louisiana vs. McAdoo, 234 U. S., 627, 629, 632.

In *New Hampshire vs. Louisiana*, and *New York vs. Louisiana*, *supra*, it was considered that as the plaintiffs had no interest in the bonds sued on, they were mere nominal parties, and that no controversy between States was involved.

As remarked by Mr. Justice Gray in *Wisconsin vs. Pelican Ins. Co.*, *supra*:

"Yet notwithstanding the comprehensive

> **words of the Constitution, the mere fact that a State is the plaintiff is not a conclusive test that the controversy is one in which this Court is authorized to grant relief against another State or her citizens."**

Conceding that no hard and fast line has yet been drawn delimiting the justiciable and the non-justiciable between States (*Missouri vs. Illinois*, 180 U. S., 208, 241), we think that a brief survey of the cases and the mode of their disposition (*Wisconsin vs. Pelican Ins. Co.*, 127 U. S., 265, 287, 297) readily marks the present litigation as falling within the latter category. It is not the "subject of judicial cognizance" (*Hans vs. Louisiana*, 134 U. S., 1, 15; *Louisiana vs. Texas*, 176 U. S., 1, 15; *Missouri vs. Illinois*, 180 U. S., 208, 233) or "susceptible of judicial solution" (*Louisiana vs. Texas*, 176 U. S., 1, 18, 22; *Missouri vs. Illinois*, 180 U. S., 208, 233, 234).

Of the cases of which this Court has taken original jurisdiction the most numerous have been those relating to the boundaries or territorial integrity.

> *Virginia vs. West Virginia*, 11 Wall., 39;
> *Wisconsin vs. Pelican Ins. Co.*, 127 U. S., 265, 288;
> *Louisiana vs. Mississippi*, 202 U. S., 1, 35, 36;
> *Virginia vs. West Virginia*, 246 U. S., 565, 591, note.

In another class of cases jurisdiction was exercised because of a nuisance by the invasion of the plaintiff States by sewerage or disease germs polluting their waters and soil, to the injury, actual or threatened, of the

lives, health and property of the citizens of those States. Examples are *Missouri vs. Illinois,* 180 U. S., 208, 200 U. S., 496; and *New York vs. New Jersey,* U. S., Adv. Ops., 1920-21, p. 544. Falling within the same category is *Georgia vs. Tennessee Copper Co.,* 206 U. S., 230, 237, in which it was remarked by Mr. Justice Holmes that in the capacity of quasi-sovereign:

> "A state has an interest independent of and behind the titles of its citizens in all the earth and air within its domains."

These nuisance cases are identical in principle with the boundary cases. The sovereign rights and territorial integrity of a State may be as effectually invaded or infringed by the casting or precipitation thereon of intangible, but nevertheless noxious, bacteria or gases as by visible seizure of its lands. In *Kansas vs. Colorado,* 206 U. S., 46, 97, the case of *Missouri vs. Illinois* was referred to by Mr. Justice Brewer as one in which "the action of one State reaches, through the agency of natural laws, into the territory of another State."

Kansas vs. Colorado, 185 U. S., 125, 206 U. S., 46, in which jurisdiction was sustained, was similar in aspect. Not only was the territorial integrity of Kansas affected by Colorado's diversion of the waters of the Arkansas River, which in the course of nature would have flowed into Kansas; but also Kansas claimed to be injured in its capacity as the owner of a "large tract of land bordering on the Arkansas River." (206 U. S., 99).

In *Pennsylvania vs. Wheeling & B. Bridge Co.,* 13 How., 518, the suit was treated "as brought to protect

the property of the State of Pennsylvania." (*Wisconsin vs. Pelican Ins. Co.*, 127 U. S., 265, 296). Mr. Justice McLean said, at pages 559 and 561:

> "The State of Pennsylvania is not a party in virtue of its sovereignty. It does not come here to protect the rights of its citizens. The sovereign powers of a State are adequate to the protection of its citizens and no other jurisdiction can be exercised over them, or in their behalf, except in a few specified cases. Nor can the State prosecute this suit, on the ground of any remote or contingent interest in itself. It assumes and claims, not an abstract right, but a direct interest in the controversy. * * * It asks from the Court a protection of its property, on the same ground and to the same extent that a corporation or individual may ask it."

Another class of cases has been those of contract,—of indebtedness from one State to another, or to the creditors of the latter, from the debts to whom the plaintiff was entitled to exoneration at the hands of the defendant.

South Dakota vs. North Carolina, 192 U. S., 286;

Virginia vs. West Virginia, 206 U. S., 290; 220 U. S., 1, 26-28; 238 U. S., 202, 208;

United States vs. North Carolina, 136 U. S., 211;

United States vs. Michigan, 190 U. S., 379.

Comparison of *South Dakota vs. North Carolina* and *Virginia vs. West Virginia* with *New Hampshire*

vs. Louisiana, supra, indicates that jurisdiction in the former cases was predicated upon the property rights in the plaintiff States or the protection of their corporate credit.

In all of the foregoing cases in which jurisdiction was upheld, the object was to maintain the territorial integrity of the plaintiff (as in the boundary cases and in *Kansas vs. Colorado*), or to prevent the invasion of its territory (even though the invasion may have been by the intangible instrumentality of disease germs, as in *Missouri vs. Illinois* and *New York vs. New Jersey,* or a noxious gas, as in *Georgia vs. Tennessee Copper Co.*), or to recover the property or uphold the credit of the plaintiff (as in *South Dakota vs. North Carolina* and *Virginia vs. West Virginia*).

But neither in those cases nor elsewhere have we found an instance in which this Court has entertained original jurisdiction predicated solely upon the right of the plaintiff State as *parens patriae,* or as the representative of its citizens, to enforce their private grievances or to protect their private claims arising out of the enforcement of the law of another State, in the absence of a special or additional right of the character above indicated in the plaintiff State itself.

In *New Hampshire vs. Louisiana*, 108 U. S., 76, 89, 90, and the companion case of *New York vs. Louisiana,* it was strongly pressed that the plaintiffs might prosecute the suits "because, as the sovereign and trustee of its citizens, a State is 'clothed with the right and faculty of making an imperative demand upon another independent State for the payment of debts which it

owes to citizens of the former.' " But jurisdiction was denied on the ground that the plaintiffs had no interest in the bonds sought to be collected.

In *Louisiana vs. Texas,* 176 U. S., 1, the plaintiff sought to enjoin enforcement of quarantine laws of the defendant, because of their discrimination against and injurious effect on citizens of Louisiana engaged in commerce between the two States. In declining jurisdiction, Mr. Chief Justice Fuller said:

> "It is in this aspect that the bill before us is framed. Its gravamen is not a special and peculiar injury such as would sustain an action by a private person, but the State of Louisiana presents herself in the attitude of *parens patriae*, trustee, guardian, or representative of all her citizens.
>
> "She does this from the point of view that the State of Texas is intentionally absolutely interdicting interstate commerce as respects the State of Louisiana by means of unnecessary and unreasonable quarantine regulations. Inasmuch as the vindication of the freedom of interstate commerce is not committed to the State of Louisiana, and that State is not engaged in such commerce, the cause of action must be regarded, not as involving any infringement of the powers of the State of Louisiana, or any special injury to her property, but as asserting that the State is entitled to seek relief in this way because the matters complained of affect her citizens at large. Nevertheless, if the case stated is not one presenting a controversy between these States, the exercise of original jurisdiction by this Court as against the State of Texas cannot be maintained."

In a concurring opinion Mr. Justice Harlan said:

"But I am of opinion that the State of Louisiana, in its sovereign or corporate capacity, cannot bring any action in this Court on account of the matters set forth in its bill. The case involves no property interest of that State. Nor is Louisiana charged with any duty, nor has it any power, to regulate interstate commerce. Congress alone has authority in that respect. When the Constitution gave this Court jurisdiction of controversies between States, it did not thereby authorize a State to bring another State to the bar of this Court for the purpose of testing the constitutionality of local statutes or regulations that do not affect the property or the powers of the complaining State in its sovereign or corporate capacity, but which at most affect only the rights of individual citizens or corporations engaged in interstate commerce. The word 'controversies' in the clauses extending the judicial powers of the United States to controversies 'between two or more States' and to controversies 'between a State and citizen of another State,' and the word 'party' in the clause declaring that this Court shall have original jurisdiction of all cases 'in which a State shall be a party,' refer to controversies or cases that are justiciable as between the parties thereto, and not to controversies or cases that do not involve either the property or powers of the State which complains in its sovereign or corporate capacity that its people are injuriously affected in their rights by the legislature of another State. The citizens of the com-

plaining State may, in proper cases, invoke judicial protection of their property or rights when assailed by the laws and authorities of another State; but their State cannot, even with their consent, make their case its case and compel the offending State and its authorities to appear as defendants in an action brought in this Court. If this be not so, we were wrong in *New Hampshire vs. Louisiana*, 108 U. S., 76, in which case it was held that one State could not, by taking charge of demands or debts held by its citizens against another State, acquire the right to bring a suit in its name in this Court against the debtor State."

The principle of *Louisiana vs. Texas* was still later applied in a case all the more forcible because it did not involve interstate commerce, *Oklahoma vs. Atchison, T. & S. F. R. Co.*, 220 U. S., 277. There Oklahoma sought to invoke the original jurisdiction in a suit to enjoin a foreign railroad company from charging more than specified rates on domestic shipments of lime, cement, plaster, brick, stone and crude and refined oil, in violation of an Act of Congress granting rights of way, passed while Oklahoma was a territory and the benefit of which statute the State claimed. In the bill it was alleged that these commodities were essential to the growth of the State; that the violation by the railroad company was a menace to the future of the State; and that if the railroad company was permitted further to operate the railroad in violation of the conditions of the grant contained in the Act of Congress it would be a hindrance to the growth of the State, as well as

an injury to the property rights of its inhabitants. In holding jurisdiction not to exist, Mr. Justice Harlan referred with approval to *Louisiana vs. Texas,* and said that if illegal rates were charged a controversy would exist between each shipper and the Company. He then says in the opinion:

> "But, plainly, the state, in its corporate capacity, would have no such interest in a controversy of that kind as would entitle it to vindicate and enforce the rights of a particular shipper or shippers, and, incidentally, of all shippers, by an original suit brought in its own name, in this court, to restrain the company from applying the Kansas rates, as such, to shippers generally in the local business of Oklahoma. * * * In the present case, the state seeks to enjoin the defendant company from charging more than the Kansas rates on the transportation of lime, cement, plaster, brick, stone, crude and refined oil. But the state, as such, in its governmental capacity, is not engaged in their sale or transportation, and has no property interest in such commodities. It seeks only, as between the railway company and shippers, by a general, comprehensive decree to enforce certain rates, and to compel the railway company to respect the rights of all of the people of Oklahoma who may have occasion to ship such commodities over the railway."

In the same opinion it is further said:

> "These doctrines, we think, control this case, and require its dismissal as not being within the original jurisdiction of this court, as defined by

the Constitution. Under a contrary view that jurisdiction could be invoked by a state, bringing an original suit in this court against foreign corporations and citizens of other states, whenever the state thought such corporations and citizens of other states were acting in violation of its laws to the injury of its people generally or in the aggregate; although an inquiry in violation of law, to the property or rights of particular persons through the action of foreign corporations or citizens of states, could be reached, without the intervention of the state, by suits instituted by the persons directly or immediately injured.

We are of opinion that the words in the Constitution conferring original jurisdiction on this court in a suit 'in which a state shall be a party' are not to be interpreted as conferring such jurisdiction in every cause in which the state elects to make itself strictly a party plaintiff of record, and seeks not to protect its own property, but only to vindicate the wrongs of some of its people, or to enforce its own laws or public policy against wrongdoers generally."

A like conclusion was reached in *Oklahoma vs. Gulf C. & S. F. R. Co.*, 220 U. S., 290, 301, refusing jurisdiction of a suit to enjoin citizens of other States from violation of the prohibition laws of Oklahoma, it being held that the case was not "a suit to which a State shall be a party;" and that a State could not maintain a suit on its behalf, "where the primary purpose of the suit was to protect its citizens *generally* against the violation of its laws by the corporations or persons sued."

And see:

North Dakota vs. Chicago & N. W. R Co., U. S. Adv. Ops., 1921-22, p. 199;

Pennsylvania vs. Wheeling & B. Bridge Co., 13 How., 518, 559;

Cherokee Nation vs. Georgia, 5 Pet., 1, 20, per Marshall, C. J.

From the foregoing it is evident that a suit by one State against another cannot be predicated upon the mere relation of *parens patriae;* that something more than a willingness or desire to vindicate the supposed rights of the plaintiff's citizens is requisite; and that the multiplicity or unanimity of complaints by the citizens of the one State against the acts of the other cannot, by a process of aggregation or combination, be erected into a controversy between States or present a cause justiciable between such States.

If we are correct in the foregoing views, it then follows that no justiciable cause arises by reason of the alleged threatened deprivation or shortage of gas supply to the inhabitants of the plaintiff States. And much the more is this true in respect of the alleged infringement of constitutional guaranties of companies engaged in gas transportation, or of citizens of the plaintiff States alleged to have made investments in West Virginia, "since it is a well settled rule of this Court that it only hears objections to the constitutionality of a law from those who are affected by its alleged unconstitutionality in the features complained of." "The plaintiffs must show that their own rights are infringed."

Jeffrey Mfg. Co. vs. Blagg, 235 U. S., 571, 576;

New York Central R. Co. vs. White, 243 U. S., 188, 199;
Plymouth Coal Co. vs. Pennsylvania, 232 U. S., 531, 545;
Arkadelphia Mill Co. vs. St. Louis S. W. R. Co., 249 U. S., 134, 149;
Dahnke-Walker M. Co. vs. Bondurant, U. S. Adv. Ops., 1921-1922, p. 114.

If original jurisdiction is attempted to be sustained because of the supply of West Virginia gas to municipalities or public institutions in Ohio and Pennsylvania, the jurisdiction is equally negatived by the above cited cases. In *Louisiana vs. Texas,* 176 U. S., 1, 18, it was remarked by Mr. Chief Justice Fuller, in regard to controversies between states,—

"there must be a direct issue between them, and the subject matter must be susceptible of judicial solution."

And again at page 22, it is said that,—

"a controversy between states does not arise unless the action complained of is state action, and acts of state officers in abuse or excess of their powers cannot be laid hold of *as in themselves committing one state to a distinct collision with a sister state.*" (Italics ours).

Later it was said by the same Chief Justice, with the concurrence of Harlan and White, JJ., in their dissent in *Missouri vs. Illinois,* 180 U. S. 208, 249, and not denied in the prevailing opinion of Mr. Justice Shiras, that,—

"it must be made to appear that the States are in direct antagonism as states."

And in *Kansas vs. Colorado,* 185 U. S. 125, 145, the Chief Justice again said:

> "The gravamen of the bill is that the state of Colorado, acting directly herself, as well as through private persons thereto licensed, is depriving and threatening to deprive the State of Kansas and its inhabitants of the water heretofore accustomed to flow in the Arkansas River through its channel on the surface and through a subterranean course across the State of Kansas." * * *

The alleged right to West Virginia gas claimed by the plaintiffs for themselves and their inhabitants, if such right exists, is a right, not against the State of West Virginia, but against the gas companies to whom the plaintiffs and their inhabitants look for their gas supply. If the right exists against the West Virginia public service gas companies by whom the gas is furnished, either directly or remotely, it is manifest that the right can rise no higher than that of the companies themselves. As against the State of West Virginia the claim in substance is, not that West Virginia has directed its action against the plaintiffs, but that by the exercise of governmental power against the public service companies within the boundaries of West Virginia, the plaintiffs are, or may be, affected consequentially.

If, as against some of these companies, as citizens of West Virginia, a suit might conceivably be brought in this Court to compel them to furnish gas to or for the use of the plaintiffs in a sovereign or corporate capacity, it would, at best, involve a controversy between the plaintiff States and such companies and not a controversy between the plaintiffs and West Virginia. This

is a basis of jurisdiction not invoked in the present cases. Whether, if such a suit were brought, it would be necessary for West Virginia to intervene to uphold its statute, and in the interest of a full hearing upon the validity of the statute under which the gas companies ought properly to justify, we need not discuss. But it is apparent that:

(a) On the one hand, whether the West Virginia companies shall furnish gas to or for the plaintiffs, is at most, a matter of controversy between such companies and the plaintiffs, and not a controversy between the plaintiffs and West Virginia, within the meaning of the contitution; and,

(b) The question whether West Virginia may validly regulate its public service corporations in the manner attempted by the statute in litigation, involves a controversy between West Virginia and such corpora tions, and is not a controversy between States within the meaning of the constitution.

In either view,—and both views extend to the full scope of these cases—there is no original jurisdiction in this Court.

II

THE SUITS WERE NOT NECESSARILY PREMATURE MERELY BECAUSE NO ACTION WAS TAKEN BY WEST VIRGINIA OR ITS PUBLIC SERVICE COMMISSON UNDER THE STATUTE. THE SUITS WERE PREMATURE IN THE SENSE THAT AT THE TIME OF THE COMMENCEMENT OF THE SUITS, THE PRACTICAL OPERATION OF THE STATUTE HAD NOT BEEN TESTED, AND NO THREATENED INJURY OF SERIOUS MAGNITUDE WAS CLEARLY OR CONVINCINGLY PROVED OR SUSCEPTIBLE OF CLEAR OR CONVINCING PROOF.

The statute was passed February 10, 1919, and, apart from the injunctions herein, became effective under the West Virginia Constitution (Art. 6, sec. 30), ninety days after its passage, May 11, 1919. The bills were filed later in May, 1919, and the injunctions to prevent enforcement of the statute were issued June 3, 1919. So that no real opportunity occurred to test the statute in actual practice.

By the enactment of the statute, West Virginia imposed on the gas companies referred to the unconditional and mandatory duty to furnish to the specified consumers a reasonably adequate supply of gas (Acts of 1919, Ch. 71, sec. 1), and provided suitable procedure to coerce the performance of that duty by order of the Public Service Commission, which order could be enforced by penalties. (Secs. 2, 3, 4; and see Public Service Commission Act,—Acts of 1913, secs. 11, 17). Re-

covery of damages from disobedient companies was also provided for (sec. 5).

The bills charged, in substance, that, in addition to the infringement of other alleged constitutional rights, the enforcement of the statute would prohibit interstate transportation, and confine to West Virginia and absorb in local consumption the gas which otherwise would have been transported to the other States.

The answers aver, the progressively increasing shortage of gas, the enormous quantities of the gas transported to and for consumption in other States; the inadequacy of the supply to West Virginia consumers, resultant from the diminished production of West Virginia gas and its out-of-state consumption; and the purpose of the statute to compel the public service gas companies to perform their duties. The answers admit that by the furnishing of a reasonably adequate supply of gas for the use of the public in West Virginia, as required by the statute, the volume of West Virginia gas available for transportation to, or for consumption in, the other States, and the quantity of gas so transported, will be indirectly or incidentally diminished, unless the gas companies shall increase gas production in West Virginia. But it is alleged that in case of the failure to increase the production of West Virginia gas, whether or not the quantity transported to the other States will be appreciably decreased will depend in a large degree upon the apportionment of the gas transported from West Virginia by the seven large companies named among the several States desiring to consume the same. It is among other things denied that enforcement of the statute will require all, or substan-

tially all, of the West Virginia gas; or that the transportation of gas from West Virginia to the other States will be prohibited; or that the furnishing of a reasonably adequate supply to the West Virginia public, will require or consume any large proportion of the gas transported to, or for consumption in, other States. (Answer to Ohio bill, pp, 33, 34; answer to Pennsylvania bill, pp. 33, 34.) Aside from the manifest intention of West Virginia to enforce the statute, its purpose to impose fines, penalties and imprisonment in accordance with the statute, for disobedience of the authorized orders of the Public Service Commission, is specifically alleged. (Answer to Ohio bill, p. 40; answer to Pennsylvania bill, p. 44).

The proofs to which we have already sufficiently referred, showed the shortage of gas, which was to be anticipated from the beginning; that no further sources of supply were known or probable; that prior to the enactment of the statute the apportionment of West Virginia gas as between the consumers in that State and elsewhere was in fact determined by the gas companies, to the detriment of the West Virginia consumers; and that augmentation of the supply to West Virginia consumers would correspondingly subtract from the volume apportionable to consumers in the other States.

We think that the bills were timely in a single aspect, involving the broadest concessions in favor of the plaintiffs. Assuming that justiciable claims are presented by the plaintiffs in the character of *parens patriae* or as representatives of the whole body of gas consumers or inhabitants of the plaintiff States; and assuming further that any diminution of the quantity of

gas transported to those States, as a result of West Virginia's legislative action, affords ground for a more than frivolous contention that their gas consumers or inhabitants in the aggregate will be unconstitutionally deprived of gas or interfered with in the carrying on of interstate commerce—the bills were not premature.

With the foregoing assumptions, we think that if ever the plaintiffs, in the capacity of *parens patriae*, were to possess a justiciable right to contest the validity of the statute—though we deny the justiciable right—the right existed as well on the day of the filing of the bills as it could or would at any future time, insofar as they could supply the proof requisite in a controversy between States. The West Virginia public service gas companies were then subject to legislation which threatened a multiplicity of actions at law and proceedings before the Commission, calculated to enforce obedience (see *Smyth vs. Ames*, 169 U. S., 466, 518; *Ex parte Young*, 209 U. S., 123, 163).

Smyth vs. Ames, 169 U. S., 446;
Ex parte Young, 209 U. S., 123;
Public Service Co. vs. Corboy, 250 U. S., 153;
Bacon vs. Rutland R. Co., 232 U. S., 135;
Coal & Coke R. Co. vs. Conley, 67 W. Va., 129, 138, 67 S. E., 613;

That West Virginia, after enacting the statute and providing appropriate procedure and sanctions, or its Public Service Commission, has taken no additional action, does not appear to us to affect the question of prematurity from this standpoint. If further action by the State or Commission were requisite, what action must it be? Would it be enough that one aggrieved con-

sumer should complain to the Commission? Or must the Commission proceed to final order in his case? Would it suffice that the order should affect a few thousand cubic feet of gas, the deprivation of which would be inappreciable in the other States; or must there be a multiplication of proceedings, until, and under such circumstances that, the aggregate of deprivation becomes appreciable or of serious magnitude?

In *Ex Parte Young*, 209 U. S., 123, the injunction suits out of which the contempt proceeding arose were instituted on the day preceding that on which the statute was to become a law, the plaintiffs being stockholders of railroad companies again seeking to enjoin compliance with a State law fixing rates, alleged to be confiscatory. The question of prematurity of suit was urged in the contention that the constitutionality of the statute should be tested by disobeying it "at least once,' and defending against the consequences. But this Court refused to adopt this point of view.

While, therefore, we think that the suits were not premature as an attempt to show, in advance of further action on the part of West Virginia, that the statute is invalid on the ground that its enforcement would or might diminish the volume of West Virginia gas available for transportation to other States, the suits in every other aspect were premature.

Despite the argument of the plaintiffs to the contrary, it is hardly deniable that West Virginia possesses at least some right and power of regulation of its public service gas companies, to compel them to furnish gas to West Virginia consumers. The statute of Ohio, pre-

scribing "necessary and adequate service and facilities, which shall be reasonable and just," and the Pennsylvania law, requiring service "reasonably adequate and practically sufficient for accommodation of its patrons, employes and public," are substantially identical with the primary requirement of the statute now in question.

Ohio Gen. Code, sec. 614-12;

Penn. Public Laws of 1913, p. 1374; *Pub. Service Com. Laws*, Art. I, sec. 1.

Assuming, then, the possession by West Virginia of some power in the premises, and keeping in mind the established fact that an inadequate service is equivalent to none, the right and power of West Virginia must logically extend to something more than the compulsion of a worthless service. They must embrace the requirement of a reasonably adequate service.

And assuming the right and power of West Virginia to require a reasonably adequate service to its consumers, the effects of that requirement upon the plaintiffs and their citizens will necessarily depend upon the manner and extent of the application of the statute. To decide now, once and for all, the validity of the statute, would call upon the Court to determine from conflicting evidence,—much of it entirely conjectural,—the amount of gas requisite to afford a reasonably adequate supply for the designated West Virginia consumers; the probable action of the Public Service Commission; the reasonableness and effect of that action; the varying circumstances of the individual gas companies and the localities in the plaintiff States deriving gas from or through them; the extent of the diminution of the gas transported to the other States, by

reason of the operation of the statute, and the apportionment which the gas companies would make among the other States. These and other matters, readily occurring to the mind, rest as yet in the domain of either the disputable or the speculative. It is, of course, settled that "a statute may be invalid as applied to one state of facts, and yet valid as applied to another." (*Dahnke-Walker Mill Co. vs. Bondurant,* U. S. Adv. Ops., 1921-1922, p. 114, decided December 12, 1921).

Unless in this situation of the case this Court can now definitely anticipate and determine that the administration of the statute by West Virginia will necessarily and under all circumstances be in excess of the legitimate right and power of that State and constitute an abuse of that right and power, and that as a result an injury of serious magnitude will be inflicted on the plaintiffs or their citizens, these suits are premature.

In *Prentis vs. Atlantic Coast L. Co.,* 211 U. S., 210, in which the question of prematurity of the suit arose, the decision turned upon the fact that the rates fixed by the Virginia Corporation Commission were subject to review and change upon an appeal to the Court of Appeals of that State. It was thought by this Court that the railroad companies, in filing their bills in advance of application to the Court of Appeals, did not "make sure that the State, in its final legislative action, would not respect what they think their rights to be, before resorting to the Courts of the United States." And it was added that when, upon application to the Court of Appeals, "the rate is fixed, a bill against the Commission to restrain the members from enforcing it, will not be bad as an attempt to enjoin legislation, or

as a suit against a State, and will be the proper form of remedy." (211 U. S., 230).

Subsequently, in *Bacon vs. Rutland R. Co.*, 232 U. S., 135, it was said that in the *Prentis Case* it was held proper, before resorting to the Circuit Court of the United States, "to make sure that the officers of the State would try to establish an unconstitutional rule." (232 U. S., 137).

In *Wadley S. R. Co. vs. Georgia*, 235 U. S., 651, it was held that an order of the railroad commission could not be assailed in a suit to recover penalties for its violation, where the defendant has not proceeded in the manner prescribed by the statute to test the validity of the order.

The recent decision in *Oklahoma Nat. Gas Co. vs. Russell*, U. S. Adv. Ops. 1922-23, p. 395, concerned only a *pendente lite* remedy, during appropriate procedure in the State court.

But irrespective of the non-action of West Virginia or its Public Service Commission, the result is the same, unless it be held that any and every act of enforcement of the statute, and any and every subtraction from the West Virginia gas transported to the other States, must inevitably injure the plaintiffs, whether in their sovereign character or as mere consumers of gas.

The presumption being in favor of the validity of the statute and the burden being on the plaintiffs to show a violation of constitutional guaranties, even in a suit between litigants other than States there could

be no declaration of unconstitutionality upon mere loose opinion or conjecture. "The fact must be tested by the actual transaction." (*Western U. T. Co. vs. Speight,* 254 U. S., 17). The repeated refusal to declare public service rates confiscatory in advance of actual test is illustrative. It has been held frequently that an attack upon a rate prescribed by State statute is premature in the absence of clear and convincing proof that the rate will have the alleged effect.

Smyth vs. Ames, 169 U. S., 466;
Knoxville vs. Knoxville Water Co., 212 U. S., 1, 18, 19;
Willcox vs. Consolidated Gas Co., 212 U. S., 19, 54;
Northern Pacific R. Co., vs. North Dakota, 216 U. S., 579;
Des Moines Gas Co. vs. Des Moines, 238 U. S., 153, 173;
Missouri vs. Chicago, B. & Q. R. Co., 241 U. S., 533, 539, 540.

In *Grand Trunk R. Co. vs. Michigan R. Com.,* 231 U. S., 457, an order requiring railroad companies to allow joint use of trackage was attacked as an interference with interstate commerce. The case was heard upon conflicting affidavits as to the effect of the enforcement of the order. Mr. Justice McKenna, after pointing out on page 464 that "the contention is premature," proceeds on page 465 as follows:

> "It is too late in the day to question the competency of a state to create a commission and to give it the power of regulating railroads, and necessarily of investigating the conditions upon

> which regulation may be directed. If a judicial interference is sought with the exercise of such power, it must be clearly shown to have been transcended, not left as a conclusion from the balancing of conflicting affidavits, or even, it may be, as held by the district court, on *ex parte* affidavits. Courts are reluctant to interfere with the laws of a state or with the tribunals constituted to enforce them. Doubts will not be resolved against the law, nor the decision of its tribunals prevented or anticipated unless the necessity for either be demonstrated."

This being true in ordinary litigation, much the more is it true in a controversy between States.

In *Kansas vs. Colorado*, 206 U. S., 46, 117, the bill was dismissed, after hearing on the merits, for the reason, among other things, that while perceptible injury to portions of the Arkansas Valley in Kansas had been shown, the right of Colorado to divert water from the Arkansas River for irrigation purposes had not yet reached the point at which it could be held that the diversion was in excess of Colorado's rights, and that the injury to Kansas had not attained a scope sufficiently great to sustain a suit between the two States.

In *Missouri vs. Illinois*, 200 U. S., 496, 521, it was said by Mr. Justice Holmes in rendering an opinion, followed by a dismissal of the bill without prejudice:

> "Before this court ought to intervene, the case should be of serious magnitude, clearly and fully proved, and the principle to be applied should be one which the court is prepared deliberately to

maintain against all considerations on the other side."

In *New York vs. New Jersey*, 256 U. S., 296, involving the effect of the Passaic sewerage project on New York, it was said by Mr. Justice Clarke:

"With the record in this state we come to consider the evidence introduced, but subject to the rule that the burden upon the state of New York of sustaining the allegations of its bill is much greater than that imposed upon a complainant in an ordinary suit between private parties. Before this court can be moved to exercise its extraordinary power under the Constitution to control the conduct of one state at the suit of another, the threatened invasion of rights must be of serious magnitude, and it must be established by clear and convincing evidence. *Missouri vs. Illinois*, 200 U. S., 496."

To the same effect, see:

Kansas vs. Colorado, 185 U. S., 125;
Missouri vs. Illinois, 180 U. S. 208.

III.

THESE CASES MUST BE CONSIDERED IN THE LIGHT OF THE PECULIAR NATURE OF GAS AND OF THE GAS COMPANIES, AND THE EXCEPTIONAL RULES OF LAW APPLICABLE THERETO.

We premise discussion of the merits by reference to the fundamental fallacy which underlies the contentions of the plaintiffs. Basing their claim of right to West Virginia gas produced by West Virginia gas companies, they overlook the peculiar nature of the commodity itself and the exceptional status of the corporations, through and under which the plaintiffs seek to maintain their supply.

The previous narrative has sufficed to mark natural gas and the natural-gas industry as peculiar, because of the inherent and antecedently known limitations upon the sources of supply and the inevitability and proximate approach of decline and exhaustion. In this regard natural gas differs essentially from other commodities, and even from those dealt in by ordinary public-service corporations supplying water, artificial gas or electricity. The waters of a water company are continually replenished from seemingly undiminished natural reservoirs; an artificial-gas company can always manufacture new gas; an electric company can generate new power indefinitely. And in the instance of a public utility supplying services, as distinguished from a commodity, such as a railroad or a telephone line, the rendition of the service operates in no degree to diminish the volume of future service. Such instrumen-

talities may wear out, but they can be duplicated from an abundance of materials.

It is a result that natural gas, and rights therein, are in many respects governed by exceptional rules of law. Illustrations are found in *Brown vs. Spilman,* 155 U. S., 665, 669, 670, holding that "decisions in ordinary cases of mining, for * * * minerals which have a fixed *situs* cannot be applied to contracts concerning" gas "without some qualification;" in *Ohio Oil Co. vs. Indiana,* 177 U. S., 190, holding valid a statute prohibiting the escape of gas in the air longer than two days, and *Walls vs. Midland Carbon Co.,* 254 U. S., 300, sustaining the prohibition, in certain circumstances, of the manufacture of carbon-black from gas, it being said that in both instances the power of regulation was "dependent upon the natures of oil and gas;" and *Westmoreland & C. Nat. Gas. vs. Dewit,* 130 Pa., 235, 18 Atl., 724. (And see *Bacon vs. Walker,* 204 U. S., 311, 316). Consequent on this follows the inadmissibility of the indiscriminate application to natural gas and to public service corporations engaged in its production, transportation or supply, of legal principles applicable to ordinary commodities and to individuals and corporations dealing in or with ordinary commodities.

IV.

THE STATUTE DOES NO MORE THAN TO DECLARE, AND TO PRESCRIBE APPROPRIATE PROCEDURE FOR THE ENFORCEMENT OF, THE OBLIGATION OF EACH PUBLIC SERVICE GAS COMPANY TO FURNISH REASONABLY ADEQUATE SERVICE WITHIN REASONABLE TERRITORIAL LIMITS. IT DOES NOT REQUIRE UNREASONABLE SERVICE OR UNREASONABLE EXTENSION BY ANY COMPANY.

We postpone the question of power to statement of the substance of the principal clauses of the statute. In pronouncing upon its constitutionality, the Court will not declare it invalid "on surmise or on the barren letter of the statute" (*Bacon vs. Walker*, 204 U. S., 311, 317; and see *Walls vs. Midland Carbon Co.*, 250 U. S., 300). It is to be accorded a constitutional construction, if permitted by a fair interpretation of its language. (*Hooper vs. California*, 155 U. S., 648, 657.)

Section 1.

This section, the dominant provision of the statute, has the following scope:

(a) *The persons to whom the statute applies*:

They are those persons, natural or corporate, who are actually engaged in the service of natural gas to the public, or who are required by law so to do. The language of description is, "Every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public,

whether for domestic, industrial or other consumption, within this State." * * *

"Person" as above used is defined by Section 7 to include "persons, firms and corporations." Because in the great majority of cases the supply of gas to the public is by corporations, we generally refer in this brief to the entire class as public service corporations. (*Van Dyke vs. Geary*, 244 U. S., 39; *Hardman vs. Cabot*, 60 W. Va., 664, 55 S. E., 756.)

The persons "engaged in furnishing natural gas for public use," can be no more clearly defined than by the phrase itself.

As to those "required by law" so to do, the legal obligation may arise from the terms of corporate charters, or, irrespective thereof, as a necessary implication from the acceptance of municipal franchises, the use of public highways, by permission of the public authorities, for the transportation of gas, and the exercise of the right of eminent domain.

In *Charleston Nat. Gas. Co. vs. Lowe*, 52 W. Va., 662, 671, 44 S. E., 410, involving a city franchise to supply gas, it was asked and answered:

> "But have the citizens of Charleston an absolute and indefeasible right to the use of the gas upon reasonable and equal terms? Is the company bound to furnish gas to all who apply for it without an express legislative imposition of that duty upon it? Undoubtedly. The courts have so held in many of the States, and their decisions are grounded upon both reason and the best of authority."

And *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396, was quoted as follows:

> "These gas companies entered the streets of Baltimore, under their charters, in the exercise of the equivalent of the power of eminent domain, and are to be held as assuming an obligation to fulfill the public purposes to subserve which they are incorporated."

And see *Franke vs. Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct., 446, 457.

In *Hardman vs. Cabot*, 60 W. Va., 664, 55 S. E., 756, it was stated by the Court:

> "The legislature, in expressly authorizing the use of highways, under permission of the county courts, by corporations, engaged in the service of the public, for the location and operation of their gas pipes, has declared that such use is proper."

And again:

> "To hold the contrary, as regards pipe lines for conveying gas, water and other supplies, would be most disastrous to cities, towns and counties of this State, in which hundreds, possibly thousands, of miles of such pipes have been laid in the highways, without any thought on the part of the fee owner of any right in him to prevent it, until payment of compensation should be made."

And still further, on page 669:

> "What has just been said, it must be observed, assumes that the grantee of this permission will use the pipe line in the service of the public."

In *Carnegie Nat. Gas Co. vs. Swiger*, 72 W. Va., 557, 571, 79 S. E., 3, involving one of the seven companies already mentioned, it was said:

> "We observe that the Legislature, by general law, has conferred upon pipe-line companies, organized for transporting oil and natural gas, the right of eminent domain, and has thereby necessarily imposed upon them, as public-service corporations, the right and duty of performing a public service. That right and duty is fixed as firmly as if written into the statute. * * * Pipe-line companies organized for transporting gas must serve the public with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves, or by statute, or by contracts or ordinances of municipalities. * * * The rights of the people are thus protected in nearly every case where the public is served by public service corporations, furnishing water, gas, electricity, or transportation."

The category to which the statute thus applies, embraces all of the persons, natural or corporate, about sixty-seven in number, supplying gas to the public (Rec. 982); and it will embrace all others who, in the future, shall similarly engage or obligate themselves to engage in such supply.

But the statute does not include, among those on whom it imposes the duty of reasonably adequate supply, persons, natural or corporate, not engaged, or obligated to engage, in the supply of gas to the public. This exclusion is based on the obvious absence of legislative power to affect with a public use property not

devoted to the public use by the act or consent of a private owner. (*Producers Transp. Co. vs. Railroad Commission*, 251 U. S., 228, 230; *Weems Steamboat Co. vs. Peoples Steamboat Co.*, 214 U. S., 345; *Munn vs. Illinois*, 94 U. S., 113, 126.)

In 1919, the total gas production of West Virginia was, as previously stated, 219,886,837 M cubic feet, of which 183,687,047 M was in the hands of the public service companies, leaving 36,199,790 M feet in the possession of private owners, an amount largely in excess of the 29,360,811 M supplied to West Virginia consumers by the seven companies.

Nothing in the statute now involved or any other law of West Virginia, affects the disposition of this privately owned gas, whether in interstate commerce or otherwise. The owner, not obligated to supply gas to the public in West Virginia by his voluntary engagement, or the acceptance of special rights and privileges, such as franchises, user of highways under public permission, or the exercise of eminent domain, may, if he sees fit, construct or operate a pipe line without the aid of such special rights and privileges. His ownership of the gas, his ownership or operation of the pipe line, or the transportation of the gas, or all combined, would impose on him no duty of public gas supply in the State.

(b) *The area of service and persons to be supplied*:

The area of service of each gas company is the territory within which that company produces, or through which it transports, or within which it serves its gas. The persons to be supplied are those within the above

limited territory, who desire and apply for gas and are ready and willing to pay for it at lawful rates.

The language of the statute is that these public service companies shall "furnish for public use within the territory of this State, and for the use of the public and every part of the public within the territory of this State, in or from which such gas is produced, or through which said gas is transported, or which is served *by such person.*" And that the area of service is confined to the particular territory of the production, transportation and service of that particular public service company, is reiterated and emphasized in the later clauses of the section, where, in defining the purposes for which the reasonably adequate supply may be required, the consumption is restricted to "the public, or any part of the public, within *said* territory of this State." The delimitation of area is again emphasized in Section 2, under which a gas company seeking to make good its own deficiency of supply, must be engaged in furnishing gas to the public in the same territory in which the other company, from whom gas is to be obtained, produces the gas, or through which the latter transports it, or in which the latter serves it.

The assertion persistently thrust forward by the plaintiffs, that all of the people of West Virginia must be served adequately before the public service companies can transport to other states, and involving the assumption that each company is severally obligated to service in every part of West Virginia, is wholly unwarranted, and contrary to the plain terms of the Act. Had this fantastic result been intended, the appropriate requirement would have been to furnish gas to all inhabitants

of the state, without qualification, a meaning not attributable to the phrase "within the territory of this State." But the possibility of ambiguity is removed by the qualifying clause immediately following, defining and limiting "the territory of this State" to that particular area "in or from which such gas is produced, or through which said gas is transported, or which is served *by such person;*" the last three words, "by such person," relating to and yet further qualifying and limiting this territory to the locality in which the particular company produces, transports or serves.

Stating the matter concretely, the Hope Natural Gas Company is required to supply reasonably adequate service in the territory in which it produces, or through which it transports or in which it supplies gas. If in other territory, in which the Manufacturers Light & Heat Company or the United Fuel Gas Company operates, a shortage of gas exists, it is of no concern to the Hope Natural Gas Company. The latter must supply its own territory in reasonable adequacy, and is bound to do no more.

The designation of the area of duty as the territory of production, transportation and service, requires little comment. In this respect it does not expand the duty which existed before. The object of the statute, indeed, was to declare and enforce the duty of reasonably adequate service in the localities which the companies were theretofore obligated to serve.

The holders of municipal franchises, irrespective of this statute, are compellable to supply gas to consumers along their lines. The companies owning pipe lines are

under a similar obligation. In *Carnegie Nat. Gas Co. vs. Swiger,* 72 W. Va., 557, 571, 79 S. E., 3, it was said.

> "Pipe-line companies organized for transporting gas must serve the people with gas, under reasonable and proper regulations, along the entire line traversed and for reasonable rates fixed by themselves, or by statute, or by contracts or ordinances of municipalities."

But in order to entitle a consumer to service, it is unnecessary that he should dwell in immediate contact with an existing gas main. In 1 *Wyman, Public Service Corp.*, Sec. 281, the writer says:

> "Certainly all premises situated within the network of the existing mains and within *convenient connecting distance* of their lines should be served. All of these premises come within the sphere of influence, already established, differing slightly from premises abutting."

In condemnation petitions some of the seven gas companies, in not dissimilar terms, profess a readiness and willingness to "sell and deliver gas to all parties *within reaching distance of its pipe lines,* who apply for the same at reasonable rates." (Rec. 1857, 1876.)

A gas company, moreover, is under the duty, even in the absence of a statute, to extend its mains or lines "so as to meet the reasonable requirements of the community."

Russell vs. Sebastian, 233 U. S., 195, 208, 209.
New York vs. McCall, 245 U. S., 343.
People ex rel. Woodhaven Gas Light Co. vs. Dechan, 153 N. Y., 528, 533, 47 N. E., 787.

Lukrawcka vs. Spring Valley Water Co., 169 Cal., 318, 146 Pa., 640.

United States Tel. Co. vs. Central Union Tel. Co., 202 Fed., 66, 71.

The question in every instance, as pointed out in the *Lukrawcka Case*, is one of reasonableness, to be determined as a question of fact. That was the view taken in *New York vs. McCall*, 245 U. S., 345, 351, where, in sustaining an order requiring an extension of about one and one-half miles by a gas company, Mr. Justice Clarke said:

> "Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve, and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render."

And it was added that the determination of such questions,—

> "Is one of the important purposes for which these administrative commissions, with large powers, were called into existence, with an organization and with duties which peculiarly fit them for dealing with problems such as this case presents." * * *

So in the present instance, the area of service in each case is left for the determination of the Public Service Commission, as a question of reasonableness, in the light of the particular facts and circumstances.

The Commission must consider the consumer's needs, the company's gas supply, and the cost and remunerativeness of the service. The decision of the Commission is subject to judicial review.

(c) *The quantity of gas to be furnished*:

The volume of gas required to be furnished is a reasonably adequate supply. And this involves both quantity and economy of consumption. In the precise words of the statute, it is "a supply of natural gas reasonably adequate" for the public uses specified.

The requirement of reasonably adequate service is no greater than that at common law. In *Cumberland Tel. & T. Co. vs. Kelly*, 160 Fed. 316, 324, Judge Lurton, in the Circuit Court of Appeals, said:

> "Telephone companies, like similar quasi-public corporations, are under a general common law obligation to supply reasonably adequate facilities for supplying the service which they hold themselves out to do."

In *Russell vs. Sebastian*, 233 U. S., 195, 208, in speaking of a gas company, it was said by Mr. Justice Hughes, with citation of authorities:

> "Incident to the undertaking in response to the State's offer was the obligation to provide facilities that were reasonably adequate."

And see *United States Tel. Co. vs. Central Union Tel. Co.*, 202 Fed., 66, 71.

In *Oklahoma Nat. Gas Co. vs. Oklahoma,* U. S. Adv. Ops., 1921-22, p. 331, it was said as against the claim of unconstitutionality by a gas company:

> "Both the commission and the Supreme Court decided, construing the charter of the company, that it, the company, was required to render *efficient service,* and we concur in that view, and that it was competent for the State to compensate the deficiency in the service—deficiency in the supply of gas—by a rebate of payments to the company. The percentage of reduction, and its adequate relation to the deficiency in service were necessarily determined by the commission from the case as presented to it, and the Supreme Court, upon consideration, affirmed the determination as a just and supported relation." (*Italics ours.*)

The duty of reasonably adequate service, in identical or equivalent words, is imposed by the statutes in numerous States dealing with public utilities, including natural gas companies.

Pennsylvania Pub. Service Com. Law, Art 2, sec. 1 (*Pa. Pub. Laws of 1913,* p. 1374);

New York Pub. Service Com. Law, sec. 65 (*Laws of 1910,* ch. 480);

Pennsylvania Gas Co. vs. Pub. Service Com., 252 U. S., 23, 27;

Indiana Public Utility Law, sec. 7 (*Acts of 1913,* Ch. 76);

Ohio General Code, sec. 614-12.

As previously stated, reasonable adequacy of supply is more easily described than defined. In order to have value gas must be dependable, ready and constant. The whole matter is summed up in the statement of

Judge James H. Reed, President of the Philadelphia Company, heretofore quoted (Rec. 525), that a man cannot be satisfied by giving him fifty per cent. of his requirements, that "his wife can't cook with it, and his house is cold. He either wants all or none."

(d) *The purpose or use for which gas is to be furnished*:

The gas is required to be supplied for the domestic, industrial and other public uses for which gas is consumed or desired to be consumed, within the territory already mentioned. The exact languarge of the statute is: "for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this State, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates."

The specification of domestic and industrial purposes needs no explanation. The phrase "or otherwise" is of course to be construed in harmony with the associated words. *(2 Sutherland, Stat. Const.—Lewis 2 Ed.,* sec. 422.)

The corporate charters and condemnation petitions quoted or referred to in the Statement of facts, mention "other" classes of consumption in words similar to those of the statute.

Aside from domestic and industrial consumption, the gas companies have ordinarily recognized and pro-

vided separately for other classes of consumption, such as those of public buildings and institutions, churches, hospitals and the like; street lighting, and oil and gas field work.

This is reflected, for example, by the division of the gas sales by the Manufacturers Light & Heat Company into domestic, industrial, public institution and miscellaneous consumption (Rec. 84-87). So in the case of the Ohio Fuel Supply Company, where the division is among domestic, public building, industrial and other uses (Rec. 661, 662). Similar differentiation is found in the rate schedule of the Pittsburgh & West Virginia Gas Company (Rec. 1935). The words 'desired to be consumed" do not enlarge the category of consumption embraced by the phrase "domestic, industrial or otherwise." The words had in view the condition which the statute sought to remedy, to-wit, that the public or part of the public entitled to gas might be without it, and though entitled and desiring to have it, could not be said to be consuming it presently. It is to be observed, also, that the necessity of application to the Public Service Commission in case of refusal of service by a gas company sufficiently guards against the abuse of the statute.

(e) *The extent of the gas supply from which the reasonably adequate service is to rendered*:

The requirement is that each gas company shall render reasonably adequate service to the extent of that company's gas supply produced in West Virginia. The exact words of the statute are: "to the extent of

his supply of said gas produced in this State, (whether produced by such person or by any other person)."

The clause is at once a definition and a limitation. Some of the gas companies, such as the Manufacturers Light & Heat Company and the United Fuel Gas Company, produce and buy gas in other States; the Manufacturers Light & Heat Company in Pennsylvania and Ohio, and the United Fuel Gas Company in Kentucky. Some of the West Virginia companies are in intimate corporate relation with companies in the other States, which produce and buy gas in those States. The relationships of the Hope Natural Gas Company with the Peoples Natural Gas Company and the East Ohio Gas Company, of the Pittsburgh & West Virginia Gas Company with the Philadelphia Company and the Equitable Gas Company, and of the United Fuel Gas Company with the Ohio Fuel Supply Company are examples. It was recognized that the West Virginia gas companies could not in reason be expected to import from other States gas to supply West Virginia. The other States themselves, equally with West Virginia, might require their gas companies to apply the gas produced in those States to the reasonably adequate service of the consumers therein. Having this in view, the statute confines its requirement of adequate service by any gas company to the extent of the supply of that company produced in West Virginia.

But subject to the limitation above, it is the intention of the statute that each gas company shall render reasonably adequate service to the consumers in the prescribed territory of that gas company, even though such service appropriates that company's entire

supply of gas produced in West Virginia. For if it is true that the public service gas companies of the State are obligated to furnish a reasonably adequate gas service, it logically follows that they must devote thereto the quantity of gas requisite for the rendition of the service.

The evidence in these cases establishes what is inherently manifest,—that an inadequate gas service is substantially equivalent to no service; that the diminishing stock of gas renders it impossible to render adequate service to everyone, wherever situate; that the reasonable and practical remedy is to contract the area of service and to diminish the number of consumers; that, other things being equal, in time of shortage the better supply, by physical necessity, is and will be received by the consumers nearest the sources of production (Rec. 50, 51, 392, 393); that the worst service is and will be obtained by the consumers farthest from such sources, and their service will inevitably grow worse from year to year as the available gas diminishes; and that in the elimination of consumers, both the nature of the service and economy of operation by the gas companies, point to the consumers at the greatest distance from the sources of production as those whose gas supply should be cut off.

In enacting this statute, therefore, West Virginia had regard not only to its legal right to priority of adequate service at the hands of its public service corporations, but also to the fact that there can be no such thing as a parity of right to, or equality of service of, a commodity by nature limited in quantity and unrenewable, constantly diminishing, valuable when ade-

quately supplied and valueless when rendered inadequate by excessive partition. The solution accorded by West Virginia to the problem is sufficiently explained and justified by the following quotation from an exhibit filed by the plaintiffs (Rec. 1668-1669):

"In considering the question of the desirability of making new extensions after a natural gas supply has become depleted, so as to make satisfactory service for all impossible, two distinct viewpoints have been developed, namely:

"The Indiana Supreme Court in 1901 held that:

'A natural gas company * * * can not refuse to permit connections with its mains by unsupplied citizens because the gas pressure has fallen so low that existing customers can not be adequately supplied, and that the court should compel the company to permit participation in the supply of gas furnished by it, although it can not furnish enough to satisfy the needs of its existing customers.' (*State of Indiana ex. rel. Wood vs. Consumers Gas Trust Co.*, 55 Lawyers Reports, 245).

"The New York Public Service Commission, second district, in 1915, held that:

'Consideration must be given to a safe and adequate service on the part of the company, within its means and facilities, and if service of this character is being given to a comparatively few customers in a certain locality, with the eliminated (*sic*) amount of gas available for such purpose, it is manifestly the duty of this commission to permit the continuance of such service rather than order

the company to turn its gas into a larger field where a safe and adequate service could not be given.' (New York Public Service Commission, second district, North Tonawanda case No. 4478, Feb. 25, 1915.)

"The Indiana viewpoint is merely a blind following of obsolete precedent. Furthermore, it is based on the erroneous theory that it is a matter of no consequence whether adequate service can be given to any customers, so long as all of the customers stand on an exact equality, and fails to recognize that there is a clear distinction between equity and equality, and that the two are not synonymous.

"The New York viewpoint is in accordance with the spirit and letter of up-to-date public utility regulation and recognizes the inherent characteristics and natural limitations of the natural gas industry, and that usable service to a limited number is better than poor or no service to a large number. *This New York viewpoint is the just and equitable one to apply to all new service extension problems, as well as to the inevitable problem that will arise in the near future, of limiting or discontinuing the service entirely in certain localities, because the available supply as furnished by nature will not permit the continuance of a usable service to all.*"

See, also, *People ex rel. Pennsylvania Gas Co. vs. Public Service Com.*, 189 N. Y. Supp., 478.

The doctrine of *State vs. Consumers Gas Trust Co.*, 57 Ind., 345, 61 N. E., 674, above cited, is referred to by *Wyman on Public Service Corporations*, Vol. 1, Sec. 553, where the author, after saying that the rule of equal division there sanctioned is opposed to that applied in irrigation cases, continues as follows:

> "Logical though it may be, it seem to the writer to be lacking in appreciation of the situation as a whole. A rule which may result in satisfactory service to none, not even to the applicant in question, is hardly consistent with service at all. Certainly where the supply now available is not sufficient to meet the proper demands of present customers, it would seem that later applicants could not demand the reduction of the undertakings of older customers."

And see also, as bearing generally upon the subject, the following authorities relating to irrigation companies having a water supply inadequate for the service of all applicants.

1 *Wyman on Pub. Serv. Corp.*, Sec. 252;

San Diego Flume Co. vs. Souther, 112 Fed., 228;

McDermont vs. Anaheim Union Water Co., 124 Cal., 112, 56 Pac., 779;

Bardsley vs. Boise Irr. & Land Co., 8 Idaho. 155, 67 Pac., 428;

Brown vs. Farmers &c. Co., 26 Col., 66, 56 Pac., 183.

SECTION 2.

This section provides for the sale of gas in certain instances by a public service gas company having a surplus of gas to another public service gas company engaged in the furnishing of gas in the same territory, but having a production or supply which is, or probably will be, insufficient for the supply of its consumers in that territory. This is merely an alternative method of service given to the gas company having the surplus, whereby in lieu of direct service to those consumers which it is obligated to supply under section 1, it may perform its obligation to those consumers through the medium of another public service company (generally a local distributing company) engaged in serving the same consumers in the same territory.

The requirement to sell gas to another public service company is neither mandatory nor self-executing. The company having the surplus may, if it sees fit, furnish gas by direct service to the consumers in its own territory, to supply whom gas is proposed to be purchased by the company suffering the deficiency. If this direct service is undertaken and performed, the sale of gas to another gas company cannot be compelled.

If the company having the surplus does not undertake the direct service of consumers in its territory inadequately supplied, even then it cannot be compelled to sell gas to the company having the shortage, except after an order of the Public Service Commission, entered upon due notice and after hearing and proof, and which order is subject to judicial review. Before an order for sale can be made by the Commission, it must be proved:

(a) That the selling company is furnishing or obligated to furnish gas in the territory served by the purchasing company, and in which the latter has, or probably will have, insufficient gas.

(b) That the selling company has a supply of gas in excess of that required for the reasonably adequate service of its own consumers in West Virginia;

(c) That the selling company is producing or furnishing gas for public use in, or transporting the same through, the territory in which the purchasing company is engaged in the public service; and

(d) That the selling company has failed or refused to furnish direct service to the insufficiently supplied consumers, as required under section 1.

If the foregoing matters are proved, the Commission must determine whether "public convenience and necessity" require the sale of gas by the selling company to the purchasing company, and whether a physical connection between the lines of the two companies shall be made. Having so determined, the Commission may order the sale of gas by the selling company to the purchasing company and the establishment of the physical connection. The Commission is to prescribe the times and amounts of the gas to be sold, fixing just and reasonable terms, conditions and rates; and is to fix just and reasonable terms and conditions for such physical connection, including just and reasonable rules and regulations and provision for the payment or apportionment of the cost and expense of making the same.

This alternative provision for the sale of gas, with physical connection for its delivery, in pursuance of an order of the Commission, requires a service which the voluntary acts of the companies have shown to be reasonable and practicable. Sales of gas by many of the seven companies to local companies, with necessarily accompanying physical connections, have occurred in numerous instances (Rec. 275-277, 842, 843, 1028, 1034-1036, 1209, 1220, 1227, 1724, 1728; 1736, insert pp. 280, 297, 314, 345, 349, 402, 414). Most of the seven companies sell to, or purchase from, one or more of the others, by means of physical connections. The necessity for legislation sprang up not because such sales and physical connections are impracticable or unreasonable, but because since the development of the gas shortage some of the seven companies have refused to sell gas to local companies in their own territories whose supplies were insufficient; while another has refused to do more than to sell from any surplus existing after the performance of other contracts, and without obligation as to amount or time, and with the contract subject to cancellation on brief notice (Rec. 1209, 1230, 1231).

SECTIONS 3 AND 4.

These sections expressly confer on the Public Service Commission jurisdiction over the subject matter of the statute, and by reference to the Public Service Commission Act adopt its procedure, including the right of appeal to the Supreme Court of the State. The scope of review upon such an appeal is the same as that accorded upon judicial review of orders of the Interstate Commerce Commission, as stated in *Inter-*

state Commerce Commission vs. Union Pac. R. Co., 222 U. S., 551, 557. The Supreme Court may inquire into the evidence in order to determine whether the order of the Commission is "beyond the power which it could constitutionally exercise; or beyond its statutory power; or passed upon a mistake of law;" or whether a "rate is so low as to be confiscatory and in violation of the constitutional prohibition against taking property without due process of law;" or whether the Commission has acted so arbitrarily and unjustly as to make an order contrary to evidence or without evidence to support it; or whether the authority involved has been exercised in such an unreasonable manner as to cause it to be within the elementary rule that the substance, and not the shadow, determines the validity of the exercise of the power.

United Fuel Gas Co. vs. Public Service Com., 73 W. Va., 571, 583, 80 S. E., 931;

Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638, 100 S. E., 551.

Kelley Axe Mfg. Co. vs. Public Service Com., 87 W. Va., 368, 373, 105 S. E., 152.

SECTION 5.

This section prescribes penalties, not for violation of the provisions of the statute, but for failure or refusal "to comply with any requirement of the Commission hereunder." The ample opportunity for hearing before the Commission before a penalty can attach, brings the secton within the analogy of *Wadley S. R. Co. vs. Georgia,* 235 U. S.,652. In any event section 8 of the statute renders the penal section separable, if for

any reason invalid or unenforcible. Still further, under the settled constructions of the West Virginia Supreme Court, such a penalty would not be incurred during judicial contest of the constitutionality of the statute.

Coal & Coke R. Co. vs. Conley, 67 W. Va., 129, 67 S. E., 613.

Wadley Southern R. Co. vs. Georgia, 235 U. S., 651, 668.

Chesapeake & O. R. Co. vs. Conley, 230 U. S., 513, 521.

SECTION 6.

This section confers a right of action for the recovery of compensatory damages by suit in a court of competent jurisdiction, where full defense may be made.

SECTION 7.

This section defines the word "person" as meaning and including "persons, firms and corporations."

SECTION 8.

This section is as follows:

"That the sections, provisions, and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations, and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or unforcible, the remaining parts thereof shall be and remain in full force and effect."

V.

THE WEST VIRGINIA PUBLIC SERVICE GAS COMPANIES, INCLUDING THE SEVEN COMPANIES, WERE AND ARE OBLIGATED, IRRESPECTIVE OF THE STATUTE IN CONTEST, TO FURNISH WEST VIRGINIA CONSUMERS A REASONABLY ADEQUATE SUPPLY OF GAS, AND THEY CANNOT LAWFULLY ABANDON OR DISABLE THEMSELVES FROM PERFORMING THE OBLIGATION.

SPECIAL RIGHTS AND PRIVILEGES OF GAS COMPANIES.

All of the incorporated gas companies, including the seven, are West Virginia corporations, or corporations of other States, admitted to carry on business in West Virginia, under the statute extending to foreign corporations so admitted "the same rights, powers and privileges that are conferred on domestic corporations created for the same purpose," and subjecting them "to the same regulations, restrictions and liabilities that are imposed upon like corporations" created by West Virginia.

Hydro Electric Co. vs. Liston, 70 W. Va., 83, 91; 73 S. E., 86.

Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557, 572, 79 S. E., 3.

Precedent to the statute in controversy, these companies were at common law and by statute denominated as public service corporations, and were subject to the Public Service Commission Act.

Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 662, 44 S. E., 410.

Hardman vs. Cabot, 60 W. Va., 664, 55 S. E., 756.

Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557, 79 S. E., 3.

W. Va. Acts of 1913, Ch. 9, Sec. 3.

W. Va. Acts of 1915, Ch. 8.

United Fuel Gas Co. vs. Public Service Com., 73 W. Va., 571, 80 S. E., 931.

Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638, 100 S. E., 551.

Kelley Axe Mfg. Co. vs. Public Service Com., 87 W. Va., 368, 105 S. E., 152.

Manufacturers Light & Heat Co. vs. Ott, 215 Fed., 940.

Those owning pipe lines were, in their capacity of pipe-line companies, common carriers, "subject to all the duties and liabilities of such carriers under the laws" of West Virginia.

Code of W. Va. (1913), Ch. 32, Sec. 24.

W. Va. Acts of 1891, Ch. 113.

Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 662, 665, 44 S. E., 410.

Hardman vs. Cabot, 60 W. Va., 664, 55 S. E., 756.

By the nature of the business in which they were actually engaged and by their express professions and their practice (*Producers Transp. Co. vs. Railroad Commission*, 251 U. S., 228, 232; *United States vs. Ohio Oil Co.*, 234 U. S., 548, 561), they held themselves out as public-service corporations, supplying, and ready and willing to supply, gas to the public in West Virginia,

and desirous of extending their business in the State (Rec., 1804, 1823, 1843, 1857, 1876, 1896).

They received and hold franchises from municipalities, authorizing the public distribution of gas therein, and franchises or permits in the nature thereof, obtained from municipalities and counties, enabling them to lay and maintain pipe lines and other appliances in the public streets and highways. The details are referred to in the statement.

They have long enjoyed and exercised the right of eminent domain, and in respect of pipe lines an exceptionally expeditious procedure for that exercise. The power of eminent domain, even when not actually called into use, is potentially ever present in aid of the acquisition of rights of way and other property by private contract.

Code of W. Va. (1913), Ch. 42, Secs. 1 and 20; Ch. 52, Sec. 24.
W. Va. Acts of 1881, Ch. 18, Sec. 2.
W. Va. Acts of 1891, Ch. 113.

That these companies would have received the above special rights and privileges except upon the terms of affording adequate service to the public of West Virginia, or in contemplation of the subordination of that service to that of the people of other States, is unthinkable. (See *Western Union Tel. Co. vs. Call Pub. Co.*, 181 U. S., 92, 100; *Postal Cable Tel. Co. vs. Cumberland Tel. & T. Co.*, 177 Fed., 726, 732.)

And yet it is true that the companies transporting the greater part of the West Virginia gas to or for use in other States, their pipe lines and compressor stations,

owe their existence to these special rights and privileges. For as the pipe lines and compressor stations enabled these companies to acquire their own holdings of gas territory, which thereby were withdrawn from acquisition by others, so the pipe lines and stations constitute them, except under special circumstances, the only purchasers from, or market of, the independent producer of gas. And by the pipe lines and stations, which are the only means of transporting the gas to distant points of consumption, these companies are enabled to convey their gas, near or far, to the destination of their choice, within the range of their lines.

Regardless of the law already cited, which in the same breath by which it confers on them the power of eminent domain makes them common carriers (*Code, W. Va.*, Ch. 52, Sec. 24), these companies, as was the case in *United States vs. Ohio Oil Co.*, 234 U. S., 548, refuse to transport for other producers gas which might serve the public in West Virginia. The independent producer must, in general, either stand by and see his gas withdrawn through adjoining operations, or must sell it to one of these companies.

The monopoly thus held by these large companies is described by a short passage from *United States vs. Ohio Oil Co.*, 234 U. S., 548, 559, the language there used in relation to oil being equally applicable to gas:

> "Availing itself of its monopoly of the means of transportation the Standard Oil Company refused, through its subordinates, to carry any oil unless the same was sold to it or to them, and through them to it, on terms more or less dictated by itself. In this way it made itself master of the

fields without the necessity of owning them, and carried across half the continent a great subject of international commerce coming from many owners, but, by the duress of which the Standard Oil Company was master, carrying it all as its own."

And the resulting evil is akin to that referred to by the Hepburn Act of June 29, 1906 (34 U. S. Stat. at L., 584, rendering it illegal for interstate carriers to transport commodities owned by them or in which they were interested. (See *United States vs. Delaware & H. R. Co.*, 213 U. S., 366; *Delaware, L. & W. Co. vs. United States*, 231 U. S., 363.)

DUTIES OF GAS COMPANIES TO SERVE WEST VIRGINIA PUBLIC.

The duties assumed and undertaken by these corporations have already been referred to. We repeat the following passage from *Carnegie Natural Gas Co. vs. Swiger*, 72 W. Va., 557, 571, 79 S. E., 3:

"We observe that the Legislature, by general law, has conferred upon pipe-line companies, organized for transporting oil and natural gas, the right of eminent domain, and has thereby necessarily imposed upon them, as public-service corporations, the right and duty of performing a public service. That right and duty is fixed as firmly as if written into the statute. * * * Pipe-line companies organized for transporting gas must serve the public with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves, or by statute, or by contracts

or ordinances of municipalities. * * * The rights of the people are thus protected in nearly every case where the public is served by public service corporations, furnishing water, gas, electricity, or transportation." (Citing *Charleston Gas Co. vs. Lowe*, 52 W. Va., 662; *Hydro-Electric Co. vs. Liston*, 70 W. Va., 83; *Calor Oil & Gas Co. vs. Franzell* (Ky.), 109 S. W., 328; *Olmstead vs. Morris Aqueduct*, 47 N. J. L., 311; *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396; *Munn vs. Illinois*, 94 U. S., 133.)

In *Western Union Tel. Co. vs. Call Pub. Co.*, 181 U. S., 92, 100, Mr. Justice Brewer said of common carriers:

"They are endowed by the State with some of its sovereign powers, such as the right of eminent domain, and so endowed by reason of the public service they render. As a consequence of this, all individuals have equal rights both in respect to services and charges."

In *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396, quoted in *Charleston Nat. Gas Co. vs. Lowe*, 52 W. Va., 662, 44 S. E., 410; *People vs. Chicago Gas Trust Co.*, 130 Ill., 393, 22 N. E., 803, and in many other cases, it was said:

"These gas companies entered the streets of Baltimore, under their charters, in the exercise of the equivalent of the power of eminent domain, and are to be held as assuming an obligation to fulfill the public purposes to subserve which they are incorporated."

And see:

Franke vs. Johnstown Fuel Supply Co., 70 Pa. Super. Ct., 446, 457.

Kelley Axe Mfg. Co. vs. Public Service Com., 87 W. Va., 368, 105 S. E., 152.

It thus appears that the right of eminent domain is delimited by, and coincides with, the public use which it is intended to aid. And that public use is shortly expressed in *Hydro-Electric Co. vs. Liston*, 70 W. Va., 83, 91, 73 S. E., 86, where, holding that a foreign corporation, authorized to do business in West Virginia, may enjoy the right of eminent domain, it is said:

> "This gives the right of eminent domain, to be exercised, however, *for the public use of the citizens of West Virginia.*"

In *Kohl vs. United States*, 91 U. S., 367, it was said:

> "The proper view of the right of eminent domain seems to be, that it is a right belonging to a sovereignty to take private property *for its own public uses, and not for those of another.*"

And see *Trombley vs. Humphrey*, 18 Wend., 9.

In *Lewis, Em. Dom.* (3 ed.), Sec. 310, it is said:

> "The public use for which property may be taken is a public use within the State from which the power is derived. It seems to be an admitted fact generally, that the power inheres in a State *for domestic uses only, to be exercised for the benefit of its own people,* and cannot be extended merely to promote the public uses of a foreign State."

See also *Grover, &c., Land Co. vs. Lovella, &c., Irr. Co.*, 21 Wyo., 204, 131 Pac., 43, elaborately discussing this point, and 1 *Nichols, Em. Dom.*, Sec. 29.

The duty of serving the public of West Virginia being plain, it follows that the gas companies were and are obligated to furnish that public within the territory of their operations or along their pipe lines a supply of gas, and this apart from the Act of 1919, now in contest.

In *Charleston Nat. Gas Co. vs. Lowe*, 52 W. Va., 662, 671, 44 S. E., 410, it was said:

> "But have the citizens of Charleston an absolute and indefeasible right to the use of the gas upon reasonable and equal terms? Is the company bound to furnish gas to all who apply for it without an express legislative imposition of that duty upon it? Undoubtedly. The courts have so held in many of the States, and their decisions are grounded upon both reason and the best of authority."

In *Carnegie Nat. Gas Co. vs. Swiger*, 72 W. Va., 557, 571, 79 S. E., 3, it was stated:

> "Pipe-line companies organized for transporting gas must serve the people with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves, or by statute, or by contracts or ordinances of municipalities."

See:

Kelley Axe Mfg. Co. vs. Public Service Com., 87 W. Va., 368, 105 S. E., 152.

In *New York vs. McCall*, 245 U. S., 345, 351, Mr. Justice Clarke said:

> "Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve, and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render."

And, as already pointed out, the measure of that supply was and is reasonable adequacy.

Russell vs. Sebastian, 233 U. S., 195, 208;

Cumberland Tel. & T. Co. vs. Kelly, 160 Fed., 316, 324, per Lurton, J.;

United States Tel. Co. vs. Central Union Tel. Co., 202 Fed., 66, 71;

Oklahoma Nat. Gas Co. vs. Oklahoma, U. S. Adv. Ops. 1921-22, p. 331;

Pennsylvania Pub. Service Com. Law, Art 2, sec. 1 (*Pa. Pub. Laws of 1913*, p. 1374;

New York Pub. Service Com. Law, sec. 65 (Laws of 1910, Ch. 480);

Indiana Public Utility Law, sec. 7 (Acts of 1913, Ch. 76).

It is relevant in this relation, though perhaps unnecessary in view of the professions and practice of the gas companies (*Producers Transp. Co. vs. Railroad Com. of California*, 251 U. S., 228, 232; *United States vs. Ohio Oil Co.*, 234 U. S., 548, 561), both in West Virginia and the plaintiff States, to mention that the

scope of the public duty includes not merely the supply of domestic consumers, but also the furnishing of gas for public buildings and for industrial consumption. This relevancy arises because of the contention of one of the witnesses for the plaintiffs (Rec., 942) that the industrial consumption of gas is wasteful, and the prophecy of other witnesses for the plaintiffs that the enforcement of the statute in question will divert to West Virginia the entire gas production of the State. In the statement of facts it has already been indicated that both by representations of readiness and willingness to supply gas for industrial use, and by their actual engagement in the business of furnishing such gas, these companies have stamped such service as a public service. The industrial consumption occurs in large volumes in the other States, and particularly in Pennsylvania.

Laying aside the professions and practice of the gas companies operating in West Virginia and the other States and apart from the statute now in controversy, it has been held by the highest court of West Virginia that the furnishing of gas for industrial purposes is a public service, and that the business of a gas company in this regard is affected with a public interest.

Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638; 100 S. E., 551;
Kelly Axe Mfg. Co. vs. Public Service Com. 87 W. Va., 368, 105 S. E., 152.

The same rule prevails in Pennsylvania. In *Shriver vs. Manufacturers Light & Heat Co.*, and *Craig vs. Same*, Complaints Nos. 3563 and 3585, decided June 27,

1921, the Public Service Commission of Pennsylvania held as follows:

> "All service rendered by a natural gas company in Pennsylvania, be it industrial or domestic, comes within the jurisdiction of the Commission, and respondent doing business under the Natural Gas Act of 1885 cannot be permitted, in the manner proposed, to render industrial service by making special contracts without filing rates therefor. A rule of a natural gas company, which limits the amount of gas used for household purposes to 40,000 cubic feet per month, is unjust and unreasonable when it appears that respondent, even in winter months when the limitation would become effective, is rendering much greater service for industrial purposes than to household patrons affected by the rule, and doing this without submitting itself to State control."

Recognition of the public character of the service, though not the subject of direct decision, is to be found in *Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23, 31. And the same view is contained in principle in the negative answer in *Interstate Commerce Com. vs. Baltimore & O. R. Co.*, 225 U. S., 326, 342, to the inquiry, "May a carrier look beyond the service it is called upon to render to the attitude and interest of the shippers before, or their attitude and interest after, transportation?"

See also:

Hydro Electric Co. vs. Liston, 70 W. Va., 83, 88, 73 S. E., 86.

Mill Creek Coal & C. Co. vs. Public Service Com., 84 W. Va., 662, 100 S. E., 557.

Bailey vs. Fayette Gas Fuel Co., 193 Pa., 175, 44 Atl., 251.

THE GAS BUSINESS AND WEST VIRGINIA GAS ARE AFFECTED WITH A PUBLIC INTEREST.

That the business of a gas company is affected with the public interest, within the meaning of the cases reaching from *Munn vs. Illinois*, 94 U. S., 113, to *Union Dry Goods Co. vs. Georgia Pub. Service Corp.*, 248 U. S., 372, 374, 375, is commonplace.

Charleston Gas Co. vs. Lowe, 52 W. Va., 662, 671, 44 S. E., 410.

Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638, 100 S. E., 551.

Franke vs. Johnstown Fuel Supply Co., 70 Pa., Super. Ct., 446, 456.

Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23.

Manufacturers Light & H. Co. vs. Ott, 215 Fed., 940.

But we may justifiably go further. Given a commodity of peculiar attributes, local in its origin, exhaustible, and, in fact, approaching the point of exhaustion, as is West Virginia gas, so that on the one hand it has become a public necessity at home and is, or may be, insufficient both to supply that necessity and to furnish it to consumers abroad, in the hands of corporations owing public duties, in the performance of which the public has an interest, *the gas itself is in a just sense to be regarded as affected by a public interest.*

In *German Alliance Ins. Co. vs. Lewis*, 233 U. S., 389, it was held that even the making of personal contracts, such as contracts of fire insurance, might be affected by the public interest. Mr. Justice McKenna there said in reply to the suggestion that only tangible property could be so affected:

> "The distinction is artificial. It is, indeed, but the assertion that the cited examples embrace all cases of public interest. The complainant explicitly so contends, urging that the test it applies excludes the idea that there can be a public interest which gives the power of regulation as distinct from a public use, which, necessarily, it is contended, can only apply to property, not to personal contracts. The distinction, we think, has no basis in principle (*Noble State Bank vs. Haskell*, 219 U. S., 104), nor has the other contention that the service which cannot be demanded cannot be regulated."

In *Wilson vs. New*, 243 U. S., 332, it was held that the personal services of the employees of interstate railroads were so far affected with a public interest as to justify the regulation of hours of labor and in consequence a wage standard.

That the public interest may extend to property itself, as distinguished from a business, considered merely as an institution, is illustrated by the instance of the grain elevators in *Munn vs. Illinois*, 94 U. S., 113. The same idea is conveyed in *Union Dry Goods Co. vs. Georgia Pub. Service Com.*, 248 U. S., 372, 374, where it was said "that capital invested in an electric light and power plant to supply electricity to the inhabitants of a city is devoted to a use in which the public has an

interest." In *Block vs. Hirsh*, 256 U. S., 135, involving the District of Columbia rent law, cases were cited as sustaining the point "that the public interest may extend to the use of land."

In *Franke vs. Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct., 446, 456, this view is expressed as follows:

> "What the company did was from the beginning subject to the conditions under which it existed at all. The public had no interest in, or right to, the gas of the promoters of the Peoples Natural Gas Company until the latter, for the purpose of obtaining the advantages accorded to them under the statute, organized their company. The owners were not compelled to give to the public an interest in their supply of gas, but they became under obligation to the laws of the commonwealth if they used it in the manner prescribed by that law. When the shareholders accepted the charter of the company and proceeded to exercise the franchises thereby granted they invested the public or such limited portion of the public with a use or right of use in the commodity which they supplied. This constitutes a public use—such a use as might have been in the contemplation of the parties when the company was organized."

See also *Bacon vs. Walker*, 204 U. S., 311, 315.

And in *Walls vs. Midland Carbon Co.*, 254 U. S., 300, regulating the consumption of gas in carbon-black manufacture, it was referred to as "a determining consideration" that the State had "an interest to adjust

and preserve, natural gas being one of the resources of the State."

We need not go so far as to say that the whole quantity of gas existing in a State at any time is affected by the public interest; for if there is an abundance wherewith to serve all present requirements, it may well be that the public cannot be said to have an interest in any particular part of it. But if the whole quantity of gas is so far reduced, or in prospect of reduction, that all who at the time desire to consume it cannot be served, and the very gas which is being produced by corporations, themselves affected by the public interest, is immediately necessary for consumption by the people of the State, that very gas may in a correct sense be deemed to be affected with the public interest of the State, and to fall within a different rule. For as said in *Block vs. Hirsh, supra*: "Plainly, circumstances may so change in time or so differ in space as to clothe with such an interest what at other times or in other places would be a matter of purely private concern;" and then referring to previous decisions it was remarked: "They dispel the notion that what in its immediate aspect may be only a private transaction may not be raised by its class or character to a public affair."

Walls vs. Midland Carbon Co., supra, is, indeed, an example of these observations in *Block vs. Hirsh*; for the *Walls Case* related to a failing gas supply, in respect of which it was said:

> "The determining consideration is the power of the State over, and its regulation of, a property in which others besides the companies may have rights, and in which the State has an interest to ad-

> just and preserve, natural gas being one of the resources of the State."

And again it was said of previous cases that,—

> "the State of Wyoming has the same power to prevent the use of natural gas in the production of carbon black, the tendency of which is (it may be the inevitable effect of which is) the exhaustion of the supply of natural gas, and the consequent detriment of other uses."

These considerations would, we believe, sufficiently distinguish *West vs. Kansas Nat. Gas Co.*, 221 U. S., 229, even if the legislation now in contest directly acted on interstate commerce. There the whole volume of gas produced in Oklahoma was more than sufficient to serve the then gas-consuming public of that State, and only the surplus, required by no present necessity in the State, was being transported out of it. Still further, the companies and individuals attacking the validity of the statute there involved were, as more fully appears in the report of the case below (*Kansas Nat. Gas Co. vs. Haskell*, 172 Fed., 545), not engaged, and apparently not obligated to engage, in the public supply of gas in Oklahoma. Therefore, neither they by their business, nor their surplus product, by any existing need, could be said to be affected by any immediate public use. We shall refer to this decision again, in relation to the commerce clause of the Federal Constitution.

LACK OF POWER OF GAS COMPANIES TO DISABLE THEMSELVES FROM PERFORMING PUBLIC DUTY.

The duty of serving the public of West Virginia appearing, upon no pretext, (even though, as we shall point out later, it were the desire to engage in interstate commerce—*Hudson County Water Co. vs. McCarter*, 209 U. S., 348; *Erie R. Co. vs. Board of Public Com.*, 254 U. S., 394; *South Covington & C. S. R. Co. vs. Kentucky*, 252 U. S., 399, 403; *Browning vs. Waycross*, 233 U. S., 16, 23; *Manufacturers Light & H. Co. vs. Ott*, 215 Fed., 940, 951), could or can these companies renounce or abandon the duty of furnishing gas to that public to the extent of their ability to do so, within the measure of reasonable adequacy and the territorial limits prescribed by law. In *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396, Mr. Chief Justice Fuller said:

> "It is also too well settled to admit of doubt that a corporation cannot disable itself by contract from performing the public duties which it has undertaken, and by agreement compel itself to make public accommodation or convenience subservient to its private interests.
>
> "'Where,' says Mr. Justice Miller, delivering the opinion of the court in *Thomas vs. Railroad Co.*, 101 U. S., 71, 83, 'a corporation, like a railroad company, has granted to it a franchise intended in large measure to be exercised for the public good, the due performance of those functions being the consideration of the public grant, any contract which disables the corporation from performing those functions, which undertakes without the consent of the State to transfer to others the rights and powers conferred by the charter, and to relieve the grantees

of the burden which it imposes, is a violation of the contract with the State and is void as against public policy.'

"These gas companies entered the streets of Baltimore, under their charters, in the exercise of the equivalent of the power of eminent domain, and are to be held as having assumed an obligation to fulfill the public purposes to subserve which they are incorporated."

In *Attorney-General vs. Haverhill Gas L. Co.*, 215 Mass., 394; 101 N. E., 1061, it was said of the gas company:

"The respondent is a corporation, organized to exercise a public franchise of importance to the community in which it conducts its business. It is its duty to exercise this franchise for the benefit of the public, with a reasonable regard for the rights of individuals who desire to be served, and without discrimination between them. It cannot relieve itself from this duty so long as it retains its charter. It enjoys public rights in the streets, which are derived from the Commonwealth, through action of the board of aldermen under authority of the Legislature. It is a quasi-public corporation, and as such it owes duties to the public. * * * Without legislative authority it cannot sell its property and franchise to another party, in such a way as to take away its power to perform its public duties."

See also:

Oregon R. & N. Co. vs. Oregonian R. Co., 130 U. S., 1, 23;

Central Transp. Co. vs. Pullman P. C. Co., 139 U. S., 24, 42-44;

South Covington & C. S. R. Co. vs. Kentucky, 252 U. S., 399, 403, 404;

Visalia Gas & El. Co. vs. Sims, 104 Cal., 326; 37 Pac., 1044;

Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 622, 671; 44 S. E., 410;

Town of Gassaway vs. Gassaway Gas Co., 75 W. Va., 60; 83 S. E., 189.

The principle of the foregoing authorities is applicable. Instead of disposing of their plants, as has been often attempted, the seven gas companies have attempted to disable themselves from the performance of their duty of serving the people of West Virginia by disposing elsewhere of the very subject matter of the service. The disability equally exists, and would be no greater if they sold their pipe-lines, or the entire body of their gas territory.

VI.

IT WAS WITHIN THE RIGHT AND POWER OF THE STATE TO REGULATE THE GAS COMPANIES. THE RIGHT AND POWER ARE BASED ON SEVERAL GROUNDS AND THEIR EXERCISE WAS NECESSARY.

The nature of the gas companies and the relation of their service to the West Virginia public having been adverted to, the legislative right of the State to regulate them, in order to compel the performance of their duties, is manifest and well established. That right, and its due expression, rest upon a triple foundation:

(1) *The Implied Condition Accompanying the Grant of Rights and Privileges to the Companies.*

The implied condition of public service accompanied the grant of the corporate powers and special rights and privileges, and subject to such condition those powers, rights and privileges were accepted by these companies.

Charleston Gas Co. vs. Lowe, 52 W. Va., 662, 671; 44 S. E., 410;

Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557, 571; 79 S. E., 3;

Farmers Loan & T. Co. vs. Galesburg, 133 U. S., 156;

Lake Shore & M. S. R. Co. vs. Ohio, 173 U. S., 285;

New Orleans Waterworks Co. vs. Louisiana, 185 U. S., 336, 346;

Missouri P. R. Co. vs. Kansas, 216 U. S., 262;

Chesapeake & O. R. Co. vs. Public Service Com., 242 U. S., 603, 607;
New York El. L. Co. vs. Empire City S. Co., 235 U. S., 179, 194, 195.

In *Lake Shore & M. S. R. Co. vs. Ohio, supra*, it was said:

> "The plaintiff in error accepted its charter subject necessarily to the condition that it would conform to such reasonable regulations as the State might from time to time establish, that were not in violation of the supreme law of the land."

In *Missouri P. R. Co. vs. Kansas, supra*, in upholding the validity of an order of a State Railroad Commission requiring an interstate railroad to operate an additional train within the State, it was said, quoting in part from *Atlantic Coast Line R. Co. vs. North Carolina Corp. Com.*, 206 U. S., 1:

> "But where a duty which a corporation is obliged to render is a necessary consequence of the acceptance and continued enjoyment of its corporate rights, those rights not having been surrendered by the corporation, other considerations are, in the nature of things, paramount, since it cannot be said that an order compelling the performance of such a duty at a pecuniary loss is unreasonable. To conclude to the contrary would be but to declare that a corporate charter was purely unilateral; that is, was binding in favor of the corporation as to all rights conferred upon it, and was devoid of obligation as to duties imposed, even although such duties were the absolute correlative of the rights conferred."

(2) *The Reserved Power to Alter or Repeal Corporation Charters and Laws.*

The Legislature at the outset had the power to impose such conditions as it saw fit upon the grant of corporate charters, franchises, rights of condemnation and other privileges to gas companies.

Ashley vs. Ryan, 153 U. S., 436, 441-444;
Home Ins. Co. vs. New York, 134 U. S., 594, 600;
New Jersey vs. Anderson, 203 U. S., 483, 493.

In authorizing the incorporation of such companies, or such rights and privileges, the Legislature might, in the public interest, have imposed as conditions every provision of the statute assailed. And a corporation accepting a charter upon such conditions would have been estopped to rebel against them.

Ashley vs. Ryan, 153 U. S., 436, 441, 443;
Interstate Consol. S. R. Co. vs. Massachusetts, 207, U. S., 79, 84.

If at the outset West Virginia, in consideration of the exhaustible nature of the commodity, and the local character of the public gas supply (*Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23; *Public Utilities Com. vs. Landon*, 249 U. S., 236), had by express enactment imposed on corporations, or even individuals as a condition of permission to engage in the public service in West Virginia, or some municipality thereof, that they should sell gas only in or for the State or the particular municipality, we submit that nothing would have forbade the condition.

When the gas companies were incorporated or admitted to do business in West Virginia, and ever since,

it has been within the reserved power of the Legislature "to alter the charter or certificate of incorporation * * * granted to any joint-stock company, and to alter or repeal any law applicable to such company."

Code of W. Va., Ch. 53, Sec. 8;
W. Va. Acts of 1867, Ch. 5, Sec. 6;
W. Va. Acts of 1882, Ch. 96, Sec. 8;
St. Mary's, &c., Petroleum Co. vs. West Virginia, 203 U. S., 183;
Manufacturers Light & H. Co. vs. Ott, 215 Fed., 940.

This being true, when the Legislature enacted the statute in question it was equally within its power to prescribe that they should render reasonably adequate service to West Virginia, and to provide for the supply of local companies experiencing a shortage, to the extent which the present statute contemplates.

Stanislaus Co. vs. San Joaquin & K. R. & I. Co., 192 U. S., 201, 211;
Erie R. Co. vs. Williams, 233 U. S., 685, 700-704;
Sutton vs. New Jersey, 244 U. S., 258, 260;
Fair Haven & W. R. Co. vs. New Haven, 203 U. S., 379, 288;
San Antonio T. Co. vs. Altgelt, 200 U. S., 304;
New York & N. E. R. Co. vs. Bristol, 151 U. S., 556, 567, 568;
Hamilton Gaslight & C. Co. vs. Hammond, 146 U. S., 258, 269-271;
Spring Valley Water Co. vs. Schottler, 110 U. S., 347, 353;
Greenwood vs. Union Freight Co., 105 U. S., 13;

Hammond Packing Co. vs. Arkansas, 212 U. S., 322, 345, 346.

(3) *The Police Power.*

The general police power, apart from any implication of conditions annexed to the grant, embraces the settled right of the State to compel its creatures to perform the public duties for which they were created.

Munn vs. Illinois, 94 U. S., 113;

New Orleans Gas L. Co. vs. Louisiana Light, &c. Co., 115 U. S., 650;

Stone vs. Farmers L. & T. Co., 116 U. S., 307;

Reagan vs. Farmers L. & T. Co., 154 U. S., 362;

Prentis vs. Atlantic Coast Line Co., 211 U. S., 210;

Erie Railroad Co. vs. Board of Public Utility Com., 254 U. S., 394;

United Fuel Gas Co. vs. Public Service Commission, 73 W. Va., 571, 80 S. E., 931;

Mill Creek Coal & C. Co. vs. Public Service Com., 84 W. Va., 662; 100 S. E., 557.

VII.

THE STATUTE IS A LEGITIMATE EXERCISE OF THE POLICE POWER.

Were these provisions a legitimate exercise of the power of the State? The question must be answered in the light of the known characteristics of gas production and its originally inevitable and present decline in West Virginia and elsewhere; the nature of the gas companies as public-service corporations; the relation of the public interest to their business and gas; the absorption by the seven companies of other West Virginia companies; the gas shortage and its effects in West Virginia; the inability of local companies to supply the deficiency, because of the control by the seven companies of gas and gas territory, obtained through the possession of large capital, pipe lines owing their existence to special rights and privileges, and the compressor stations (*1 Wyman, Public Service Corp.*, Sec. 91); the conditions attaching to the enjoyment of such special rights and privileges; the reserved statutory power to alter or repeal charters and laws affecting corporations, and the nature and purposes of the police power.

From the social and economic dependency on gas in reasonably adequate volume, the domestic and industrial evils resulting from the lack of such service, and the "fact accomplished" that there is now, and for several years has been, insufficient West Virginia gas to permit at once the full measure of service in West Virginia and the other States to which it was and is transported, admittedly there must be, in the nature of things, a limitation upon the service and consumption of gas,

in respect of either the purposes of the consumption or the territorial area of supply. This much is admitted by all the witnesses for the plaintiffs, as we have shown in the statement of facts, and in the reference, under Title IV, to the construction of the statute.

In this situation, it was and is incumbent on some one to formulate and enforce suitable regulations. And the Congress not having acted, even in respect of the interstate transportation of gas (*Act of June 18, 1910*, Ch. 309, Sec. 7; 36 Stat. at L., 539, 544; *Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23, 30), the exercise of a regulatory power must emanate either from the State or from the gas companies. And the question is, which should it be?

But we have also shown that the managing officers of six out of the seven gas companies, and others experienced in the gas business or thrust forward as experts, and appearing as witnesses for the plaintiffs, are submerged in perplexity and disagree as to the appropriate remedy, agreeing only that West Virginia gas is declining and that West Virginia consumers are getting too great a share of it. The reasonable anticipation, if regulation were to be left to the gas companies, is accurately gauged by the denial of West Virginia's regulatory power, if and when its regulations affect the quantity of gas transported to the other States, regardless of consequences in and to West Virginia; by the insistence upon peak load requirements in time of shortage (Rec. 697); by the predictions of injury to the other States and gas companies therein, through the withdrawal of any West Virginia gas from export (Rec., 526, 605, 606, 854, 972, 973), and by the thought expressed by some

witnesses for the plaintiffs, already quoted, that, irrespective of the statute, any increased consumption in West Virginia, even because of increased population, would prejudice the other States (Rec., 854, 972, 973).

In the diversity of opinion of specialists, mainly effective to "darken counsel," we think that by the process of elimination, if nothing more—aside from the aspect of legislative power and duty—it necessarily fell to the State of West Virginia to enact fitting regulations. And the only question is, whether it had the power, and whether that power has been exercised within the limits of legislative discretion.

Under Title IV we have discussed the construction of the statute and its reasonableness. And we approach the question of power.

POLICE POWER AS TO THE GENERAL SUBJECT.

In *Ohio Oil Co. vs. Indiana,* 177 U. S., 190, legislation to prevent wasteful escape of gas from wells was upheld, in view of the peculiar nature of gas and the right of the State to "consider the relation of rights, and accommodate their co-existence, and, in the interest of the community, limit one that others may be enjoyed" (*Walls vs. Midland Carbon Co.,* 254 U. S., 300).

In *Lindsley vs. Nat. Carbonic Gas Co.,* 220 U. S., 61, relating to a statute prohibiting the pumping of mineral waters for the extraction of carbonic-acid gas, or the production of the unnatural flow of such gas, for commercial purposes otherwise than in conjunction with the mineral waters, it was said of *Ohio Oil Co. vs. Indiana,*

"were the question an open one, we should still solve it in the same way."

More recently, in *Walls vs. Midland Carbon Co.*, 254 U. S., 300, it was held that in order to conserve gas, shown to be declining in certain fields where, or in the vicinity of which it was needed for more economical consumption, the State of Wyoming could constitutionally restrict the use of gas for carbon-black manufacture. And it was said, after citing *Ohio Oil Co. vs. Indiana* and *Lindsley vs. Nat. Carbonic Gas Co.*:

> "By reverting to these cases it will be immediately observed that the power of regulation over natural gas is possessed by a State, and in the first case (*Ohio Oil Co. vs. Indiana*) it was exercised to prohibit the employment of the gas as a means or agency in the production of oil against an asserted right of property in the ownership of the land upon which the oil was produced, and, therefore, of the oil and gas as incidents of such ownership, and which could be used in such manner and quantity as the land owner might choose."

And in respect of the State's power to protect and preserve gas as a natural resource, it was remarked:

> "And there is great disproportion between the gas and the product, and necessarily there was presented to the judgment and policy of the State a comparison of utilities which involved as well the preservation of the natural resources of the State and the equal participation in them by the people of the State. And the duration of this utility was for the consideration of the State, and we do not think that the State was required by the Constitu-

tion of the United States to stand idly by while these resources were disproportionately used, or used in such way that tended to their depletion, having no power of interference.

The cited cases determine otherwise; and that, as the State of Indiana could prevent the exhaustive use of gas in the production of oil, and as the State of New York could prevent the owner of land from using artificial means to obtain the carbonated waters under his land, the State of Wyoming has the same power to prevent the use of natural gas in the production of carbon black, the tendency of which is (it may be the inevitable effect of which is) the exhaustion of the supply of natural gas, and the consequent detriment of other uses."

Apart from the cases dealing especially with gas, and the particular considerations affecting public-service corporations, the more general authorities dealing with the police power fortify their principles and their application to the cases now at bar.

Of the police power it has been said it is—

"One of the most essential of powers, at times the most insistent, and always one of the least limitable of the powers of government.' '

District of Columbia vs. Brooke, 214 U. S., 138, 149;

Eubank vs. Richmond, 226 U. S., 137, 142;

Sligh vs. Kirkwood, 237 U. S., 50, 59;

Hall vs. Geiger-Jones Co., 242 U. S., 539.

And, as said in *Chicago & A. R. Co. vs. Tranbarger,* 238 U. S., 66, 77:

"This power can neither be abdicated nor bar-

gained away, and is inalienable even by express grant; and * * * all contract and property rights are held to its fair exercise. *Atlantic Coast Line R. Co. vs. Goldsboro,* 232 U. S., 548, 558, and cases cited."

The public welfare to which the protection of the power extends, embraces not only public health, morals, and safety, but also the public convenience and the general prosperity.

Chicago, B. & Q. R. Co. vs. Illinois, 200 U. S., 561, 592;
Bacon vs. Walker, 204 U. S., 311, 317;
Eubank vs. Richmond, 226 U. S., 137, 142;
Sligh vs. Kirkwood, 237 U. S., 52, 59;
Chicago & A. R. Co. vs. Tranbarger, 238 U. S., 66, 77.

In *Sligh vs. Kirkwood, supra,* it was said:

"It is not subject to definite limitations, but is co-extensive with the necessities of the case and the safeguards of public interest. *Canfield vs.* United States, 167 U. S., 518, 524. It embraces regulations designed to promote public convenience or the general prosperity or welfare, as well as those specifically intended to promote the public safety or the public health. *Chicago, B. & Q. R. Co. vs. Illinois,* 200 U. S., 561, 592. In one of the latest utterances of this court upon the subject, it was said: 'Whether it is a valid exercise of the police power is the question in the case, and that power we have defined, as far as it is capable of being defined by general words, a number of times. It is not susceptible of circumstantial precision. It ex-

tends, we have said, not only to regulations which promote the public health, morals, and safety, but to those which promote the public convenience or the general prosperity.' * * * And, further: 'It is the most essential of powers, at times the most insistent, and always one of the least limitable of the powers of government.' *Eubank vs. Richmond*, 226 U. S., 137."

The scope of this power, and its flexibility in meeting and dealing with modern conditions, are illustrated in *German Alliance Insurance Co. vs. Lewis*, 233 U. S., 389, where State regulation of fire-insurance rates was upheld, and, again, *Hall vs. Geiger-Jones*, 242 U. S., 539; *Caldwell vs. Sioux Falls Stockyards Co.*, 242 U. S., 599, and *Merrick vs. Halsey*, 242 U. S., 568, upholding the "Blue Sky laws." In *Merrick vs. Halsey*, Mr. Justice McKenna said:

"Every new regulation of business or conduct meets challenge, and, of course, must sustain itself against challenge and the limitations that the Constitution imposes. But it is to be borne in mind that the policy of a State and its expression in laws must vary with circumstances. And this capacity for growth, and adaptation we said, through Mr. Justice Matthews, in *Hurtado vs. California*, 110 U. S., 516, 530, is the 'peculiar boast and excellence of the common law.' It may be that constitutional law must have a more fixed quality than customary law, or, as was said by Mr. Justice Brewer in *Muller vs. Oregon*, 208 U. S., 412 420, that 'it is the peculiar value of a written constitution that it places in unchanging form limitations upon legislative action.' This, however, does not mean that the form is so

> rigid as to make government inadequate to the changing conditions of life, preventing its exertion, except by amendments to the organic law."

The application of the police power to the protection of the public health, as in the prevention of the adulteration of food (*Plumley vs. Massachusetts*, 155 U. S., 461; *Capital City Dairy Co. vs. Ohio*, 183 U. S., 238; *Price vs. Illinois*, 238 U. S., 446); or the limitation of the hours of labor (*Muller vs. Oregon*, 208 U. S., 412; *Miller vs. Wilson*, 236 U. S., 373; *Holden vs. Hardy*, 169 U. S., 366), are commonplace.

Measures to safeguard the business prosperity of the State are exampled by the prohibition of monopolies and combinations in restraint of trade (*Waters-Pierce Oil Co. vs. Texas*, 212 U. S., 86; *Grenada Lumber Co. vs. Mississippi*, 217 U. S., 433; *Standard Oil Co. vs. Missouri*, 224 U. S., 270; *International Harvest. Co. vs. Kentucky*, 234 U. S., 199); of unfair competition (*Central Lumber Co. vs. South Dakota*, 226 U. S., 157), and of the sale or shipment of products detrimental to the business reputation of an important industry (*Sligh vs. Kirkwood*, 237 U. S., 50).

If it be true that in any instance the State may legislate in the interest of the health and general business prosperity of its inhabitants, it must follow that health may be preserved against injury by cold as well as by disease or adulteration of food, and that the industry of the State may be protected as well from destruction by deprivation of necessary fuel as from mere injury by practices hurtful to its trade or reputation. Upon this ground, aside from any peculiar relations or obligations

affecting public-service corporations, it is plain that the State may legislate in defense of its people and its industries in prevention of a real and present danger arising from deprivation of gas.

Nor is it an answer that the State did not interpose earlier. While the gas supply was adequate there was no occasion for the exertion of the State's power. And regardless of this, the delay did not detract from the power. In *German-Alliance Ins. Co. vs. Lewis*, 233 U. S., 389, 416, Mr. Justice McKenna, in upholding an exercise of the police power, said by way of illustration drawn from the enactment of the Interstate Act a century after the power to regulate commerce was created:

> "It was exerted only when the size, number and influence of those agencies had so increased and developed as to seem to make it imperative. Other illustrations readily occur which repel the intimation that the inactivity of a power, however prolonged, militates against its legality when exercised. *United States ex rel. Atty.-Gen. vs. Delaware & H. Co.*, 213 U. S., 366. It is oftener the existence of necessity rather than the prescience of it which dictates legislation."

And in *Thornton vs. Duffy*, 254 U. S., 361, 369, it was said that,—

> "An exercise of public policy cannot be resisted because of conduct or contracts done or made upon the faith of former exercises of it, upon the ground that its later exercises deprive of property or invalidate those contracts. *Louisville & N. R. Co. vs. Motley*, 219 U. S., 467."

179

INDUSTRIAL USE OF GAS.

We do not understand it to be contended seriously that the enforcement of the statute in respect of domestic users would materially add to the volume of West Virginia gas consumption (Rec., 972).

We anticipate, however, special reference on the other side to two features of the statute: (1) the provision made for industrial gas supply and (2) the provision made for the sale of gas to other gas companies not themselves possessed of a reasonably adequate supply.

In regard to the objection to the requirement of a reasonably adequate supply for industrial use, several answers at once appear. They have already been stated in the reference to industrial gas in the statement of facts, and under Title IV, subdivision (d), and under Title V, "*Duties of Gas Companies to Serve West Virginia Public.*"

Assuming, as we have already shown, that the supply of industrial gas is, by the holding out by the gas companies of their readiness and willingness to furnish such gas (subject only to the needs of domestic consumers) and by the settled law of West Virginia, a public service (*Clarksburg Light & H. Co. vs. Public Service Com.*, 84 W. Va., 638, 100 S. E., 551; *Kelley Axe Mfg. Co. vs. Public Service Com.*, 87 W. Va., 105, S. E., 152; *Mill Creek Coal & C. Co. vs. Public Service Com.*, 84 W. Va., 662, 100 S. E., 557), there is no distinction in principle between that service and the domestic service. Between the supply of gas for domestic

purposes and for industrial use there is but one difference. The service differs only in degree of necessity because the hardship is personally more acute in case of failure of the domestic supply than where the failure pertains to the industrial supply. This, of course, constitutes a sufficient basis for classification, preferential to the domestic consumer. But the fact that classification may be justified, proves nothing in regard to the nature of the subordinate service. The latter is still a public service.

The plaintiffs disagree with the policy of West Virginia in denominating the industrial service as public and in requiring its fulfillment, though they inconsistently permit industrial use within their own confines —even of West Virginia gas—and the gas companies in general emphasize the necessity of such use. We pursue this no further, because, however the plaintiffs may disagree, the uses to which gas may be applied in West Virginia was and is a local question for the determination of the Legislature of that State; and the objections of the plaintiffs go, as said in *Ohio Oil Co. vs. Indiana,* 177 U. S., 190, 211, "not to the power to make the regulations, but to their wisdom," and "with the lawful discretion of the legislature of the State" there can be no judicial interference.

And see:

Lindsley vs. Nat. Carbonic Gas Co., 220 U. S., 61, 76, 77;

Walls vs. Midland Carbon Co., 254 U. S., 300.

As to the dismal foreboding, the asertion that the enforcement of the statute as to industrial consumers

will absorb all the West Virginia gas, it may be sufficient to remark that these are wholly speculative, and "mere prophecies which are ventured" (*Tanner vs. Little*, 240 U. S., 369, 385).

The provisions of Section 4 and the correlation of the Public Service Commission Act, by appropriate administrative hearing and determination, with judicial review, effectually guard against the requirement by the consumer, domestic or industrial, of more than a reasonably adequate supply. If a decision of the Commission as to reasonable adequacy, in respect of either volume or economy of consumption, is deemed erroneous, the gas companies will have their day in court. Such questions can be answered "when they arise" (*Noble State Bank vs. Haskell*, 219 U. S., 104, 112). This Court is not called upon to sit in "anticipatory judgment" (*Tanner vs. Little*, 240 U. S., 369, 385).

But in this day the mantle of prophecy ordinarily yields to probabilities based on known facts. The industrial changes as to fuel which have taken place in West Virginia, as a result of the gas shortage, and the constantly increasing rates, competing unfavorably with producer gas (Rec., 1229-1230), afford subtsantial evidence to this Court, as they may well have done to the Legislature, that no such result would happen.

Still further, in this relation, the presumption being in favor of the validity of the statute and the burden being on the plaintiffs to show a violation of constitutional guaranties, there can be no declaration of unconstitutionality upon mere loose opinion or conjecture. The repeated refusal to declare public-service rates confiscatory in advance of actual test, is illustrative.

Knoxville vs. Knoxville Water Co., 212 U. S., 1, 18, 19;
Willcox vs. Consolidated Gas Co., 212 U. S., 19, 54;
Northern Pacific R. Co. vs. North Dakota, 216 U. S., 579; 236 U. S., 585;
Des Moines Gas Co. vs. Des Moines, 238 U. S., 153, 173;
Missouri vs. Chicago, B. & Q. R. Co., 241 U. S., 533, 539, 540.

SUPPLY OF GAS TO LOCAL COMPANIES.

What has been said as to industrial consumption, applies still more fully to Section 2 of the statute relative to the supply in amounts to be fixed by the Commission of deficits to gas companies having a shortage, when the supplying company has gas in excess of the amount necessary for the reasonably adequate supply of its own consumers in the State, and providing for physical connection of lines after due hearing, and the fixing of reasonable terms, conditions and rates; to which is added the proviso that the company having the surplus may itself, in the alternative, furnish the consumers within the territory a reasonably adequate supply.

It is shown by the proofs that the supply of gas to local companies having a deficit, is precisely what has been done by most of the seven companies in the past (Rec., 1034-1026), what in the present they do among themselves (Rec., 1712, 1769, 1780, 1791), and what they do, and desire to do, in respect of companies out of the State (Rec., 1509, 1524, 1544, 1554, 1560, 1729, 1738, 1745, 1752, 1761). It is shown also that the

shortage of the West Virginia local companies is due in large measure to the control, amounting to a virtual monopoly, of the West Virginia gas supply and fields, acquired in their character as West Virginia public-service corporations obligated to serve the public of that State. We have referred to this in the statement of facts and under Title IV.

There is no savor of constitutional infringement, nor unreasonableness, in requiring the companies to perform acts of the precise character habitually performed by them in the past, nor in enacting that they shall, in the alternative, supply, either directly or indirectly through local companies, consumers whom the companies were legally compellable to supply in advance of the passage of the statute.

The rule against discrimination in itself amply justifies the requirement that a public-service gas company which "wholesales" gas to another company, shall equally supply it to other companies.

People ex rel. Western Union Tel. Co. vs. Public Service Com., 230 N. Y., 95, 129 N. E., 220;

North Carolina Pub. Service Co. vs. Southern Power Co., 282 Fed., 837, 844;

Louisville & N. R. Co. vs. United States, 238 U. S., 1;

Postal Cable Tel. Co. vs. Cumberland Tel. & T. Co., 177 Fed., 726.

The requirement by the State, in the exercise of the police power, of co-operation in the public interest, among persons or corporations engaged in business, is

no new thing in the law. *Noble State Bank vs. Haskell,* 219 U. S., 104, 110, 112, sustaining a statute establishing a depositors' guaranty fund by the involuntary contributions of banks, is an example. There it was said "that an ulterior public advantage may justify a comparatively insignificant taking of private property for what, in its immediate purpose, is a private use." The Workmen's Compensation Acts are an added illustration (*New York Central R. Co. vs. White,* 243 U. S., 188; *Mountain Tie & T. Co. vs. Washington,* 243 U. S., 219).

The alternative compulsion of physical connections with local companies having a deficit is no different from the common requirement of physical connections or interchange of facilities in the case of railroads and other public utilities.

W. Va. Acts of 1913, Ch. 9, Sec. 8;
W. Va. Acts of 1915, Ch. 8, Sec. 24;
Ohio General Code, Secs. 522, 614-63;
Pennsylvania Pub. Laws of 1913, p. 1374, *Pub. Service Com. Law,* Art. I, Sec. 1.

Such connections already exist in many instances (Rec., 1034-1036; 1736 at pp. 402-414).

The validity of such requirements has often been sustained.

Wisconsin, M. & P. R. Co. vs. Jacobson, 179 U. S., 287;
Grand Trunk R. Co. vs. Michigan R. Com., 231 U. S., 457, 468;
Chicago, M. & St. P. R. Co. vs. Iowa, 233 U. S., 334;

Pacific Teleph. & Teleg. Co. vs. Wright-Dickinson H. Co., 214 Fed., 666;
Pioneer Teleph. & Teleg. Co. vs. State, 38 Okla., 554; 134 Pac., 398;
Hooper Teleph. Co. vs. Nebraska Teleph. Co., 96 Neb., 245; 147 N. W., 674.

VIII.

THE PLAINTIFFS CLAIM THROUGH THE GAS COMPANIES, AND HAVE NO HIGHER RIGHT OR TITLE TO RELIEF.

Various clauses of the Federal Constitution are invoked by the plaintiffs, as invalidating the statute. Much was said in the bills and evidence, and doubtless more will be said, as to the property, rights, and contracts of the gas companies, and losses from the predicted uselessness of pipe lines leading to, and distributing plants located within, the other States, and the inability of the gas companies to perform their contracts and to supply West Virginia gas to or in the other States.

As to the gas companies, and especially the seven companies operating in West Virginia, as well as the citizens of the plaintiff States, a short answer may be made. If the statute unconstitutionally injures them in property or contract rights, that would not entitle the plaintiffs to complain, "since it is a well-settled rule of this Court that it only hears objections to the constitutionality of laws from those who are affected by its alleged unconstitutionality in the features complained of." "The plaintiffs must show that their own rights are infringed."

Jeffery Mfg. Co. vs. Blagg, 235 U. S., 571, 576;
New York Central R. Co. vs. White, 243 U. S., 188, 199;
Plymouth Coal Co. vs. Pennsylvania, 232 U. S., 531, 545;
Arkadelphia Mill. Co. vs. St. Louis S. W. R. Co., 249 U. S., 134, 149.

Before passing to particular consideration, one general observation is applicable. The alleged rights claimed by the plaintiffs for themselves and their inhabitants are alleged rights to West Virginia gas, derived and derivable, directly or remotely, through gas companies, public-service corporations of West Virginia, obligated from the beginning to serve the public of that State, subject to that primary duty of public service, and from the outset amenable to the laws of the State. And thus mediately deriving their alleged rights, the rights of the plaintiffs can rise no higher than those of the gas companies, and the wrongs complained of are in reality alleged wrongs to the companies, which, if non-existent, leave the plaintiffs with cases of *damnum absque injuria.*

But still further, insofar as the plaintiffs receive gas from gas companies of their own State, who purchase their supplies from the West Virginia companies, they are in worse case. We have already shown that in the majority of instances the West Virginia companies transporting through pipe lines gas to or for consumption in other States, have by their express contracts agreed to furnish gas for the other States only to the extent of their supply (Rec., 1509, 1524, 1544, 1712, 1738, 1745, 1769, 1780), that in some of the contracts West

Virginia domestic consumption is abstractly given a preference (Rec., 1509, 1524, 1544, 1712, 1738, 1745, 1769, 1780), and that in some instances, notably the Hope Natural Gas Company and United Fuel Gas Company, the contracts provide for apportionment or priority of supply as among the purchasing companies (Rec., 1560, 1565, 1738, 1752), so that by the contracts themselves in time of shortage, whether periodic or in the ultimately permanent condition, some companies in the plaintiff States may be supplied, while others are cut off.

Let it be supposed that in time of shortage the territory served by the East Ohio Gas Company receives insufficient gas from the Hope Natural Gas Company, due to the apportionment with the Peoples Natural Gas Company, contemplated by their contracts (Rec., 1544, 1524). Will Ohio, or its inhabitants affected, have cause for complaint or a legal remedy against the Hope Natural Gas Company, or the Peoples Natural Gas Company; or against the State of Pennsylvania, because the laws of that State require its gas companies to give reasonably adequate service? Or will there be a right or remedy against the United Fuel Gas Company, who subordinates its supply to the Hope Company to the preexisting contracts of the United Fuel Company (Rec., 1769, 1776)? If the Hope Company, as under its contract with the Fayette County Gas Company it may, diverts its entire stock of gas to the East Ohio Gas Company and the Peoples Natural Gas Company (Rec., 1560), has the Fayette County Company or the State of Pennsylvania a justicable grievance, and if so, against whom? The East Ohio Gas Company contracts to supply municipalities in Ohio only to the extent of its ability to obtain gas (Rec., 596). Have those munici-

palities, or the consumers therein, or the State of Ohio, a right of action against the Hope Natural Gas Company, on which the East Ohio Company is dependent, or against the Peoples Natural Gas Company, which is contractually entitled to an apportionment, or against West Virginia or Pennsylvaia?

View the case from the standpoint of the vendor companies which, in general, limit their contract obligations to the extent of their gas supply, and are exempted from liability in case of insufficient gas or interruption of service from causes beyond their control, among which causes would be a change of law by West Virginia (*Louisville & N. R. Co. vs. Mottley*, 219 U. S., 467, 484-486). Can the plaintiffs erect into a grievance that for which the vendor companies are not liable?

We think these questions answer themselves.

IX.

LEAVING FOR SEPARATE CONSIDERATION THE COMMERCE CLAUSE, THE STATUTE DOES NOT VIOLATE OTHER CONSTITUTIONAL GUARANTEES.

The constitutional objections pressed by the plaintiffs are these:

(1) Impairment of the obligation of contracts.

(2) Deprivation of property without due process of law.

(3) Denial of the equal protection of the laws.

(4) Abridgment of the privileges or immunities of citizens of the plaintiff States or of the United States.

(5) Violation of the interstate commerce clause.

IMPAIRMENT OF OBLIGATION OF CONTRACTS, DUE PROCESS OF LAW, AND EQUAL PROTECTION OF THE LAWS.

The constitutionality of the State's exercise of power in the manner of the statute is not successfully impugned by the circumstances that the gas companies have expended money in the construction of pipe lines and pump stations, and that for the supply of gas in foreign States they have made contracts with other companies or consumers there, or that consumers in other States have made contracts or mechanical arrangements for the consumption of gas. The plaintiffs and their citizens, and the gas companies in West Virginia and in the plaintiff States, knew, one and all, from the outset, the peculiar exhaustible nature of gas, the status of the West Virginia companies, and their subordination to West Virginia laws, present or prospective, enacted in the exercise of the police power. If it be true that the State may validly compel the rendition of adequate service to its people by public-service corporations operating within its borders, the State's authority cannot be defeated by expenditures in aid of evasion of that service, or contracts or arrangements having that result.

The contention that the seven companies engaged in business, and that their pipe lines and pump stations were constructed and are used as facilities for the service of consumers in foreign States, is fallacious. These instrumentalities were built and are employed for the transportation of an available volume of gas presently consumed in part within West Virginia and in a greater part outside of the State. So long as these lines and stations are employed for the transportation of this

quantity of gas, their owners are entitled to a fair return upon the reasonable value of their property so employed for the public convenience (*San Diego L & T. Co. vs National City,* 174 U. S., 739; *Cotting vs. Goddard,* 183 U. S., 79; *San Diego L. & T. Co. vs Jasper,* 189 U. S., 439; *Stanislaus Co. vs. San Joaquin & K. R. C. & I. Co.,* 192 U. S., 201; *Knoxville vs. Knoxville Water Co.,* 212 U. S., 1; *Willcox vs. Consolidated Gas Co.,* 212 U. S., 19; *Railroad Com. vs. Cumberland T. & T. Co.,* 212 U. S., 414; *Lincoln Gas & El. Co. vs. Lincoln,* 223 U. S., 345; *Simpson vs. Shepherd,* 230 U. S., 352). And the right would be as clear if an increased quantity, or even the whole, of the gas were consumed in West Virginia as if apportioned to the advantage of other States, as now. The consumption in West Virginia of an augmented amount of gas would, of course, result in an enlarged aggregate of the rates paid by the consumers therein. And it might be that as a consequence of increased devotion of lines and stations to the service of the West Virginia consumers, or a not improbable influence on operating costs, an upward adjustment of rates in West Virginia would be proper. But this, after all, is but a matter of rates. If fairly compensated, the gas companies are not entitled to refuse to West Virginia an adequate service merely because a greater remuneration can be obtained elsewhere.

If in the case of some of these companies contraction of the volume of gas conveyed to other States should result in the impairment and ultimate destruction of the usefulness of transportation or distributing facilities serving only those States, the injury to the owners of these facilities would be more apparent than

real. The tendency of the gas supply to exhaustion, and the obligation to render adequate service to West Virginia consumers, was as well known on the first day of their career as on the last; and all of the gas companies, both in West Virginia and elsewhere, had the right and opportunity to anticipate in charges against consumers the depreciation or obsolescence resulting from diminished usefulness of these facilities (*Knoxville vs. Knoxville Water Co.*, 212 U. S., 1, 11; *Railroad Com. vs. Cumberland Tel. & Teleg. Co.*, 212 U. S., 414, 424; *Simpson vs. Shepherd*, 230 U. S., 352, 458; *Kansas City S. R. Co. vs. United States*, 231 U. S., 423, 446). Whether all of the companies have disinterestedly refrained from exercising this right to compensate themselves we do not stop to inquire; but we perceive no reason for assuming the case to be in their favor on this point. And the affirmative proof, in a number of instances, shows depreciation allowances and reserves (Rec., 263-265, 443-444).

Whatever may be the result in reference to property devoted to the service of consumers in other States or to contracts made with them, or consequentially affecting their service, the constitutional power of West Virginia, nevertheless, remains clear and certain. The expenditures for that property and those contracts were made subject to the police power of the State and find no protection in the constitutional provisions against the impairment of the obligation of a contract or the deprivation of property without due process of law or any other guaranty of the State or Federal Constitution. In *Chicago, B. & Q. R. Co. vs McGuire*, 219 U. S.,

549, 568, referring to the right to make contracts, Mr. Justice Hughes said:

> "It is subject, also, in the field of State action, to the essential authority of government to maintain peace and security, and to enact laws for the promotion of the health, safety, morals, and welfare of those subject to its jurisdiction. This limitation has had abundant illustration in a variety of circumstances."

In *Chicago & A. R. Co. vs. Tranbarger*, 238 U. S., 67, it was said:

> "But a more satisfactory answer to the argument under the contract clause, and one which at the same time refutes the contention of plaintiff in error under the due process clause, is that the statute in question was passed under the police power of the State for the general benefit of the community at large and for the purpose of preventing unnecessary and widespread injury to property.
>
> It is established by repeated decisions of this Court that neither of these provisions of the Federal Constitution has the effect of overriding the power of the State to establish all regulations reasonably necessary to secure the health, safety, or general welfare of the community; that this power can neither be abdicated nor bargained away, and that all contract and property rights are held subject to its fair exercise. *Atlantic Coast Line R. Co. vs. Goldsboro*, 232 U. S., 548, 558, and cases cited."

In *Hudson County Water Co. vs. McCarter,* 209 U. S., 348, a statute of New Jersey prohibiting the diversion of the water from fresh-water streams of the State to other States was upheld as against the owner of water mains laid for the purpose of carrying water from New Jersey to New York. Overruling the argument that the statute impaired the obligation of contracts, took property without due process of law, and denied the equal protection of the laws, it was said by Mr. Justice Holmes:

> "The defense under the 14th Amendment is disposed of by what we have said. That under Article 1, Section 10, needs but a few words more. One whose rights, such as they are, are subject to State restriction, cannot remove them from the power of the State by making a contract about them. The contract will carry with it the infirmity of the subject matter. *Knoxville Water Co. vs. Knoxville*, 189 U. S., 434, 438; *Manigault vs. Springs*, 199 U. S., 473, 480."

In *Rast vs. Van Deman*, 240 U. S., 342, 363, Mr. Justice McKenna said:

> "Besides, as the business is subject to regulation, the contracts made in its conduct are subject to such regulation. *Louisville & N. R. R. Co. vs. Mottley*, 219 U. S., 467, and *New York C. & H. R. R. Co. vs. Gray*, 239 U. S., 583."

As already pointed out, the fact that the exercise of the powers of the State was delayed, does not militate against its legality when exercised.

German-Alliance Ins. Co. vs. Lewis, 233 U. S., 389, 416;

Thornton vs. Duffy, 254 U. S., 361, 369.

Against the application of the foregoing principles, public-service corporations are not immune. The opinion of Mr. Justice Clarke in *Union Dry Goods Co. vs. Georgia Pub. Service Corp.*, 248 U. S., 372, fully demonstrates this. The following cases also, by express adjudication and concrete illustration, show that the requirement from a public-service corporation of adequate service to the public violates no constitutional provision, even though the rendition of such service is attended with pecuniary loss:

Wisconsin M. & P. R. Co. vs. Jacobson, 179 U. S., 287;

Atlantic Coast Line R. Co. vs North Carolina Corp. Com., 206 U. S., 1;

Missouri P. R. Co. vs. Kansas, 216 U. S., 262;

Washington vs. Fairchild, 224 U. S., 510.

So in *Erie R. Co. vs. Board of Public Utility Com.*, 254 U. S., 394, in refuting an argument against the change of elevation of tracks at crossings, ordered by the Board, it was said:

"That the States might be so foolish as to kill a goose that lays golden eggs for them has no bearing on their constitutional rights. If it reasonably can be said that safety requires the change, it is for them to say whether they will insist upon it, and neither prospective bankruptcy nor engagement in interstate commerce can take away this fundamental right of the sovereign of the soil. *Denver & R. G. Co. vs Denver*, 250 U. S., 241, 246. To engage in interstate commerce the railroad must get on to the land; and, to get on to it, must comply with the conditions imposed by the State for the safety

of its citizens. Contracts made by the road are made subject to the possible exercises of the sovereign right. * * * If the burdens imposed are so great that the road cannot be run at a profit, it can stop, whatever the misfortunes the stopping may produce."

ABRIDGEMENT OF PRIVILEGES AND IMMUNITIES.

What has been said above applies equally to the claim of abridgement of privileges and immunities of citizens of other States or of the United States. In *Barbier vs. Connolly*, 113 U. S., 27, 32, the whole matter was summed up by Mr. Justice Field as follows:

"But neither the amendment as a whole, broad and comprehensive as it is, nor any other amendment was designed to interfere with the power of the State, sometimes termed its police power, to prescribe regulations to promote the health, peace, morals, education and good order of the people, and to legislate so as to increase the industries of the State, develop its resources and add to its wealth and prosperity."

And see:

Slaughter House Cases, 16 Wall., 36;
Re Kemmler, 136 U. S., 436, 448, 449;
Giozza vs. Tiernan, 148 U. S., 657, 661, 662.

In *Western Union Tel Co. vs. Commercial Mill Co.*, 218 U. S., 406, 418, it was dryly intimated that it was "rather late in the day" to contend that the Fourteenth Amendment, either in the privileges and immunities

clause or the other clauses, prevented "the regulation of public-service corporations" by a State.

We stay for a moment to remark that the plaintiff States are not citizens of any State or of the United States:

Stone vs. South Carolina, 117 U. S., 430, 433;
Postal Tel. Cable Co. vs. Alabama, 155 U. S., 487;
Title Guaranty & S. Co. vs. Idaho, 240 U. S., 136;

and that the gas companies are not citizens within the privileges and immunities clauses of the Federal Constitution:

Blake vs. McClung, 172 U. S., 239, 259;
Western Turf Assoc. vs. Greenberg, 204 U. S., 359, 363;
Selover vs. Walsh, 226 U. S., 112, 126.

X.

THE STATUTE DOES NOT REGULATE INTERSTATE COMMERCE.

It is urged against the statute that it amounts to an unconstitutional regulation of interstate commerce for the reason that if an adequate amount of gas is furnished to West Virginia the volume of gas transported to other States will be diminished. And this objection is argued as if the gas companies held no peculiar relation to West Virginia and were bound by no peculiar obligations to it, and as if the gas affected were a mere ordinary subject of barter and sale, like other commodi-

ties. The contention would be the same in principle, and not more startling in form, if the Consolidated Gas Company of New York City, engaged in supplying artificial gas in the metropolitan territory, should assert the right to abandon its obligations to the citizens of New York upon the plea that it was entitled to enter into interstate commerce by selling its gas to New Jersey or Philadelphia. Indeed, the proposition, when based on the claim of freedom of interstate commerce, would equally support a contention that these companies have the right to export from West Virginia to other States the entire stock of gas at their command. For, as testified by witnesses for the plaintiffs, already quoted, every addition to consumption in West Virginia lessens to that extent the volume of gas available for transport to the other States. And the ultimate conclusion would be that no supply whatever to West Virginia could be compelled.

We think that to the objection, based on the commerce clause, there are several answers:

(1) That the West Virginia public-service corporations have no right to engage in interstate commerce, except in subordination to the performance of their duties to the State;

(2) That if interstate commerce is affected, the effect is only indirect and incidental, and therefore, in the absence of congressional enactment, the effect is not violative of the commerce clause; and

(3) That the duties of these corporations to the State in respect of their gas exist not only during interstate commerce therein, but also before the entry of the gas into that commerce; and the gas enters inter-

state commerce subject to those duties and the operation of the statute.

INTERSTATE COMMERCE BY PUBLIC-SERVICE CORPORATIONS.

At the outset let us say that we do not in the least doubt that the sale and transportation of gas may be, and often are, interstate commerce. The decisions of this Court foreclose that question in the circumstances then in judgment. *West vs. Kansas Nat. Gas Co.*, 221 U. S., 229; *Haskell vs. Kansas Nat. Gas Co.*, 224 U. S., 217; *Public Utilities Com. vs. Landon*, 249 U. S., 236; *United Fuel Gas Co. vs. Hallanan*, U. S. Adv. Ops, 1921-22, p. 130). It is established also that interstate commerce is not a technical legal conception, but a practical one (*Swift & Co. vs. United States*, 196 U. S., 375, 398, 399; *Public Utilities Com. vs Landon, supra; Stafford vs. Wallace*, U. S. Adv. Ops., 1921-22, 469); and that the free flow of established interstate commerce may not be directly interfered with. (*Lemke vs. Farmers Grain Co.*, U. S. Adv. Ops., 1920-21, p. 273; *Stafford vs. Wallace, supra; United Fuel Gas Co. vs. Hallanan, supra; Eureka Pipe Line Co. vs. Hallanan*, U. S. Adv. Ops., 1921-22, p. 127).

But anterior to sale and transportation, arises the inquiry whether, and to what extent, the person engaging, or desiring to engage, in interstate commerce is lawfully entitled to do so. No doubt the transportation of lottery tickets, prize-fight films, intoxicating liquors and stolen automobiles from one State to another is interstate commerce; but there is no right to carry it on.

The question here is, not whether a State may prohibit or restrict the transportation of natural gas from its territory into another State, but *whether the State may require companies—owing to its people the obligation of adequate service—to perform that service,* even though the performance may involve the intrastate consumption of gas which otherwise might be transported to another State.

If the gas companies owe a duty to the people of West Virginia, the performance of that duty cannot be evaded merely because they prefer to enter into interstate commerce rather than to perform it. In *Hudson County Water Co. vs. McCarter*, 209 U. S., 348, in upholding the validity of a New Jersey statute prohibiting the transportation of water from any fresh-water stream in the State to a place out of the State, Mr. Justice Holmes said:

> "A man cannot acquire a right to property by his desire to use it in interstate commerce. Neither can he enlarge his otherwise limited and qualified right to the same end."

The same principle is asserted in somewhat different form by three judges sitting in the District Court for the Northern District of West Virginia, in *Manufacturers Light & H. Co. vs. Ott*, 215 Fed., 940, 951. Although the question before the court was primarily one of rates, its language is equally applicable to the question of adequacy of service, since the regulatory authority of the State in respect to rates and service rests upon the same basis, the police power. Judge Woods, delivering the opinion, said:

> "The testimony is undisputed that the main

source of natural-gas supply is in West Virginia, and that the cost of supplying gas to consumers in that State is necessarily much less than in the other States. It seems obvious that West Virginia corporations supplying gas to the citizens of that State from wells in the State cannot say the rates fixed to consumers in West Virginia are confiscatory, because at the same rates the companies would lose money on business which they had chosen to conduct in other States in association with corporations of those States. Even if it be conceded that interstate commerce is involved, the principle must be regarded as settled beyond dispute."

And, on page 952, it was further said:

"The fact that the Manufacturers Light and Heat Co. may have improvidently accepted franchises from municipalities in Ohio and Pennsylvania requiring gas to be furnished at the same rates charged in West Virginia, and that reductions at these points would require gas to be furnished there at less than cost, may be worthy of consideration by the Commission in prescribing the rates in West Virginia.

But it cannot be controlling, for to hold so would be to enable the gas companies to contract away the police power of the State of West Virginia to require reasonable rates to its own citizens."

In *South Covington & C. S. R. Co. vs. Kentucky*, 252 U. S., 399, 403, the principal business of the company was the carriage of passengers between Cincinnati, Ohio, and Kentucky cities across the Ohio River. A subsidiary corporation through which the South Cov-

ington company operated in part had its termini in Kentucky, though many of the passengers traveled by continuous passage to Cincinnati. The Kentucky statute requiring separate cars or compartments for white and negro passengers was held constitutional, it being said that the effect of the statute, insofar as it touched interstate commerce, was merely incidental. Mr. Justice McKeenna said:

> "There was a distinct operation in Kentucky. An operation authorized and required by the charters of the companies, and it is that operation the act in question regulates, and does no more, and therefore is not a regulation of interstate commerce. This is the effect of the ruling in *South Covington & C. Street R. Co. vs. Covington*, 235 U. S., 537. The regulation of the act affects interstate business incidentally, and does not subject it to unreasonable demands.
>
> The cited case points out the equal necessity, under our system of government, to preserve the power of the States within their sovereignties as to prevent the power from intrusive exercise within the national sovereignty, and an interrurban railroad company deriving its power from the State, and subject to obligations under the laws of the State, should not be permitted to exercise the powers given by the State, and escape its obligations to the State, under the circumstances presented by this record, by running its coaches beyond the State lines."

In *Erie R. Co. vs. Board of Public Com.*, 254 U. S., 394, it was said in regard to an order of the board requiring the change of elevation of tracks at crossings:

> "If it reasonably can be said that safety requires the change, it is for them to say whether they will insist upon it, and neither prospective bankruptcy nor engagement in interstate commerce can take away this fundamental right of the sovereign of the soil. *Denver & R. G. R. Co. vs. Denver*, 250 U. S., 241, 246. To engage in interstate commerce the railroad must get on to the land; and, to get on to it, must comply with the conditions imposed by the State for the safety of its citizens. Contracts made by the road are made subject to the possible exercise of the sovereign right. * * * If the burdens imposed are so great that the road cannot be run at a profit, it can stop, whatever the misfortunes the stopping may produce."

If it be true, as previously pointed out, that a gas company, or its business, or the commodity in which it deals, is affected by the public interest, precedents are not wanting to show that the principles relating to interstate commerce in ordinary goods and chattels are inapplicable. In *Geer vs. Connecticut*, 161 U. S., 519, and *New York vs. Hesterberg*, 211 U. S., 31, it was held that a State could prohibit the exportation of game killed within its boundaries, and also prohibit the sale therein of game imported from another State. While in these instances the public interest attained the dignity of public ownership, the cases establish that generalizations from authorities referring to ordinary subjects of interstate commerce are inapplicable to a

business or commodity affected with a public interest, and that interstate commerce in a commodity so affected may be restricted, or even prohibited, though such commerce in ordinary merchandise could not be.

It is no answer to what has been said that if a State can compel a supply of gas to its citizens and thereby prevent its exportation to another State, the other State may impose a similar restriction on the interstate shipment of corn, wheat, lumber or other commodities. Those commodities lack entirely the exhaustibility and other peculiarities of gas. Until their production or distribution shall become affected with a public interest in the sense that the gas business is so affected, no such case will occur. In *Tanner vs. Little*, 240 U. S., 369, 385, in sustaining the validity of a statute imposing a heavy license tax on merchants using trading stamps or redeemable coupons, Mr. Justice McKenna said:

> "Nor is there support of the system or obstruction to the statute in declamation against sumptuary laws, nor in the assertion that there is evil lesson in the statute, nor in the prophecies which are ventured of more serious intermeddling with the conduct of business. Neither the declamation, the assertion, nor the prophecies can influence a present judgment. As to what extent legislation should interfere in affairs political philosophers have disputed and always will dispute. It is not in our province to engage on either side, nor to pronounce anticipatory judgments. We must wait for the instance. Our present duty is to pass upon the statute before us, and if it has been enacted upon a belief of evils that is not arbitrary we cannot

measure their extent against the estimate of the Legislature."

In *Noble State Bank vs. Haskell*, 219 U. S., 104, where a law requiring banks to maintain a guaranty fund for the protection of depositors was held valid, Mr. Justice Holmes said:

> "It is asked whether the State could require all corporations or all grocers to help to guarantee each other's solvency, and where we are going to draw the line. But the last is a futile question, and we will answer the others when they arise."

And see also *German Alliance Ins. Co. vs. Lewis*, 233 U. S., 389, 415.

The case of *West vs. Kansas Nat. Gas Co.*, 221 U. S., 229, already referred to, is not inconsistent with the above views, and does not militate against the statute. In that case, as already noted, neither the corporations and individuals who were plaintiffs, nor their gas, could be said to be affected with a public use, since the persons themselves were not engaged in the business of public gas supply in Oklahoma, and their gas was required by no present necessity in that State. The bills of complaint alleged (as stated in the opinion by Mr. Justice McKenna, p. 244) that the production of that State was "more than 1,000,000,000 cu. ft. of gas per day; that such amount is more than necessary for the demands of the people of the State, and the excess of supply is required to meet the wants of those residing in Missouri and Kansas." Accordingly, the Oklahoma statute was not in substance, or even ostensibly, enacted in regulation of a public utility, so as to render merely indirect or incidental any decrease in the volume of gas trans-

ported out of the State. On the contrary, the principal and direct design of the Oklahoma statute was to prevent exportation of gas. This was the more manifest from the discrimination in respect to the use of highways and the right of eminent domain, made between persons engaged in transporting gas within the State and those transporting it to other States, as pointed out in *Haskell vs. Kansas Nat. Gas. Co.*, 224 U. S., 217, 221, a second appeal of the *West case*. And this dominant design to prohibit interstate transportation is referred to by Mr. Justice McKenna in 221 U. S., 229, 257, where, after citing *Manufacturers' Gas & O. Co. vs. Indiana Gas & O. Co.*, 155 Ind., 545; 58 N. E., 706, he says:

> "The case is valuable because the court, through the same justice who wrote the opinion, distinguished between an exercise of the police power to regulate the taking of natural gas and its prohibition in interstate commerce."

And, at page 262, Mr. Justice McKenna adds:

> "We repeat again there is no question in the case of the regulating power of the State over natural gas within its borders."

The later decisions in *Public Utilities Com. vs. Landon*, 249 U. S., 236, and *Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23, as well as *Franke vs. Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct., 446, recognize the local character of gas supply and its regulation, even though the gas has therefore been in interstate commerce. And we submit that in the latter aspect the local element equally inheres when by the public interest with which its owner's business or the gas itself is affected, or by the physical process by which

the gas is transported, the gas remains subject to the local use in advance of its last journey across the State line.

INTERFERENCE, IF ANY, WITH INTERSTATE COMMERCE IS INDIRECT AND INCIDENTAL.

If by the statute interstate commerce is affected, the effect is indirect and incidental and does not invalidate the law. The direct purpose of the law is to compel the performance of a public duty by those obligated to perform it, and by a legitimate exercise of the police power to protect against the injury to persons and property consequent on the failure to perform the public duty. Conceivably, interstate commerce might not be affected at all, and this is presently true, if, as the evidence indicates, the gas companies hold in reserve sufficient territory to supply the deficit without subtracting from the quantity of gas transported to other States. But even if the quantity of gas entering into interstate commerce should be diminished as a consequence of the statute, the authorities well establish that the commerce clause would not stand in the way. To argue to the contrary would be to contend that the State would stand powerless to relieve its citizens from the most flagrant discrimination, or even against *a total deprivation of gas,* at the hands of its public-service corporations, which, for gain, preferred to serve consumers in other States.

That the supply of gas for local consumption, even though it may previously have been transported in interstate commerce, or is derived from a common stock, part of which is destined for such transportation, is

essentially a matter of local concern and subject to regulation by the States, in the absence of interference by Congress, is clear.

Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23;

Public Utilities Com. vs. Landon, 249 U. S., 236;

Manufacturers Light & Heat Co. vs. Ott, 215 Fed., 940;

Franke vs. Johnstown Fuel Supply Co., 70 Pa. Super. Ct., 446;

State vs. Flannelly, 96 Kan., 372; 152 Pac., 22;

Union Dry Goods Co. vs. Georgia Public Service Com., 248 U. S., 372;

Mill Creek Coal & Coke Co. vs. Public Service Com., 84 W. Va., 662; 100 S. E., 557.

In *Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23, 30, Mr. Justice Day said:

"The thing which the State Commission has undertaken to regulate, while part of an interstate transmission, is local in its nature, and pertains to the furnishing of natural gas to local consumers within the city of Jamestown, in the State of New York. The pipes which reach the customers served are supplied with gas directly from the main of the company, which brings it into the State; nevertheless, the service rendered is essentially local, and the sale of gas is by the company to local consumers, who are reached by the use of the streets of the city in which the pipes are laid, and through which the gas is conducted to factories and residences as it is required for use. The service is

similar to that of a local plant furnishing gas to consumers in a city.

This local service is not of that character which requires general and uniform regulation of rates by congressional action, and which has always been held beyond the power of the States, although Congress has not legislated upon the subject. While the manner in which the business is conducted is part of interstate commerce, its regulation in the distribution of gas to the local consumers is required in the public interest, and has not been attempted under the superior authority of Congress.

"It may be conceded that the local rates may affect the interstate business of the company. But this fact does not prevent the State from making local regulations of a reasonable character. Such regulations are always subject to the exercise of authority by Congress, enabling it to exert its superior power under the commerce clause of the Constitution."

The validity of State legislation incidentally or indirectly affecting interstate commerce, even though it diverts to the local need commodities or facilities which otherwise might go into or aid interstate commerce, has been upheld by repeated adjudications. The principle is clearly stated by Mr. Justice Hughes in the *Minnesota Rate Cases* (*Simpson vs. Shepard*, 230 U. S., 352), where, after saying that the States cannot directly tax interstate commerce or prohibit interstate trade in legitimate articles of commerce, he says:

"But within these limitations there necessarily remains to the States until Congress acts, a wide

range for the permissible exercise of power appropriate to their territorial jurisdiction, although interstate commerce may be affected. It extends to those matters of a local nature as to which it is impossible to derive from the constitutional grant an intention that they should go uncontrolled pending Federal intervention. Thus, there are certain subjects having the most obvious and direct relation to interstate commerce, which nevertheless, with the acquiescence of Congress, have been controlled by State legislation from the foundation of the government, because of the necessity that they should not remain unregulated, and that their regulation should be adapted to varying local exigencies; hence, the absence of regulation by Congress in such matters has not imported that there should be no restriction, but rather that the States should continue to supply the needed rules until Congress should decide to supersede them. Further, it is competent for a State to govern its internal commerce, to provide local improvements, *to create and regulate local facilities*, to adopt protective measures of a reasonable character in the interest of the health, safety, morals and welfare of its people, although interstate commerce may incidentally or indirectly be involved. Our system of government is a practical adjustment by which the national authority as conferred by the Constitution is maintained in its full scope without unnecessary loss of local efficiency. Where the subject is peculiarly one of local concern, and from its nature belongs to the class with which *the State appropriately deals in*

making reasonable provision for local needs, **it cannot be regarded as left to the unrestrained will of individuals because Congress has not acted, although it may have such a relation to interstate commerce as to be within the reach of the Federal power. In such case, Congress must be the judge of the necessity of Federal action." (Italics ours).**

And again, on page 410, is set forth the exact principle for which we contend, stated as follows:

"In the intimacy of commercial relations much that is done in the superintendence of local matters may have an indirect bearing upon interstate commerce. *The development of local resources and the extension of local facilities may have a very important effect upon communities less favored,* and to an appreciable degree alter the course of trade. The freedom of local trade may stimulate interstate commerce, while restrictive measures within the police power of the State, enacted exclusively with respect to internal business, as distinguished from interstate traffic, may in their reflex or indirect influence *diminish the latter and reduce the volume of articles transported into or out of the State.* It was an objection of this sort that was urged and overruled in *Kidd vs. Pearson,* 128 U. S., 1, to the law of Iowa prohibiting the manufacture and sale of liquor within the State, save for limited purposes. See also *Geer vs. Connecticut,* 161 U. S., 519, 534; *Austin vs. Tennessee;* 179 U. S., 343; *Capital City Dairy Co. vs. Ohio,* 183 U. S., 238, 245; *Missouri P. R. Co. vs. Kansas,* 216 U. S., 261." (Italics ours.)

The principle that interstate commerce may constitutionally be affected indirectly or incidentally by the State in the exercise of its police power has been asserted in many cases, wherein the inevitable result of the regulation within the State has been to subtract from the quantity of a commodity entering into interstate commerce. Examples are readily afforded by the instance of the prohibition of the manufacture and sale of intoxicating liquors (*Kidd vs. Pearson*, 128 U. S., 1); the prevention of the sale of oleomargarine, colored so as to imitate butter (*Plumley vs. Massachusetts*, 155 U. S., 461; *Capital City Dairy Co. vs. Ohio*, 183 U. S., 238); the shipment of game out of the State or the sale of imported game within the State (*Geer vs. Connecticut*, 161 U. S., 519; *New York vs. Hesterberg*, 211 U. S., 31); the transportation of water out of the State (*Hudson County Water Co. vs. McCarter*, 209, U. S., 348), and the shipment of immature citrus fruit from a State largely engaged in the production thereof (*Sligh vs. Kirkwood*, 237 U. S., 52). And it has been held that a general restriction of pipe-line pressure which in practical result would prevent transportation of gas out of a State was valid (*Jamieson vs. Indiana Natural Gas & O. Co.*, 128 Ind., 555; 28 N. E., 76).

The police power of the State embraces, to this extent of indirect or incidental interference, commodities which are actually in interstate commerce. The fact that they are in such commerce does not necessarily withdraw them from the operation of reasonable State laws. The repeatedly held valid State inspection and labelling laws, designed to promote public health

and safety, though applied to commodities in original packages, are a commonplace example.

Plumley vs. Massachusetts. 155 U. S., 461;
Patapsco Guano Co. vs. Board of Agriculture, 171 U. S., 345;
Schollenberger vs. Pennsylvania, 171 U. S., 1;
Crossman vs. Luiman, 192 U. S., 189;
Savage vs. Jones, 225 U. S., 501;
Standard Stock Food Co. vs. Wright, 225 U. S., 540.

The rule is the same as to the instrumentalities of interstate commerce.

Smith vs. Alabama, 124 U. S., 465;
Nashville C. & St. L. R. Co. vs. Alabama, 128 U. S., 96;
New York, N. H. & H. R. Co. vs. New York, 165 U. S., 628;
Erb vs. Morasch, 177 U. S., 584;
Davis vs. Cleveland, C. C. & St. L. R. Co., 177 U. S., 157;
Southern R. Co. vs. King, 217 U. S., 324;
Chicago, R. I. & P. R. Co. vs. Arkansas, 219 U. S., 453;
Atlantic Coast Line R. Co. vs. Georgia, 234 U. S., 280;
St. Louis, I. M. & S. R. Co. vs. Arkansas, 240 U. S., 518.

Though interstate commerce be incidentally or indirectly affected, the police power of the State includes the authority to compel a reasonably adequate service to the communities within it at the hands of a public-service corporation, though it is engaged in interstate

commerce; and *up to the point where reasonably adequate local facilities are afforded by a public-service corporation, the State may exercise a free hand. Until that point is passed, interstate commerce is not unconstitutionally infringed.*

In *Chicago, B. & Q. R. Co. vs. Railroad Commission*, 237 U. S., 220, 226, it was said:

> "In reviewing the decision we may start with certain principles as established: (1) It is competent for a state to require adequate local facilities, even to the stoppage of interstate trains or the rearrangement of their schedules. (2) Such facilities existing—that is, the local conditions being adequately met,—the obligation of the railroad is performed, and the stoppage of interstate trains becomes an improper and illegal interference with interstate commerce."

The proposition is negatively stated in *Mobile, J. & K. C. R. Co. vs. Mississippi*, 210 U. S., 187, wherein it was said:

> "It is enough to add to that which we have said, that the decree of the Supreme Court does not work an interference with, or cast a direct burden upon, interstate commerce. The cases of the *Illinois C. R. Co. vs. Illinois*, 163 U. S., 142; *Cleveland, C., C. & St. L. R. Co. vs. Illinois*, 177 U. S., 514, and *Mississippi R. Commission vs. Illinois C. R. Co.*, 203 U. S., 335, cited by the companies to sustain their contentions, are not apposite. In those cases there was an interference with interstate trains for local purposes, though local needs had been adequately supplied."

And see:

Gladson vs. Minnesota, 166 U. S., 427;
Lake Shore & M. S. R. Co. vs. Ohio, 173 U. S., 285;
Wisconsin & P. R. Co. vs. Jacobson, 179 U. S., 287;
Atlantic Coast Line R. Co. vs. North Carolina Corp. Com., 206 U. S., 1;
Missouri P. R. Co. vs. Larabee Flour Mills Co., 211 U. S., 612;
Missouri P. R. Co. vs. Kansas, 216 U. S., 472;
Washington vs. Fairchild, 224 U. S., 510;
Grand Trunk R. Co. vs. Michigan R. Com., 231 U. S., 457;
Chicago, M. & St. P. R. Co. vs. Iowa, 233 U. S., 334;
Michigan C. R. Co. vs. Michigan Railroad Commission, 236 U. S., 615;
Illinois Central R. Co. vs. Mulberry Hill Coal Co., 238 U. S., 275;
Seaboard Air Line R. Co. vs. Railroad Com., 240 U. S., 324.

LOCAL CHARACTER OF GAS SUPPLY AND POINT OF ENTRY OF GAS INTO INTERSTATE COMMERCE.

We have already argued that the seven gas companies and others similarly situated, from their legal status, were and are incapacitated from engaging in interstate commerce, except in subordination to the fulfillment of their duty to consumers in West Virginia and to the extent of the surplus remaining after the fulfillment of that duty. Stated in another way, the gas

in the pipe lines remains subject to the public interest and the duty of these companies as long as that duty remains unperformed, or until the public interest and the duty are effectually evaded by the escape of the gas over the State boundary.

But the objection that interstate commerce is interfered with, fails entirely when the transaction is analyzed in point of time. The duty of reasonably adequate service rests on the gas company in its character of a public service corporation. It exists prior to and contemporaneously with its acquisition of the gas, wherewith it is to perform its duty.

That the production of gas, or coal, or any other commodity, though intended for interstate commerce, is not interstate commerce, is now settled. The point was lately involved in the Pennsylvania Anthracite Tax Case.

Heisler vs. Thomas Colliery Co., U. S. Adv. Ops., 1922-23, p. 119;
Hammer vs. Dagenhart, 247 U. S., 251, 272;
Delaware, L. & W. R. R. Co. vs. Yurkonis, 238 U. S., 439;
United Mine Workers vs. Coronado Coal Co., U. S. Adv. Ops., 1921-22, p. 643.

In *Heisler vs. Thomas Colliery Co.*, it was said, referring to *Coe vs. Errol*, 116 U. S., 517:

> "To express it, as the court did, 'there must be a point of time when they cease to be governed exclusively by the domestic law and begin to be governed and protected by the national law of commercial regulation; and that moment seems to us to

be a legitimate one for this purpose, in which they commence their final movement for transportation from the State of their origin to that of their destination.'

And again: 'Nor is exportation begun until they are committed to the common carrier for transportation out of the State to the State of their destination, or have started on their ultimate passage to that State.' Until then, it was said that they were a part of the general mass of property of the

State, and subject to its jurisdiction."

See also:

American Steel & W. Co. vs. Speed, 192 U. S., 500, 520;

General Oil Co. vs. Crain, 209 U. S., 211;

Bacon vs. Illinois, 227 U. S., 502;

Susquehanna Coal Co. vs. South Amboy, 228 U. S., 665;

McCluskey vs. Marysville & N. R. Co., 243 U. S., 36;

Arkadelphia Mill. Co. vs. St. Louis S. W. R. Co., 249 U. S., 134;

Crescent Cotton Oil Co. vs. Mississippi, U. S. Adv. Ops., 1921-22, p. 55.

Though applied at the destination, the following in regard to gas are similar in principle:

Public Utilities Co. vs. Landon, 249 U. S., 236;

Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23;

Franke vs. Johnstown Fuel Supply Co., 70 Pa., Super. Ct., 446.

Before gas can enter into interstate commerce, it must become property susceptible of such commerce. Until it is reduced to possession by being brought into the well or to the surface of the earth, there is no property in it, save as a qualified right thereto as part of the land. In *Walls vs. Midland Carbon Co.*, 254 U. S., 300, 316, it was remarked, referring to *Ohio Oil Co. vs. Indiana*, 177 U. S., 190:

> "We said, citing a case, 'possession of the land is not necessarily possession of the gas,' and again, on the authority of cases, 'that the property of the owner of lands in oil and gas is not absolute until it is actually in his grasp, and brought to the surface.'"

In *West vs. Kansas Nat. Gas Co.*, 221 U. S., 229, 254, it was said:

> "Gas, when reduced to possession, is a commodity; it belongs to the owner of the land; and when reduced to possession, is his individual property, subject to sale by him, and may be a subject of intrastate commerce and interstate commerce."

The same principle was announced in *Ohio Oil Co. vs. Indiana*, 177 U. S., 190, as the law of Indiana, and *Peoples Gas Co. vs. Tyner*, 131 Ind., 281, 31 N. E., 59, was quoted as follows:

> "It has been settled in this state that natural gas, when brought to the surface of the earth and placed in pipes for transportation is property, and may be the subject of interstate commerce."

This is the law of West Virginia. In *Hall vs. Vernon,* 47 W. Va., 295, 34 S. E., 764, it was said:

> "Natural gas is incapable of being absolute property, and is the subject of qualified property only. *Wood Co. Petroleum Co. vs. West Virginia Transp. Co.,* 28 W. Va., 210. * * * 'There can be no property in rock or mineral oil, nor can title thereto be divested or acquired, until it has been taken from the earth.'"

Until reduced to possession, the gas is part of the real estate.

Brown vs. Spilman, 155 U. S., 665;
Carter vs. Tyler Co. Court, 45 W. Va., 806, 810, 32 S. E., 216;
Preston vs. White, 57 W. Va., 278, 282, 50 S. E., 236;
Warren vs. Boggs, 83 W. Va., 89, 96, 97 S. E., 589.

And see:

Kelly vs. Ohio Oil Co., 57 Ohio St., 317, 49 N. E., 399;
Nonamaker vs. Amos, 73 Ohio St., 163, 76 N. E., 949;
Brown vs. Vandergrift, 80 Pa., 142;
Westmoreland & C. Nat. Gas Co. vs. De Witt, 130 Pa., 235, 18 Atl., 724;
Jones vs. Forest Oil Co., 194 Pa., 379, 44 Atl., 1074.

It follows, therefore, that at the very moment when gas produced by or for a public service gas company becomes property, and the subject of commerce, it finds the

gas company incumbered with the obligation of public service, and subject to the statute. This is true, even though the gas is straightway discharged into the pipe-line. It is the more clearly true of those wells which are shut in either upon completion of the drilling or in order to rest them after a period of use. (Rec. 331, 332, 437, 439, 322.)

ERRATUM:

Page 220. This paragraph, beginning "In conclusion," should be stricken out.

In this aspect there is no distinction between the gas produced by the gas company itself and that purchased from other producers. The situation of gas purchased at the well (Rec. 1263) is identical with that of gas produced by the purchasing company. And as to gas delivered into the pipe line of the purchasing company elsewhere than at the producer's well, it cannot be said that it has commenced its final movement for transportation from the State of its origin to that of its destination, or started its ultimate passage to the other State prior to such delivery to the purchasing company. (*Coe vs. Errol*, 116 U. S., 517; *Heisler vs. Thomas Colliery Co.*, U. S. Adv. Ops., 1922-23, p. 119; *Champaign Realty Co. vs. Brattleboro*, U. S. Adv. Ops., 1922-23, p. 165, and other cases above cited.) But whatever the point of delivery to the gas company,

if the gas enters interstate commerce prior thereto, it is because its transit before the delivery to the gas company transporting it out of the State is in conjunction with, and forms a part of, the interstate commerce of the latter company. And being so, the gas company's obligation of public service exists before and at the beginning of the interstate commerce no less than thereafter, and the gas received finds the gas company encumbered with the obligation of public service and subject to the statute.

It follows from the foregoing that, as the obligation of the gas company and the operation of the statute exist at the moment when the gas first enters interstate commerce, such commerce is subject to the condition that reasonably adequate service shall be rendered in West Virginia.

Before the decision of *Hallanan vs. United Fuel Gas Co.*, U. S. Adv. Ops., 1921-22, p. 130, we argued that the owner of the pipe line being subject to the duty of public service, and the gas in the pipe line being commingled and subject to drafts for supply in West Virginia, the gas is not in interstate commerce until after the last point has been passed at which it is drawn on for the local supply. We do not argue against that decision; but we think that as it did not directly involve the question of adequacy of public service in West Virginia by the United Fuel Gas Company, the holding is not fully applicable to the cases at bar. We think that with the added element of the duty of public service on the part of the owner of the pipe line, the

pipe line is properly viewed, not only as an instrumentality of transportation, but also as a reservoir for the distribution of the gas, both that supplied within the State and that destined for other States. And in this light a situation is presented more nearly like that involved in the following cases, as explained in *Champaign Realty Co. vs. Battleboro*, U. S. Adv. Ops., 1922-23, p. 165:

Bacon vs. Illinois, 227 U. S., 504;

General Oil Co. vs. Crain, 209 U. S., 211;

American Steel & W. Co. vs. Speed, 192 U. S., 500;

Diamond Match Co. vs. Ontonagon, 188 U. S., 82.

We think, too, the fact that in the *Hallanan Case* much the greater part of the gas was destined to other States, as was the condition of most of the grain in *Lemke vs. Farmers Grain Co.*, U. S. Adv. Ops., 1921-22, p. 275, creates a distinction. These cases may apply when most of a commodity is to be taken to another State. But the question remains whether they apply to gas in a pipe line, most of which is intended for consumption within the State; and whether they will govern even in the ultimate time when by reason of the continuing depletion of the gas ninety-nine per cent. of the gas in a particular pipe line remains in West Virginia and one per cent. goes elsewhere. A holding that the statute is invalid and an injunction against its enforcement on the ground of interference with

interstate commerce, would equally apply to the extreme, but probable, situation last suggested.

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

~~No. 20-21~~ 5-16

Nos. ~~20-21~~, Original.

THE COMMONWEALTH OF PENNSYLVANIA,
COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA, DEFENDANT.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA, DEFENDANT. 10

BRIEF FOR DEFENDANT, THE STATE OF WEST VIRGINIA.

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INDEX.

	Page.
Act of Legislature	1
Its purposes	9
Its necessity and history	10
Acreages controlled	35
Argument:	
I. These cases present no controversy between States.	75
II. These cases must be considered in the light of the peculiar nature of gas and of the gas industry, and the exceptional rules of law applicable thereto	82
III. The West Virginia public service gas companies, including the seven companies, were and are obligated, irrespective of the statute in contest, to furnish West Virginia consumers a reasonably adequate supply of gas	85
IV. It was within the right and power of the State to regulate the gas companies. The right and power are based on several grounds and their exercise was necessary	103
V. West Virginia had the power to enact the statute, and the exercise of the power was reasonable and within the legislative discretion	114
VI. The plaintiffs claim through the West Virginia gas companies, have no higher right, and have no title to relief	130
VII. Leaving for separate consideration the commerce clause, the statute does not violate other constitutional guaranties	133
VIII. The statute does not regulate interstate commerce	140
Acreages controlled	35
Causes of increased exports	61
Causes of gas shortages	18, 38
Control, methods of acquisition	38
Contentions of West Virginia	73
Duties of gas companies to West Virginia consumers	60
Exports compared with production	18
Of seven companies	44
Causes of increase	61
Circumstances of	45

Pa

Footnotes 19, 20, 35, 55,
Franchises .....
Gas control of seven companies.....
Gas companies, nature and charters.....
Public professions and engagement.....
Gas development and utilization.....
Gas sale contracts.....
Injunctions .....
Industrial consumption in West Virginia.....
Issues before the court.....
Jurisdiction 8,
Legal status of seven companies.....
Local companies..... 35,
Method of acquisition of control.....
Necessity and history of statute.....
Net supply of gas for public use.....
Pipe-line systems and commingling of gas.....
Previous supply of local companies by seven companies.....
Prospects of supply.....
Purposes of the statute.....
Remedies for gas shortage.....
Rights of gas companies.....
Service by local companies.....
Seven companies, their history.....
Their legal status.....
Shortages of gas.....
Cause of.....
Statement of the cases.....
Tables: Acreages controlled.....
Exports .....
Net supply and percentages.....
Net supply and exports.....
Number of wells.....
Production and exportation.....
Supply of seven companies and percentages.....
Supply of seven companies and control.....
Supply of seven companies and exports.....
Total net supply and exports, seven companies..... 21,
Uses of West Virginia gas in other States.....
Violation of duties.....

Table of Cases.

A.

Page.
American Steel & W. Co. vs. Speed, 192 U. S., 500..... 161
Arkadelphia Mill Co. vs. St. Louis S. W. R. Co., 249 U. S., 134 ..... 132, 161
Ashley vs. Ryan, 153 U. S., 436..... 107
Atlantic Coast Line R. Co. vs. North Carolina Corp. Com., 206 U. S., 1..... 106, 138, 154
Atlantic Coast Line R. Co. vs. Goldsboro, 232 U. S., 548..... 120, 136
Atlantic Coast Line R. Co. vs. Georgia, 234 U. S., 280..... 154
Attorney General vs. Haverhill Gas L. Co., 215 Mass., 394; 101 N. E., 1061..... 97
Austin vs. Tennessee, 179 U. S., 343..... 153

B.

Bacon vs. Walker, 204 U. S., 311..... 85, 101, 114, 120, 137
Bacon vs. Illinois, 227 U. S., 502..... 161
Bailey vs. Fayette Gas Fuel Co., 193 Pa., 175; 44 Atl., 251.... 96
Barbier vs. Connolly, 113 U. S., 27..... 139
Blake vs. McClung, 172 U. S., 239..... 140
Block vs. Hirsh, U. S. Adv. Ops. 1920-'21, p. 531..... 100
Brown vs. Houston, 114 U. S., 622..... 160, 163
Brown vs. Spilman, 155 U. S., 665..... 85

C.

Caldwell vs. Sioux Falls Stockyards Co., 242 U. S., 599..... 121
Calor Oil & Gas Co. vs. Franzell (Ky.), 109 S. W., 328..... 91
Camfield vs. United States, 167 U. S., 518..... 120
Capital City Dairy Co. vs. Ohio, 183 U. S., 238..... 122, 153
Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557; 79 S. E., 3 ..... 87, 88, 91, 93, 104
Central Lumber Co. vs. South Dakota, 226 U. S., 157..... 122
Central Transp. Co. vs. Pullman P. C. Co., 139 U. S., 24..... 98
Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 662; 44 S. E., 410 ..... 88, 91, 93, 98, 99, 104
Chicago, B. & Q. R. Co. vs. Illinois, 200 U. S., 561..... 120, 121, 137
Chicago, B. & Q. R. Co. vs. McGuire, 219 U. S., 549..... 136

Page.

Chicago, B. & Q. R. Co. vs. Railroad Commission, 237 U. S., 220 155
Chicago, M. & St. P. R. Co. vs. Iowa, 233 U. S., 334..... 129, 155
Chicago, R. I. & P. R. Co. vs. Arkansas, 219 U. S, 453..... 154
Chicago & A. R. Co. vs. Tramburger, 238 U. S., 66..... 120, 136
Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638; 100 S. E., 551..... 88, 95, 99
Cleveland, C. C. & St. L. R. Co. vs. Illinois, 177 U. S., 514..... 155
Coe vs. Errol, 116 U. S., 517..... 169
Cotting vs. Goddard, 183 U. S., 79..... 134
Crowley vs. Christensen, 137 U. S., 86..... 122

D.

Delaware, L. & W. Co. vs. United States, 231 U. S., 363..... 91
Denver & R. G. R. Co. vs. Denver, 250 U. S., 241..... 138, 144
Des Moines Gas Co. vs. Des Moines, 238 U. S., 153..... 126
Diamond Match Co. vs. Ontonagon, 188 U. S., 82..... 160
District of Columbia vs. Brooke, 214 U. S., 138..... 120

E.

Erb vs. Morasch, 177 U. S., 584..... 154
Erie R. Co. vs. Williams, 233 U. S., 685..... 108
Erie Railroad Co. vs. Board of Public Utility Com., 254 U. S., 394 ..... 107, 138, 144
Eubank vs. Richmond, 226 U. S., 137..... 120, 121

F.

Fair Haven & W. R. Co. vs. New Haven, 203 U. S., 379..... 108
Farmers Loan & T. Co. vs. Galesburg, 133 U. S., 156..... 104
Franke vs. Johnstown Fuel Supply Co., 70 Pa. Super. Ct., 446 ..... 92, 99, 101, 148, 149, 159, 161

G.

Geer vs. Connecticut, 161 U. S., 519..... 145, 153
General Oil Co. vs. Crain, 209 U. S., 211..... 161
German Alliance Ins. Co. vs. Lewis, 233 U. S., 389..... 100, 121, 147
Gibbs vs. Consolidated Gas Co., 130 U. S., 396..... 91, 96, 104

Page.

Giozza vs. Tierman, 148 U. S., 657 139
Gladson vs. Minnesota, 166 U. S., 427 154
Grand Trunk R. Co. vs. Michigan R. Com., 231 U. S., 457 .... 129, 155
Greenwood vs. Union Freight Co., 105 U. S., 13 109
Grenada Lumber Co. vs. Mississippi, 217 U. S., 433 122
Grover, &c., Land Co. vs. Lovella, &c., Irr. Co., 21 Wyo., 204; 131 Pac., 45 93

H.

Hall vs. Geiger Jones Co., 242 U. S., 539 ..... 120, 121
Hamilton Gaslight & C. Co. vs. Hammond, 146 U. S., 258 108
Hammond Packing Co. vs. Arkansas, 212 U. S., 322 109
Hardman vs. Cabot, 60 W. Va., 664; 55 S. E., 756 88
Haskell vs. Kansas Nat. Gas Co., 224 U. S., 217 147
Holden vs. Hardy, 169 U. S., 366 122
Home Ins. Co. vs. New York, 134 U. S., 594 107
Hooper Teleph. Co. vs. Nebraska Teleph. Co., 96 Neb., 245; 147 N. W., 674 129
Hudson County Water Co. vs. McCarter, 209 U. S., 348 .. 137, 142, 153
Hurtado vs. California, 110 U. S., 516 122
Hydro Electric Co. vs. Liston, 70 W. Va., 83; 73 S. E., 86 ..... 87, 91, 92, 96

I.

Illinois C. R. Co. vs. Illinois, 163 U. S., 142 155
Illinois Central R. Co. vs. Mulberry Hill Coal Co., 238 U. S., 275 155
International Harvest. Co. vs. Kentucky, 234 U. S., 199 122
Interstate Consol. S. R. Co. vs. Massachusetts, 207 U. S., 79 ... 107
Interstate Commerce Com. vs. Baltimore & O. R. Co., 225 U. S., 326 96

J.

Jamieson vs. Indiana Natural Gas & O. Co., 128 Ind., 555; 28 N. E., 76 153
Jeffrey Mfg. Co. vs. Blagg, 235 U. S., 571 132

K.

Page.
Kansas vs. United States, 204 U. S., 331..... 75
Kansas City S. R. Co. vs. United States, 231 U. S., 423..... 135
Kansas Nat. Gas Co. vs. Haskell, 172 Fed., 545..... 103
Kelly Axe Mfg. Co. vs. Public Service Com. (W. Va.), 105 S. E., 152..... 88, 93, 95
Kidd vs. Pearson, 128 U. S., 1..... 122, 152, 153
Knoxville Water Co. vs. Knoxville, 189 U. S., 434..... 137
Knoxville vs. Knoxville Water Co., 212 U. S., 1..... 126, 134, 135

L.

Lake Shore & M. S. R. Co. vs. Ohio, 173 U. S., 285..... 104, 137, 154
Lewis, Em. Dom. (3d ed.), sec. 310..... 92
Lincoln Gas & El. Co. vs. Lincoln, 223 U. S., 345..... 134
Lindsley vs. Nat. Carbonic Gas Co., 220 U. S., 61..... 118, 125
Lombard vs. Stearns, 4 Cush. (Mass.), 60..... 105
Louisiana vs. Texas, supra..... 77, 79
Louisville & N. R. Co. vs. Mottley, 219 U. S., 467..... 137

Mc.

McCluskey vs. Marysville & N. R. Co., 243 U. S., 36..... 161

M.

Manigault vs. Springs, 199 U. S., 473..... 137
Manufacturers' Gas & O. Co. vs. Indiana Gas & O. Co., 155 Ind., 545; 58 N. E., 706..... 147
Manufacturers Light & H. Co. vs. Ott, 215 Fed., 940..... 88, 99, 108, 142, 149
Merrick vs. Halsey, 242 U. S., 568..... 121
Michigan C. R. Co. vs. Michigan R. Com., 236 U. S., 615..... 155
Mill Creek Coal & C. Co. vs. Public Service Com., 84 W. Va., 662; 100 S. E., 557..... 96, 107, 149
Miller vs. Wilson, 236 U. S., 373..... 122
Mississippi R. Com. vs. Illinois C. R. Co., 203 U. S., 335..... 155
Missouri P. R. Co. vs. Larabee Flour Mills Co., 211 U. S., 612.. 154
Missouri P. R. Co. vs. Kansas, 216 U. S., 262..... 104, 138, 153
Missouri vs. Chicago, B. & Q. R. Co., 241 U. S., 533..... 126
Mobile, J. & K. C. R. Co. vs. Mississippi, 210 U. S., 187..... 154, 155

Page.

Mountain Tie & T. Co. vs. Washington, 243 U. S., 219..... 129
Mugler vs. Kansas, 123 U. S., 623..... 122
Muller vs. Oregon, 208 U. S., 412..... 122
Munn vs. Illinois, 94 U. S., 133..... 91, 99, 100

N.

Nashville, C. & St. L. R. Co. vs. Alabama, 128 U. S., 96..... 153
New Hampshire vs. Louisiana, 108 U. S., 76..... 79
New Jersey vs. Anderson, 203 U. S., 483..... 107
New Orleans Gas L. Co. vs. Louisiana Light, &c., Co., 115 U. S., 650 106
New Orleans Waterworks Co. vs. Louisiana, 185 U. S., 336.... 104
New York vs. Hesterberg, 211 U. S., 31..... 145, 153
New York vs. McCall, 245 U. S., 345..... 94
New York C. & H. R. R. Co. vs. Gray, 239 U. S., 583..... 137
New York Central R. Co. vs. White, 243 U. S., 188..... 129, 132
New York & N. E. R. Co. vs. Bristol, 151 U. S., 556..... 108
New York, N. H. & H. R. Co. vs. New York, 165 U. S, 628..... 154
1 Nichols, Em. Dom., sec. 29..... 93
Noble State Bank vs. Haskell, 219 U. S., 104..... 100, 127, 128, 146
Northern Pacific R. Co. vs. North Dakota, 216 U. S., 579; 236 U. S., 585..... 126

O.

Ohio Oil Co. vs. Indiana, 177 U. S., 190..... 85, 117, 125
Oklahoma vs. Atchison, T. & S. F. R. Co., 220 U. S., 277..... 79
Oklahoma vs. Gulf, C. & S. F. R. Co., 220 U. S., 290..... 80
Olmstead vs. Morris Aqueduct, 47 N. J. L., 311..... 91, 105
Oregon R. & N. Co. vs. Oregonian R. Co., 130 U. S., 1..... 98

P.

Pacific Teleph. & Teleg. Co. vs. Wright-Dickenson H. Co., 214 Fed., 606..... 129
Pioneer Teleph. & Teleg. Co. vs. State, 38 Okla., 554; 134 Pac., 398 129
Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23 ..... 96, 99, 109, 148, 149, 150, 161
People vs. Chicago Gas Trust Co., 130 Ill., 393; 22 N. E., 803... 92
Pittsburgh & S. Coal Co. vs. Bates, 156 U. S., 577..... 160, 163

Page.

Pittsburgh & W. Va. Gas Co. vs. Nicholson (W. Va.), 105 S. E., 784 20
Plumley vs. Massachusetts, 155 U. S., 461..... 122, 153
Plymouth Coal Co. vs. Pennsylvania, 232 U. S., 531..... 132
Postal Tel. Cable Co. vs. Alabama, 155 U. S., 487..... 140
Prentis vs. Atlantic Coast Line Co., 211 U. S., 210..... 107
Price vs. Illinois, 238 U. S., 446..... 122
Producers Transp. Co. vs. Railroad Com. of California, 251 U. S., 228..... 92, 94
Public Utilities Com. vs. Landon, 249 U. S., 236.... 148, 149, 159, 161

R.

Railroad Com. vs. Cumberland T. & T. Co., 212 U. S., 414.... 134, 135
Rast vs. Van Deman, 240 U. S., 342..... 137
Reagan vs. Farmers L. & T. Co., 154 U. S., 362..... 106
Re Kemmler, 136 U. S., 436..... 139

S.

St. Louis, I. M. & S. R. Co. vs. Arkansas, 240 U. S., 518..... 154
St. Mary's, &c., Petroleum Co. vs. West Virginia, 203 U. S., 183 108
San Antonio T. Co. vs. Altgelt, 200 U. S., 304..... 108
San Diego L. & T. Co. vs. National City, 174 U. S., 739..... 134
San Diego L. & T. Co. vs. Jasper, 189 U. S., 439..... 134
Seaboard Air Line R. Co. vs. Railroad Com., 240 U. S., 324.... 155
Selover vs. Walsh, 226 U. S., 112..... 140
Simpson vs. Shepherd, 230 U. S., 352..... 134, 135, 151
Slaughter House Cases, 16 Wall., 36..... 139
Sligh vs. Kirkwood, 237 U. S., 50..... 120, 123, 153
Smith vs. Alabama, 124 U. S., 465..... 153
South Covington & C. Street R. Co. vs. Covington, 235 U. S., 537 141
South Covington & C. S. R. Co. vs. Kentucky, 252 U. S., 399... 98, 143
Southern R. Co. vs. King, 217 U. S., 524..... 154
Spring Valley Water Co. vs. Schottler, 110 U. S., 347..... 109
Standard Oil Co. vs. Missouri, 224 U. S., 270..... 122
Stanislaus Co. vs. San Joaquin & K. R. C. & I. Co., 192 U. S., 201 ..... 108, 134
State vs. Flannelly, 96 Kan., 372; 152 Pac., 22..... 149
Stone vs. Farmers L. & T. Co., 116 U. S., 307..... 106

Page.

Stone vs. South Carolina, 117 U. S., 430..... 140
Sutton vs. New Jersey, 244 U. S., 258..... 108

T.

Tanner vs. Little, 240 U. S., 369..... 125, 127, 146
Thomas vs. Railroad Co., 101 U. S., 71..... 97
Title Guaranty & S. Co. vs. Idaho, 240 U. S., 136..... 140
Town of Gassaway vs. Gassaway Gas Co., 75 W. Va., 60; 83 S. E., 189..... 98

U.

Union Dry Goods Co. vs. Georgia Pub. Service Corp., 248 U. S., 372 ..... 99, 100, 138, 149
United Fuel Gas Co. vs. Public Service Com., 73 W. Va., 571; 80 S. E., 931..... 88, 107
United States vs. Delaware & H. R. Co., 213 U. S., 366..... 91
United States vs. Ohio Oil Co., 234 U. S., 548..... 38, 90, 94

V.

Visalia Gas & El. Co. vs. Sims, 104 Cal., 326; 37 Pac., 1044.... 98

W.

Walls vs. Midland Carbon Co., 254 U. S., 300.... 85, 101, 114, 118, 125
Washington vs. Fairchild, 224 U. S., 510..... 138, 155
Waters-Pierce Oil Co. vs. Texas, 212 U. S., 86..... 122
West vs. Kansas Nat. Gas Co., 221 U. S., 229..... 103, 147
Westmoreland & C. Nat. Gas Co. vs. Dewit, 130 Pa., 235; 18 Atl., 724..... 85
Western Turf Assoc. vs. Greenberg, 204 U. S., 359..... 140
Western Union Tel. Co. vs. Commercial Mill Co., 218 U. S., 406 139
Willcox vs. Consolidated Gas Co., 212 U. S., 19..... 126, 134
Wilson vs. New, 243 U. S., 332..... 106
Wisconsin, M. & P. R. Co. vs. Jacobson, 179 U. S., 287... 129, 138, 154

STATUTES CITED.

A.

Page.

Act of Congress of June 18, 1910, ch. 309, sec. 7; 36 Stat. at L., 539 109

H.

Hepburn Act of June 29, 1906 (34 U. S. Stat. at L., 584)..... 90

O.

Ohio General Code, secs. 614-12..... 94
Ohio General Code, secs. 522, 614-63..... 129

P.

Pennsylvania Pub. Laws of 1913, p. 1374; Pub. Service Com. Law, art. 1, sec. 1..... 129
Pennsylvania Pub. Laws of 1913, p. 1374; Pub. Service Com. Law, art. 2, sec. 1..... 94

W.

W. Va. Acts of 1867, ch. 5, sec. 6..... 108
W. Va. Acts of 1882, ch. 96, sec. 8..... 24, 108
W. Va. Acts of 1913, ch. 9, sec. 3..... 88
W. Va. Acts of 1913, ch. 9, sec. 8..... 129
W. Va. Acts of 1915, ch. 8..... 88
W. Va. Acts of 1915, ch. 8, sec. 24..... 129
W. Va. Acts of 1919, ch. 71..... 1
W. Va. Code (1913), ch. 42, sec. 1..... 89
W. Va. Code (1913), ch. 42, sec. 20..... 89
W. Va. Code (1913), ch. 52, sec. 24..... 88
W. Va. Code (1913), ch. 53, sec. 8..... 108

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

Nos. 20-21, Original.

THE COMMONWEALTH OF PENNSYLVANIA,
COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA, DEFENDANT.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA, DEFENDANT.

BRIEF FOR DEFENDANT, THE STATE OF WEST VIRGINIA.

Statement of the Cases.

On February 10, 1919, the Legislature of West Virginia enacted the following statute (*W. Va. Acts of* 1919, Ch. 71):

> "An Act in relation to persons, firms and corporations engaged in furnishing, or required by law to furnish, natural gas for public use within this

State, to provide remedies for the enforcement of this act and penalities and punishment for violations thereof, and to extend the jurisdiction of the public service commission and of the courts of this State with respect thereto.

Be it enacted by the Legislature of West Virginia:

SECTION 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this State, shall to the extent of his supply of said gas produced in this State, (whether produced by such person or by any other person), furnish for public use within the territory of this State, and for the use of the public and every part of the public within the territory of this State, in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this State, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates.

SECTION 2. That in case any person engaged in furnishing or required by law (whether statutory or common law) to furnish, natural gas for public use within this State, or for the use of the public or any part of the public within this State, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for

the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this State served by such person, then and in that event the public service commission shall have authority, and the same is hereby conferred on it, upon the application of any such person or any of his consumers within this State and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing, or required by law (whether statutory or common law), to furnish natural gas for public use within this State, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such person having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable

State, to provide remedies for the enforcement of this act and penalities and punishment for violations thereof, and to extend the jurisdiction of the public service commission and of the courts of this State with respect thereto.

Be it enacted by the Legislature of West Virginia:

SECTION 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this State, shall to the extent of his supply of said gas produced in this State, (whether produced by such person or by any other person), furnish for public use within the territory of this State, and for the use of the public and every part of the public within the territory of this State, in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this State, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates.

SECTION 2. That in case any person engaged in furnishing or required by law (whether statutory or common law) to furnish, natural gas for public use within this State, or for the use of the public or any part of the public within this State, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for

the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this State served by such person, then and in that event the public service commission shall have authority, and the same is hereby conferred on it, upon the application of any such person or any of his consumers within this State and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing, or required by law (whether statutory or common law), to furnish natural gas for public use within this State, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such person having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable

rules and regulations and provision for the payment of the costs and expense of making the same or for the apportionment of such cost and expense as may appear just and reasonable. *Provided, however,* that no person shall, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time, have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this State; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing or required by law to furnish, natural gas for public use in a territory within this State, if and when the said person having said excess shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe, shall actually furnish, to the consumers within said territory a reasonably adequate supply of natural gas.

Section 3. That insofar as the same shall not be in conflict with this act, all of the authority, powers, jurisdiction and duties conferred and imposed on the public service commission by the act entitled, "An act to create a public service commission and to prescribe its powers and duties, and to prescribe penalties for the violations of the provisions of this act," passed February twenty-first, one thousand nine hundred and thirteen, as amended by the act entitled "An act to amend and re-enact sections one, two, three, four, five, nine, ten, fourteen, fifteen and twenty-two, of chapter nine of the acts of one thousand nine hundred and thirteen, creating a public

service commission, prescribing its powers and duties, and penalties for violation of the provisions of said chapter, and to add thereto six sections to be known as sections twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, enlarging the powers and duties of said public service commission, prescribing additional penalties and giving to the commission power to punish for contempt," passed February tenth, one thousand nine hundred and fifteen, are hereby conferred and imposed on the public service commission in respect to the subject matter of this act, or any part thereof.

SECTION 4. That in case of violation of any provision of this act any person aggrieved or affected thereby may complain thereof to the public service commission in like manner, and thereupon such procedure shall be had, as is provided in respect to other complaints to or before said commission, and all such proceedings and remedies may be taken or had for the enforcement or review of the order or orders of said commission, and for the punishment of the violation of such order or orders, as are provided by law in respect to other orders of said commission. In case of the violation of any provision of this act, the public service commission, or any person aggrieved or affected by such violation, in his own name, may apply to any court of competent jurisdiction by a bill for injunction, petition for writ of mandamus or other appropriate action, suit or proceeding, to compel obedience to and compliance with this act, or to prevent the violation of this act, or any provision thereof, pending the proceedings before said commission, and thereafter until final determination of any action, suit or proceeding for the enforcement or review of the final order of said

commission; and such court shall have jurisdiction to grant the appropriate order, judgment or decree in the premises.

SECTION 5. That if any person subject to the provisions of this act shall fail or refuse to comply with any requirement of the commission hereunder, such person shall be subject to a fine of not less than one hundred dollars nor more than five hundred dollars for each offense; and such person, or the officers of the corporation, where such person is a corporation, may be indicted for their failure to comply with any requirement of the commission under the provisions of this act, and upon conviction thereof, may be fined not to exceed five hundred dollars, and in the discretion of the court, confined in jail not to exceed thirty days. Every day during which any person, or any officer, agent or employee of such person, shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation of such order or direction of this act, as the case may be.

SECTION 6. That any person claiming to be damaged by any violation of this act may bring suit in his own behalf for the recovery of the damage from the person or persons so violating the same in any circuit court having jurisdiction. In any such action the court may compel the attendance of the person or persons against whom said action is brought, or any officer, director, agent, or employee of such person or persons, as a witness, and also require the production of all books, papers and documents which may be useful as evidence, and in the trial thereof such witness may be compelled to testify, but any such witness shall not be prosecuted for any offense concerning which he is compelled hereunder to testify.

SECTION 7. That the word "person" within the meaning of this act shall be construed to mean, and to include, persons, firms, and corporations.

SECTION 8. That the sections, provisions, and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations, and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or unforceable, the remaining parts thereof shall be and remain in full force and effect.

SECTION 9. That all acts and parts of acts in conflict with this act are hereby repealed."

This statute was preceded by the Public Service Commission Act, set forth as Exhibit "B," with the answers of West Virginia, which Act was designed to require reasonableness of rates, service and practices, and to prevent unjust preferences and discrimination, by public-service corporations, including natural-gas companies, and to that end provided an administrative commission, to whose jurisdiction the due administration of the Act of 1919, here involved, was confided.

The States of Ohio and Pennsylvania, by their respective bills of complaint, complain that the enforcement of the Act of 1919 will necessarily prevent the transportation of West Virginia gas into Ohio and Pennsylvania, thereby destroying the investment of many of their citizens in natural-gas properties in West Virginia and also affecting the health and comfort, and endangering the lives, of numerous inhabitants of the plaintiff States who are presently consuming West Virginia gas; and thereupon the statute is attacked as

unconstitutional and violative of those provisions of the Federal Constitution relating to interstate commerce, impairment of contract obligations, due process of law, equal protection of the laws, and abridgment of the privileges and immunities of citizens of the plaintiff States and of the United States.

Preliminary injunctions, awarded June 3, 1919, prior to answer by West Virginia, and in advance of any test of the statute's actual operation, have prevented its enforcement.

By its motion to dismiss and answer filed in each case, the State of West Virginia first challenges the right of the plaintiff States to maintain these suits, and then answers upon the merits, giving the history of the statute, the local causes and conditions leading to its enactment, and denies that the statute in anywise contravenes the Federal Constitution.

The issues before the court are, therefore:

(1) Whether the plaintiff States can maintain their suits in original jurisdiction as controversies between two States.

(2) Whether the West Virginia statute in question is violative of the Federal Constitution:

(*a*) As an interference with interstate commerce;

(*b*) As an impairment of contract obligations;

(*c*) As depriving the plaintiffs, or their citizens, of property without due process of law;

(*d*) As denying to the plaintiff States, or their citizens, the equal protection of the laws;

(*e*) As abridging the privileges and immunities of citizens of the plaintiff States and of the United States.

Purpose of the Statute.

The statute is the culmination of the effort of West Virginia to compel by express and unmistakable enactment its public-service corporations, engaged in the natural gas industry within its borders—and endowed by it with special rights and privileges—to fulfill their public duties and the conditions of their existence, by rendering a reasonably adequate service, out of the abundance of West Virginia gas, to those consumers of that State designated in the statute. It was not aimed at Ohio or Pennsylvania, or at their inhabitants, although it is true that consumers in those States may be incidentally and indirectly affected by the possible reduction in the quantity of West Virginia gas which they have hitherto used. It does not prohibit, or seek to prohibit, the exportation of gas from West Virginia.

And since in suits ostensibly maintained in this Court in the exercise of its original jurisdiction of controversies between States, the tenor of the evidence, with its reference to the investments, properties and conditions of particular gas companies, and the personnel of the witnesses for the plaintiffs, have stamped these cases as litigation between those companies and West Virginia, it is proper to stress at the outset what a mere reading of the statute makes manifest: that the statute embraces in its purview all public-service gas companies alike, and in no respect singles out the exporting companies—not even the seven companies hereinafter specially mentioned.

Necessity and History of the Statute.

In a record of the present bulk, even condensed narrative wears the color of prolixity. And where contemporary causes and conditions combine to produce an ultimate consequence, strict observance of chronological sequence and the avoidance of repetition in the separate chapters concurring to produce the whole are hardly practicable. With these qualifications we proceed to state, as shortly as the record and the importance of the cases seem to admit, the facts and circumstances in the legislative view, and the causes and conditions which created the necessity for, and justify the reasonableness of, the statute and brought about its passage.

Natural gas is produced by drilling wells into gas-containing strata or sands in the earth. The known fields in and from which gas is derived are, as a rule, comparatively few and restricted in area, the outstanding exception being those of West Virginia, which are in size and number so great as to constitute a more or less connected field extending across the State from north to south. As the number of gas wells in any field or other given area increases and the time during which the extraction of gas therefrom lengthens, the volume of the gas and the natural or rock pressure, upon which the output depends, gradually diminish, not only in the individual wells, but also in the entire field. The constant tendency, therefore, is in the direction of depletion of the field and exhaustion of the gas supply therefrom. And while for a considerable period the aggregate quantity of gas produced from a specific field may be increased or maintained at substantial uniformity, this can only be accom-

plished by the drilling of new wells, the added extraction of gas from which still further accelerates the depletion of the field. For this reason it becomes necessary to sustain the output by exploration for new gas territory, and the development thereof when discovered. But even this extension of territory cannot be continued indefinitely, and the later-discovered territories themselves are subjected to the same process of depletion and to the exhaustion of their gas. And so it occurs ultimately that the supply of gas, once adequate to the needs of the population dependent thereon, becomes insufficient for the service of all, and the uses of the gas, or the extent of its distribution and consumption, must be correspondingly curtailed.

The foregoing was the experience in Ohio, Pennsylvania and Indiana, where the extensive development and utilization of their own gas, and the manifest tendency thereof to exhaustion, preceded the transportation of West Virginia gas to the other States. And this experience, now in course of duplication in West Virginia, was well known to the gas companies and producers before and at the time of the commencement of their business. And it was equally known to the people of those States, for whose consumption the gas from West Virginia was and is so transported.

West Virginia Gas Development and Utilization.

West Virginia is, and for more than twenty years last past has been, one of the principal gas-producing States. The volume of its production is, and for twelve years last past has been, the largest in the United States. At present gas is produced in large quantities in and from the counties

of Boone, Braxton, Brooke, Cabell, Calhoun, Clay, Doddridge, Gilmer, Hancock, Harrison, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Mingo, Monongalia, Nicholas, Ohio, Pocahontas, Pleasants, Putnam, Ritchie, Roane, Taylor, Tyler, Upshur, Wayne, Wetzel, Wirt and Wood, being thirty-two of the fifty-five counties; while gas has been found in paying quantities, and large areas are leased and held as prospective gas territory, in six other counties (Rec., 980). The earliest West Virginia development was in the northern section. Originally considered a nuisance in the oil operations, with which it was first produced, the gas was blown into the air and wasted; but later its value for domestic heating and lighting, as well as for factory fuel and general industrial use, was recognized. Wells were then drilled for gas. The enormous production and very great rock pressure (sometimes called natural pressure) in the early wells enabled the gas to be transported through pipe lines for considerable distances without the assistance of compressors; and aside from the cost of leases and drilling, the mere laying of a pipe line to the point of distribution was practically all of the investment required for local use.

In many instances small companies or individual operators obtained franchises and furnished gas to a municipality or community near at hand. Other and larger concerns connected their gas wells and lines into systems serving under franchises a number of separate municipalities and localities. As early as 1892 and 1893 the largest and most important cities and towns in the northern and north-central sections of West Virginia were being thus served with gas by local companies, viz., Wheeling, Moundsville, Morgantown, Fairmont, Clarksburg, Grafton, Weston, West

, Parkersburg, Sistersville, St. Marys, and many other
cipalities in the Panhandle section and throughout the
ies of Marshall, Wetzel, Monongalia, Marion, Harri-
Lewis, Doddridge, Ritchie, Tyler, Pleasants and Wood
., 1117 *et seq.* 1173-4, 1218, 1343).

abundance, cleanliness, convenience and economy over
forms of fuel were so great that the use of gas spread
lly, and it soon became the universal and exclusive fuel
e northern and north-central sections of West Virginia
dwelling-houses, business buildings, churches, schools,
ges, hospitals, asylums, court-houses, electric light and
r plants, water works, municipal street lighting and
y other purposes. In the then existing dwellings and
lings, the means and appliances for consumption of
r fuel were generally discarded. New houses and build-
were in general constructed and equipped with a view
he exclusive use of gas for heating, and, in many in-
ces, for illumination (Rec., 1119-1122, 1220-1223,
3). The existing industries adopted gas for fuel, and a
t number of new factories and other industries to which
p fuel was important were established. The local gas
panies in many instances, in order to upbuild the munic-
ities served by them, and thereby to stimulate the con-
ption of their gas, pursued for many years the policy of
ouraging the establishment of new industries by the offer
gas at low prices during long periods of time. The in-
tries thus established were located and constructed for,
their processes and products especially adapted to, the
of gas as fuel. They employed many workmen and
orers, both skilled and unskilled, who were dependent
employment and the livelihood of themselves and their

families on the existence and continued operation of the gas-using industries. The population and wealth of the cities, towns and communities so supplied with gas, and of the State as a whole, thus increased; and the added population at once profited the gas companies by adding to the consumption of their gas, and promoted the general prosperity.

This history was duplicated in the south-central and southern sections as the discovery and development of gas extended southward. In Charleston, Huntington, Spencer, Glenville, Point Pleasant, St. Albans, Kenova, and many other places in the gas-producing counties gas likewise became the universal and exclusive fuel, and the use thereof brought to pass the like development and growth of population, wealth and general prosperity (Rec., 1117 *et seq.*).

From this it followed that the domestic life and the business of a majority of the people of West Virginia were and are modified and their adjustments made with reference to the continued use of gas as fuel; and gas in reasonably adequate quantities for domestic and industrial use became, was and is a necessity throughout the greater part of the State.

According to the United States Geological Survey statistics for 1918 (Rec., 1566, insert p. 145, Pa. Exhibit No. 45), the West Virginia gas consumers in that year were divided into 127,168 domestic and 1,873 industrial users. The domestic users in 1919 were 130,780 (Rec., 849). Estimating, as is usually done, an average of four and one-half or five persons in the family of each domestic consumer, would show from 585,000 to 650,000 West Virginians dependent on domestic service alone.

Rights and Special Privileges of Gas Companies.

From the inception of the industry West Virginia adopted and maintained a policy of liberality toward the natural-gas industry, and especially toward those persons and corporations engaged in marketing to the public. No restrictions, such as prevail in some other States, were imposed; there was no limitation as to the area of gas territory which might be held, the number of wells which might be drilled, or the amount of gas which might be taken from the common gas pools. No restrictions were imposed upon the pressure at which gas might be extracted from the wells or maintained in the transporting lines, or upon the purposes for which it might be taken and used. And even an early statute, constituting the natural-gas pipe lines common carriers, fell into innocuous desuetude in view of the full and satisfactory supply.

To those engaged in the public service of gas, the State extended broad charter powers and gave special rights and privileges, including the power of eminent domain, without which the construction of the great pipe-line systems hereinafter mentioned would not have been possible. This power was often exercised, and where not exercised was obviously potential in negotiations for the purchase of rights of way for pipe lines and other facilities. County courts granted to them franchises for the free use of the public highways, upon and along which they constructed and maintain pipe lines, boxes, connections, and telegraph and telephone lines. Under like franchises from cities and towns they were given and enjoyed the like use of streets and alleys. The various pipe lines for gathering, transmission and service of gas spread in a network, not unlike a spider's web, over the gas

fields and gas producing counties. And while its liberal policy toward those engaged in the public service of gas was primarily dictated by the motive to provide for its own people, West Virginia was not illiberal toward consumers in other States. No program of conservation was adopted or attempted, nor were efforts made to restrict the enormous and continually increasing volume of gas which, in later years, certain of its public service corporations transported, or sold for transportation, to consumers in other States. The right of these public service corporations so to dispose of their surplus in other States was not only recognized, but substantially sanctioned by permitting them to exercise the power of eminent domain for the construction of pipe lines transporting chiefly for foreign consumption, subject only to the duty of first serving West Virginia consumers in the territory through which such lines extended.

Gas Shortage in West Virginia.

Until the winter of 1916-1917, all consumers in the State were adequately served. The extent of the West Virginia fields and the quantity of production until that time were greater than ever before known in the gas industry. The supply in the hands of the public utilities, produced within the State, was at all times from four to five times greater than the total amount used by the domestic and industrial consumers of the State (Rec., 996). Under these circumstances West Virginia and its gas consumers rested in security.

In the winter of 1916-1917, however, the people of West Virginia were rudely disillusioned. Early in that winter began an inadequate service of gas, which, by midwinter, developed into an extensive shortage (Gov. Cornwell, Rec.,

1194-5; 1139 *et seq.*, 1223-4; 1343-1345). In an effort to meet the situation, and under a rule of the West Virginia Public Service Commission, all industrial gas was shut off; but yet the supply was inadequate to warm the homes of domestic consumers. For a long period of extremely cold weather, the shortage deprived dwelling-houses, hotels, stores, and public and private buildings of sufficient heat, and in some instances, of any heat. In the homes and hotels, cooking was prevented, and in many cases illness was caused or accentuated by the cold. Public schools were closed and churches compelled to forego their customary exercises. Factories were shut down with great loss to their owners, and their workmen thrown out of employment. An extreme example was the State Tuberculosis Sanitarium, at Terra Alta, where the supply failed utterly, and in order to keep the patients from freezing, the officials were compelled in zero weather to build fires and erect stoves with funnels of stovepipe projecting from the windows (Rec., 1153). The State Penitentiary at Moundsville in Marshall county, the West Virginia University at Morgantown in Monongalia County, the State Hospital for Insane at Weston in Lewis County, the Industrial School for Girls at Salem in Harrison county, and the Industrial School for Boys at Pruntytown in Taylor county, all State institutions, situate within developed gas territory, were likewise affected and driven to the use of other fuel. Distress or inconvenience to domestic consumers, and the shutting down of industries, occurred practically in all sections of the State where gas was used, from the northern Panhandle southward to Charleston (Rec., 1195). The severity was as great in the sections lying in the most prolific fields as elsewhere.

Causes of Shortages.

The causes of this gas shortage are not far to seek. The various statements in the record, too numerous and intricate to set out in detail, and not capable of precise reconciliation in some instances, concur in showing that the shortage in West Virginia, was and is due to the enormous volumes of West Virginia gas exported to other States by certain public service corporations of West Virginia, and the consumption of that gas in the other States without regard to present or future needs of West Virginia, or the duties of the exporters to the latter State.

The earliest figures available are for the year 1908. The following, from reports of the United States Geological Survey (Rec., 1603), shows the total amounts exported from West Virginia to and including the year 1919 as compared with the total production of the State:

Year.	Total production.	Exported from State.	Per cent.
	M cu. ft.		
1908	112,181,278	61,644,618	55
1909	166,435,092	96,074,387	58
1910	190,705,869	120,508,811	63
1911	206,890,576	132,867,059	64
1912	239,006,682	151,144,250	63
1913	245,453,985	155,501,876	63
1914	236,489,175	150,161,936	63
1915	244,004,159	154,630,164	63
1916	299,318,907	200,004,740	67
1917	289,898,967	196,679,263	68
1918	280,289,044	174,664,650	62
1919	219,886,837	139,939,062	64

But while, for example, in 1916 the total production of the State by all operators and for all purposes was 299,318,907 M cubic feet, and there was in the hands of the public-service corporations of the State a net supply of 259,414,200 M cubic feet available for service to the public and disposed of by said corporations (Rec., 992), yet of this latter volume the total served to all West Virginia consumers was only 59,409,460 M cubic feet, or 22.9 per cent. The figures for nine years show that the maximum used by West Virginia consumers never exceeded 25.6 per cent of the net supply so available for public service (Rec., 996)*:

Year.	Net supply for public service.	Sales to W. Va. consumers.	Per cent to W. Va. consumers.	Per cent exported.
	M cu. ft.			
1911	173,132,353	40,265,294	23.3	76.7
1912	203,112,738	51,968,488	25.6	74.4
1913	209,131,295	53,629,419	25.6	74.4
1914	200,762,645	50,600,709	25.2	74.8
1915	207,777,882	53,147,718	25.6	74.4
1916	259,414,200	59,409,460	22.9	77.1
1917	245,620,686	48,942,388	19.9	80.1
1918	227,649,823	52,985,173	23.3	76.7
1919	183,687,047	46,654,098	25.4	74.6

**Statistics on Production and Consumption.*—In the statistics, West Virginia has used as a basis the net supply available for service to the public. Before the gas is available for public use, the producer must deliver to the landowner the free-gas service uniformly reserved in gas leases as part of the rental, the ordinary individual consumption whereof has largely exceeded that of the average domestic consumer, and the aggregate amount of which has been very considerable.

Of the gas thus available for public service, a proportion ranging from 80.3 per cent to 91 per cent, has, by the means hereafter explained, been controlled by the seven companies later mentioned, the quantities and percentages being as follows (Rec., 996):

Large quantities of gas are consumed for field purposes, namely, for fuel used in drilling and cleaning out wells, the operation of compressor or pump stations to transport the gas, and the various other purposes necessary to the production and transportation of gas to market. The quantities so used amount to approximately 7 per cent of the annual production (Rec., 949, 989, 990, 992).

Again, in West Virginia, as in other States, certain producers (consisting for the most part in West Virginia of carbon-black manufacturers, but also including a few other industries) hold and produce gas from their own territory and for their own consumption and are not public-service corporations (Rec., 989, 990, 992).

None of the free gas delivered in payment for leases, nor that used for field purposes or consumed by such private enterprises, reaches the public. To include the free or field gas as a part of the West Virginia consumption would at once charge West Virginia consumers with what they do not in fact receive, and at the same time free consumers in other States from the proportion chargeable to the production and transportation of the much greater quantities of exported gas. The total of these three items in the past ten years has averaged approximately 15 per cent of the annual production. (See statistics, Rec., 992.) This gas should be eliminated from the public gas-service gas supply, thus confining the statistics and discussion to the remaining 85 per cent as the net supply of the public-service corporations available for service (*Pittsburgh & W. Va. Gas Co. vs. Nicholson* (W. Va.), 105 S. E., 784). Statisticians for the plaintiffs, however, include these three items in the supply of West Virginia consumers, and thereby have produced percentages to show that they use more gas *per capita* than the consumers in other States (Rec., 899-901; 948-950).

Year.	Net supply for public service.	Net supply of seven companies.	Per cent.
	M cu. ft.		
1911	173,132,353	147,431,246	85.1
1912	203,112,738	172,050,962	84.7
1913	209,131,295	167,897,746	80.3
1914	200,762,645	166,625,730	83.0
1915	207,777,882	170,694,495	82.1
1916	259,414,200	220,892,583	85.1
1917	245,620,686	223,517,777	91.0
1918	227,649,823	201,685,702	88.6
1919	183,687,047	164,426,341	89.5

And out of the abundance of the supply of the seven companies, the proportion granted to West Virginia consumers extended from 11 per cent to 17.9 per cent, as shown by the following (Rec., 997):

Year.	Net supply of the seven companies.	Sales to West Virginia consumers.	Per cent.
	M cu. ft.		
1911	147,431,246	17,200,747	11.7
1912	172,050,962	21,101,443	12.3
1913	167,897,746	22,297,677	13.3
1914	166,625,730	20,612,599	12.4
1915	170,694,495	18,860,867	11.0
1916	220,892,583	24,526,859	11.1
1917	223,517,777	26,889,876	12.0
1918	201,685,702	30,120,273	14.9
1919	164,426,341	29,360,811	17.9

The entire balance of their net supply for these years was marketed by the seven companies for consumption in other States.

The Seven Companies.

We desire to emphasize again that the statute in question applies equally to all public-service gas companies. But it is nevertheless true that the marvelous disparity of the gas supply to West Virginia and the manifest discrimination against it in the distribution of its own product were brought about by the seven public-service gas corporations (in practical interest and effect, five only), whose rights are so strongly sought to be vindicated by the plaintiffs. And this was effected by the domination by the seven companies of the major part of the gas territory and gas supply of the State, vesting in them a virtual monopoly, and by the enormous sales of West Virginia gas for consumption in other States, already evidenced by the statistics above presented. While, therefore, the seven companies have not been singled out for hostile legislation, their relation to the present litigation and to the West Virginia gas shortage require special mention of their circumstances.

The seven companies, either in their original form or in the aspect later assumed by them, were and are, the Hope Natural Gas Company, Reserve Gas Company, Pittsburg & West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light & Heat Company, United Fuel Gas Company, and Columbia Gas & Electric Company. While seven in number and referred to throughout these causes as "the seven companies," they are, in effect, only five in interest and operation, because of the identity of control of the Hope Natural Gas Company and the Reserve Gas Company and of the United Fuel Gas Company and the Columbia Gas & Electric Company.

The Hope Natural Gas Company is wholly owned, and the Reserve Gas Company is controlled, by Standard Oil Company of New Jersey (Rec., 322); the minority stockholding of the Reserve is presently owned by Union Natural Gas Corporation, a holding corporation controlling a number of companies engaged in producing and marketing natural gas to various cities in Ohio (Rec., 323); Carnegie Natural Gas Company is a subsidiary of the United States Steel Corporation (Rec., 925, 926, 937); Pittsburg & West Virginia Gas Company is a subsidiary of the Philadelphia Company of Pennsylvania (Rec., 509-513), a holding company with a number of other subsidiaries engaged in producing and distributing natural gas and owning and operating the street-railway system of Pittsburgh and various other large enterprises; the Manufacturers Light & Heat Company is a merger of some twenty to twenty-five companies formerly in the natural-gas business in Pittsburgh and many municipalities of Western Pennsylvania, and also along the Ohio River in West Virginia and Ohio (Rec., 1029), and the United Fuel Gas Company is presently owned by the Columbia Gas & Electric Company and Ohio Fuel Supply Company (Rec., 378-379), the former owning or controlling the lighting and heating systems in Cincinnati, Covington and other cities in Ohio and Kentucky, in addition to producing and distributing gas elsewhere, and the Ohio Fuel Supply Company being a producing and marketing company in Ohio, selling gas to consumers and local gas companies in Ohio.

Legal Status of the Seven Companies.

All of these seven companies were chartered or authorized to carry on business in West Virginia in the light of the following pre-existing statute (Code, ch. 53, Sec. 8; Acts of 1882, ch. 96):

> "And the right is hereby reserved to the legislature to alter any charter or certificate of incorporation hereafter granted by a joint stock company and to alter or repeal any law applicable to such company."

The nature of these companies, when the Act of 1919, now in contest, was passed is amply set forth in the record, from which we summarize the following:

(1) All seven companies were and are public-service gas corporations of West Virginia. Five of them, the Hope Natural Gas Company, Reserve Gas Company, Pittsburg & West Virginia Gas Company, United Fuel Gas Company, and Columbia Gas & Electric Company, were chartered under the laws of West Virginia. The Manufacturers Light & Heat Company and Carnegie Natural Gas Company were chartered under the laws of Pennsylvania, but, as a condition precedent to doing business in West Virginia necessarily received from the State authorization to do business under the laws applicable to domestic corporations, and became and were, to all intents and purposes, domestic corporations, insofar as concerned their property, business, rights and duties in the State (Rec., 1885; Code W. Va., ch. 54, Sec. 30). In addition, substantially all the gas territory, leases, pipe-line systems, rights of way, franchises, and other property of the

Manufacturers Light & Heat Company in West Virginia were acquired by absorption of the Wheeling Natural Gas Company and other public-service corporations theretofore chartered and serving the public under the laws of West Virginia (Rec., 63, 69, 1029).

The substance and effect of the charters of these seven companies, set forth with varying degrees of elaboration in their respective condemnation proceedings, sufficiently evidence their character. Thus the Reserve Gas Company and the Hope Natural Gas Company both allege (W. Va. Exs. Nos. 45 and 46, Rec., 1803, 1822) that their charter powers include:

> "The producing, dealing in, buying and selling, acquiring, storing, transporting by pipes and otherwise natural gas for its own use and for the selling and supplying of natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and other municipalities and places in the State of West Virginia as well as elsewhere, where the said natural gas may be discovered, purchased, stored or transported by the said * * * Gas Company," * * *

and

> "Also to have, exercise and enjoy the right of eminent domain, and in the exercise of such right to take, condemn, use and enjoy such lands, rights of way, easements and property as shall be necessary to enable it to lay and construct its mains, pipes and conduits, pump stations, telegraph and telephone lines, dams and other structures and appliances necessary and required or convenient to the producing, storing, cooling and transporting of natural gas."

And, though not enforced, the public character of natural-gas pipe lines has been declared in West Virginia since the year 1891, under the provisions of its Code, Chapter 52, Section 24, extending the power of eminent domain to companies organized for the purpose of transporting such gas, and declaring that

> "Such company shall for the purpose of transporting natural gas, oils and water be considered and held to be a common carrier, and subject to all the duties and liabilities of such carrier under the laws of this State."

(2) The seven companies, and the constituent companies absorbed by them, pursuant to their charter powers, engaged in the service of natural gas to the people of West Virginia, and have at all times since served a large number of its people. They have acknowledged their character as public-service corporations, and as such have filed their tariffs and schedules before the West Virginia Public Service Commission and accepted the rates and regulations prescribed by that body (Rec., 1365, 1922-1943). From the application of the Hope Natural Gas Company, the largest of the seven companies, for leave to increase rates (W. Va. Ex. No. 53, Rec., 1923), we quote as an example the following typical averment:

> "That its principal place of business is in the following towns where it distributes natural gas and in the neighboring country districts and villages, viz: Belmont, Clarington, Colliers, Eureka, Fairview, Friendly, Glovers Gap, Littleton, Lima, Lost Creek, Mt. Clare, Mannington, Metz, Minora, Parkersburg, Paden City, Pine Grove, St. Marys, Sistersville,

Smithfield, Williamstown and Wileyville, West Virginia, and that it is a public-service corporation engaged in the management and operation of a natural-gas plant in said cities and towns and that as such public-service corporation in the service of natural gas to the domestic consumer it is subject to the provisions of Chapter 9, Acts of the Legislature of West Virginia for 1913 and 1915 and of the Code of West Virginia applicable to this class of corporations."

(3) The service to West Virginia consumers so authorized and undertaken by the seven companies embraces gas for domestic, industrial, commercial and other purposes. The public professions of the Hope Natural Gas Company and Reserve Gas Company as to such service are exemplified by the following quotation from the printed form used in their applications to the courts of the State for leave to condemn for pipe lines (Rec., 1823, 1804):

"That since the granting of said new or amended and modified charter or certificate of incorporation, as well as for several years before, petitioner has been and is engaged in the business of selling and supplying natural gas for industrial, commercial, domestic and other public and private uses for heat, light, fuel and power to persons, firms, partnerships, corporations and other consumers and purchasers for use in incorporated cities, towns, villages, districts and other municipalities and places in the State of West Virginia, and has been and is supplying natural gas to the public for fuel, illuminating and other purposes, and has been, and is still, at great expense and cost to it, erecting, laying, maintaining and operating pipes and lines of pipe, etc., for transporting natural gas with which to supply the public and said other

purchasers and consumers with natural gas for fuel, illuminating, heat, power and other purposes; and that it has been and is transporting natural gas to be supplied to the public and said other purchasers and consumers for fuel, heat, illuminating, power and other purposes by and through its said pipes and pipe lines."

The attitude of the Pittsburg & West Virginia Gas Company was expressed in the following language (Rec., 1843):

"1st. That petitioner is a corporation duly organized and existing under and by virtue of the laws of the State of West Virginia, for the purposes of transporting carbon oil and natural gas, or both, by means of pipe lines, or otherwise, for public use; that petitioner is now engaged in the business of producing, transporting and selling natural gas for public use and is now producing large quantities of natural gas within the State of West Virginia, and is transporting the same to market by means of certain pipe lines constructed and maintained by it; that the natural gas so transported by said lines is being sold to the public in the following incorporated cities, towns and villages, to-wit: Grafton, Enterprise, Shinnston, Lumberport, Haywood, Colfax, Worthington, Simpson, Pruntytown, Blueville, Thornton and Flemington, all within the State of West Virginia, and other places in the State of West Virginia not incorporated and many persons not living in any city, town or village, are likewise being supplied with natural gas for domestic and industrial uses by this petitioner by means of its said system of pipe lines; that the transportation of said natural gas and the sale thereof is for the use of the public generally for the purpose of supplying light and heat to such pub-

lic; and that your petitioner is ready and willing at all times, and has so held itself out, to sell said gas to the public, or any portion thereof, upon the payment of a reasonable price therefor."

Substantially the same assertions and professions were de by the constituent and predecessor companies, Fairnt & Grafton Gas Company (Rec. 1896) and The Philaphia Company of West Virginia (Rec., 1857), while the rnegie Natural Gas Company uses language even broader Rec., 1876), containing the additional averment that it is common carrier of natural gas under the laws of West rginia.

(4) With respect to future consumption and extensions service for domestic, industrial and other uses of gas, the ven companies expressed their sense of obligation to West irginia consumers as follows:

The Pittsburg & West Virginia Gas Company and its redecessor, Fairmont & Grafton Gas Company, stated of cord (Rec., 1843, 1896) that each was:

> "* * * ready and willing at all times, and has so held itself out, to sell said gas to the public or any portion thereof, upon the payment of a reasonable price therefor."

The Philadelphia Company of West Virginia, the other onstituent company of Pittsburg & West Virginia Gas Comany, alleged (Rec., 1857):

> "Your petitioner is constantly increasing the number of its consumers and is desirous of largely increasing its sales of gas in the various counties of West

> Virginia traversed by its lines. Your petitioner is ready and willing to sell gas to all parties within reaching distance of its pipe lines who apply for the same, at reasonable rates. Your petitioner, being a public-service corporation, as hereinbefore stated, is ready and willing to furnish gas at all times to the public, as aforesaid."

The Carnegie Natural Gas Company alleged (Rec., 1876):

> "Your petitioner is constantly increasing the number of its consumers and it is desirous of largely increasing its sales of gas in the various counties of West Virginia traversed by its lines. Your petitioner is ready and willing to sell gas to all parties within reaching distance of its pipe lines who apply for the same at reasonable fixed rates which are in general effect throughout the State of West Virginia, and which rate is as follows: 25 cents per thousand cubic feet of gas; also flat rate of $1.50 per month for one fire. Your petitioner, being a public-service corporation, as hereinbefore stated, is ready and willing to furnish gas at all times to the public, as aforesaid."

The Wheeling Natural Gas Company, the principal constituent through which the Manufacturers Light & Heat Company was doing business in West Virginia in the year 1906, alleged (Rec., 1905):

> "That petitioner in the exercise of its rights, powers, and privileges and in the conducting of its business has been and is supplying the incorporated cities, towns, and villages of Benwood, Chester, McMechen, Moundsville, Newell, and other towns and

vicinities and manufactories within the State of West Virginia, and the inhabitants of said cities, towns, and villages, with natural gas, for heating, fuel, illumination, power and other purposes, under ordinances of said several cities, towns, and villages, as well as a large number of unincorporated towns and villages in the said State of West Virginia, and persons residing in and inhabiting such unincorporated towns and villages, and any and all persons residing along the lines of your petitioner, desiring natural gas."

The Hope Natural Gas Company, after an extensive enumeration of the various cities, towns, and communities in West Virginia served by it and its other public services of gas, alleged (Rec., 1825):

> "That petitioner, as is its bounden duty, furnishes, and is ready and willing to furnish, at uniform and reasonable rates, natural gas for heating, illuminating, fuel, power, and other purposes to every inhabitant of the several incorporated cities and towns above named who applies therefor, and complies with the regulations prescribed by the ordinances of such of said cities and towns as have fixed ordinances authorizing the same, and who complies with the regulations fixed by the council of such of said towns as have not a specific ordinance, and also furnishes and is willing to furnish all other consumers therewith, at uniform and reasonable rates."

The Reserve Gas Company stated its attitude in language substantially identical with that of the Hope Natural Gas Company in the quotation immediately preceding (Rec., 1805).

(5) With respect to their pipe lines, the public professions of the seven companies are found in their many applications for leave to condemn made to the courts in the gas-producing counties, specimens of which are exhibited in the record at pages 1802 to 1916. In substance these applications set forth their extensive service of gas to West Virginia consumers; the necessity of obtaining a greater supply for them and the drilling of wells for that purpose; the necessity of laying a pipe line or lines for the purpose of transporting such additional gas to said West Virginia consumers and of condemning over the particular land described, and that the construction of said pipe line is necessary for public use and the same, when constructed, will be so used. Thus the form of application used by the Hope Natural Gas Company and Reserve Gas Company alleged (Rec., 1826):

> "That it became necessary for petitioner in order to supply natural gas to the said several incorporated cities and towns, and their inhabitants, as well as the several other towns, individuals, firms, corporations, copartnerships, etc., for heating, fuel, illuminating, power, and other purposes, and to keep up the required and necessary supply of such gas, that it discover and produce an additional supply of natural gas; that to discover and produce the same, it became necessary for petitioner to drill, at large cost and expense, new wells for the purpose in the county of Harrison and several other counties in the State of West Virginia, and to acquire other wells in said counties; and that petitioner has drilled several new wells in said several counties and has discovered and found a large supply of natural gas in the said wells, and has acquired sundry other wells producing natural gas. That from said wells so drilled by it, as

well as from said wells so acquired by it, petitioner produces natural gas with which to supply the said incorporated cities and towns and the said inhabitants thereof, aforesaid, as well as said other purchasers and consumers. And that in order to supply said incorporated cities and towns and the inhabitants thereof, as well as other consumers and prospective consumers in Harrison County, and elsewhere, with such natural gas produced from said last-mentioned wells, for heating, illuminating, and other purposes, it is necessary that petitioner lay, construct, and maintain an additional line of pipe from some of the wells in said several counties, through a portion of said Harrison County and portions of other counties in the State of West Virginia, so as to reach the above-mentioned incorporated cities and towns, and the inhabitants thereof, as well as said other consumers in Harrison County and elsewhere, with said pipe line for the purpose of transporting such natural gas; and it is also necessary that petitioner transport such natural gas through said pipe line, and supply the same for said purposes to said incorporated cities and towns, and the inhabitants thereof, and said other consumers in said Harrison County and elsewhere."

(6) Further urging their public service to the people of the State, the seven companies applied for and were given, in addition to their franchises for use of the streets and alleys of the cities, towns, and villages in West Virginia served by them, the right to lay, maintain and operate pipe lines, connections, boxes, valves and other fixtures, as well as telephone and telegraph lines, along and upon the highways (Rec., 1016). A large part of their several pipe-line and transportation systems are thus constructed and now

used without charge or compensation whatsoever. For an example of the franchises for use of the public highways see W. Va. Ex. No. 52 (Rec., 1917), granting to Reserve Gas Company:

> "License and permission to lay and maintain in any of the public roads of this county pipe lines for the conveyance of gas from any well or wells of the said company, said pipe lines to be so laid as not to interfere with the use of said public roads and for that purpose to be covered with a covering of not less than twelve inches above said pipe line and also to be laid in such manner as not to interfere with any other pipe line, now laid in or along said road. If at any time, by reason *or* working the roads it should become necessary to lower said pipe, at any point, said company shall lower it at its own expense. This franchise is to expire in fifty years from the date hereof."

And in this connection it is pertinent to mention that many of these franchises, and special rights and privileges therewith, as well as the pipe lines constructed thereunder, were acquired by the seven companies through their absorption of local companies.

Gas Control of the Seven Companies.

As already shown, in 1919 the total gross production in the State by all producers was 219,886,837 M cubic feet, of which, after deducting the free gas to lessors, gas used in the field, and gas produced and consumed by private industries (which items do not reach or benefit the consuming public), there was a residue of 183,687,047 M cubic feet,

constituting the net supply in the hands of the public-service corporations of the State available for service to the public. Of this net public supply, the seven companies produced from their own wells or acquired under purchase contracts a total of 164,426,341 M cubic feet, or 89.5 per cent. The following table (Rec., 996, 997, 1736, insert p. 383) shows that the like control has existed since 1911:

Year.	Net supply for public service.	Net supply of seven companies.	Per cent.
	M cu. ft.		
1911	173,132,353	147,431,246	85.1
1912	203,112,738	172,050,962	84.7
1913	209,131,295	167,897,746	80.3
1914	200,762,645	166,625,730	83.0
1915	207,777,882	170,694,495	82.1
1916	259,414,200	220,892,583*	85.1
1917	245,620,686	223,517,777	91.0
1918	227,649,823	201,685,702	88.6
1919	183,687,047	164,426,341	89.5

But the control of the West Virginia gas situation by the seven companies is still further manifest.

The total acreage of gas territory, operated and unoperated, held under lease by all the sixty-seven public-service corporations of the State in 1919, was 2,725,798 acres, of which the seven companies together held 2,566,798 acres, or 93.8 per cent (Rec., pp. 1001-1003). For the years 1910 to 1919, the aggregate acreage of the seven companies was as follows (Rec., p. 1736; insert, p. 390):

*The figure 200,892,583, on record page 996, is a typographical error.

Year.	Developed.	Undeveloped.	Total.
1910	311,569	2,639,509	2,951,078
1911	351,428	2,382,846	2,734,274
1912	467,664	2,027,469	2,495,133
1913	533,593	2,055,968	2,589,561
1914	572,043	1,852,319	2,424,362
1915	509,414	2,045,032	2,554,446
1916	559,078	2,281,435	2,840,513
1917	618,559	2,152,500	2,771,059
1918	658,880	1,872,843	2,531,723
1919	689,305	1,866,720	2,556,025

In addition to the acreage directly held under lease, the seven companies indirectly controlled much other territory by means of purchase contracts for the gas production of a great number of oil companies and other independent producers. Thus, in 1919, of the 245 independent producers selling their gas to the 67 West Virginia public-service corporations, the seven companies acquired the production of 202 of such producers, holding oil and gas leases upon an aggregate of 1,316,807 acres, while the remaining 60 public-service corporations acquired the production of 43 of such operators, holding leases upon 11,394 acres (Rec., pp. 1471-1473).

The total number of producing gas wells in West Virginia at the beginning of 1919 (according to the United States Geological Report for 1918) was 9,687, of which the seven companies owned 7,086, or 73.2 per cent. The additional wells held under contracts with independent producers is not disclosed in the evidence, but a fair inference can be drawn from a consideration of the number and extent of territory of the independent producers from whom they

purchased, as stated in the preceding paragraph. The total of producing gas wells in the State and the number thereof owned by the seven companies during the years 1910 to 1919 was as follows (Rec., 1021):

Year ended Dec. 31—	Total, all producers.	Seven companies.	Per cent.
1910	4,052	2,890	71.3
1911	4,790	3,354	70.0
1912	5,604	3,897	69.6
1913	6,534	4,578	70.1
1914	7,194	5,037	70.0
1915	7,718	5,458	70.7
1916	8,542	6,161	72.1
1917	9,329	6,763	72.5
1918	9,687	7,086	73.2

Added to this control of the sources of supply, and accounting in a large degree for it, is the control of the gas markets built up by means of, and dependent on, the pipe-line systems and the compressor stations essential for the transportation of gas to consumers at a distance from the place of production. These pipe lines and stations are themselves, in fact, a monopoly resulting from the command of the large capital, not available to everyone, required to erect them and from the holding of the large areas of gas territory and large amounts of gas production, tributary to the pipe lines and withdrawn by the seven companies from acquisition by others (Rec., 1016, 1279, 1310, 1329-1336, *et seq.*).

Nor is this situation altered by the statute, already quoted, of West Virginia, enacted in the year 1891 and yet in force,

37

providing that any company organized for the purpose of transporting natural gas by pipe lines should be considered and held to be a common carrier (Code W. Va., Chap. 52, Sec. 24). The seven companies at all times have refused to transport any gas except their own production and purchases, claiming that to do so would disable them from the public service of gas obligatory upon them as public-service corporations (Rec., 1425-1426). In this regard the situation is pertinently described by a short passage from *United States vs. Ohio Oil Co.*, 234 U. S., 548, 559, the language there used in relation to oil being equally applicable to gas:

> "Availing itself of its monopoly of the means of transportation the Standard Oil Company refused, through its subordinates, to carry any oil unless the same was sold to it or to them, and through them to it, on terms more or less dictated by itself. In this way it made itself master of the fields without the necessity of owning them, and carried across half the continent a great subject of international commerce coming from many owners, but, by the duress of which the Standard Oil Company was master, carrying it all as its own."

Methods of Acquisition of Control by the Seven Companies.

In the early days gas territory, both proven and prospective, was available for whomsoever desired to lease. The great majority of the local companies, serving many municipalities and communities in the gas-producing counties, obtained an abundant supply from wells in the immediate vicinity, and acquired only relatively small areas of gas. The seven companies, however, with the foresight and ability to

quire and hold for future realization, common to such mbinations of capital, acquired in the aggregate very rge areas of gas territory, much of it proven to be produc- e of gas, and much of it appearing to be valuable in ospect. Much of this acreage was acquired and held as reserve for future supply, and, although these reserves ve since been depleted to a considerable extent, the seven mpanies yet held in 1919 an aggregate of 1,866,720 acres undeveloped territory out of their total of 2,566,025 acres Rec., 1736; insert, p. 391).

A large part of the gas territory was obtained by direct ases from the land-owners, but the seven companies also quired a large part of their holdings by the acquisition of her West Virginia public-service gas corporations engaged the marketing of natural gas, thus eliminating the compe- ion of the latter companies and depriving them of their ility to supply the West Virginia public. This was particu- rly true of the Hope Natural Gas Company, the last of the ree gas subsidiaries of the Standard Oil Company in West irginia, which from time to time took over all of the andard gas interests in northern and north-central West irginia theretofore developed and marketed by four other bsidiaries, the South Penn Oil Company, Carter Oil Com- ny, Flaggy Meadow Gas Company, and Mountain State as Company (Rec., 322, 340-342 *et seq.*, 1173, 1329). he first two were extensively engaged in the oil business and ld, especially the South Penn, very great acreages of oil d gas leases in many counties, and in the course of oil plorations had encountered and held many gas wells, hile the last two companies were chartered and operated West Virginia public-service corporations for the purpose

of marketing the gas so developed, the Flaggy Meadow Gas Company serving consumers in various municipalities of Marion, Harrison, and Wetzel counties, and the Mountain State Gas Company serving consumers in municipalities of Harrison, Lewis, Doddridge, Wood, Pleasants, Tyler, and possibly other counties. In this manner the gas territory, wells, pipe lines and other property of the other oil and gas subsidiaries passed into the hands of the Hope Natural Gas Company and formed part of, and a large nucleus around which were acquired and built up, its present system and immense holdings. In 1910, the Hope Natural Gas Company also purchased all of the gas territory, wells, pipe lines and gas-purchase contracts of the Wheeling Natural Gas Company and Tri-State Gas Company, both West Virginia public-service corporations, in Harrison, Lewis, Gilmer, Upshur, Baxton, and part of Marion County (Rec., 1169-1172), in return for a gas-sales contract to the Manufacturers Light & Heat Company, which had theretofore acquired control of the Wheeling and Tri-State Companies (Rec., 1712). And to this day the Hope Natural Gas Company in northern West Virginia and the United Fuel Gas Company in the southern section receive substantially all the wells, or the gas from wells, discovered by these two large oil companies (Rec., 999, 1019, 1445-7, 1467 *et seq.*), which together hold in West Virginia 800,616 acres of oil and gas leases (Rec., 1467-1470).

The Pittsburg & West Virginia Gas Company was originally incorporated under the laws of West Virginia as the Fairmont & Grafton Gas Company. It was one of the largest and earliest public-service corporations in the northern section of the State, serving Fairmont, Grafton, Shinns-

on, Lumberport, and other municipalities in Marion, Taylor and Harrison counties and having a very considerable acreage of gas territory, with many wells and pipe lines through those counties (Rec., 512-513, 1895-1898). In 1906 its capital stock was acquired by The Philadelphia Company of Pennsylvania, which had heretofore entered the State through a West Virginia subsidiary chartered as The Philadelphia Company of West Virginia, and acquired territory, drilled wells, built pipe lines and engaged in the marketing of natural gas as a public-service corporation of the State. These two subsidiaries were connected and thence operated as one until 1913, when the name Fairmont & Grafton Gas Company was changed to Pittsburg & West Virginia Gas Company, and to it the property of The Philadelphia Company of West Virginia was turned over (Rec., 512).

The Manufacturers' Light & Heat Company entered West Virginia through the acquisition of all or the controlling interest in the capital stock of West Virginia public-service corporations, whose property and marketing systems were thereupon connected with its general system. The companies so acquired were Wheeling Natural Gas Company, Ohio Valley Gas Company, Wetzel Gas Company, Tri-State Gas Company, Cameron Gas & Oil Company, New Cumberland Water & Gas Company, and Manufacturers' Gas Company of Wheeling; and until about 1910 all were operated as subsidiaries (Rec., 1029). In that year, all their outstanding stock having been acquired, they were merged into the parent company, which then for the first time formally entered the State (Rec., 65, 94).

In the southern section of the State the United Fuel Gas

Company, a West Virginia corporation, was chartered in 1903 and leased a considerable gas territory. Until 1915 its stock was owned by the Standard Oil Company and Ohio Fuel Supply Company, the Standard having control. Its chief expansion came in 1909 with its acquisition of the United States Natural Gas Company, a West Virginia corporation, which was itself a merger of a number of earlier West Virginia companies holding large acreages and engaged in the service of Charleston, Huntington and many other cities and municipalities in the southern section; and it also took over a great block of leases in that section from the Hope Natural Gas Company. In June, 1915, the Standard Oil Company disposed of its controlling stock interest in the United Fuel Gas Company to the Columbia Gas & Electric Company, and since then the two latter companies have been substantially operated together and under the same management (Rec., 386 *et seq.*; 1029-1033).

Contracts for the purchase of gas from independent operators were another means of engrossing the gas supply. But affording a powerful, and, in many cases, a compelling leverage in the negotiation of sales to the seven companies were the pipe-line systems and latterly the compressor stations. As the cost of pipe lines was practically prohibitive to the independent producer—and much the more so to the landowner himself—and as the independent producer and landowner could not hold their gas for future development or investment, because it was apt to be drained away through wells drilled on neighboring lands, operated by one of the seven companies, their only course was, in general, to sell or lease their gas to one of the seven companies upon terms and conditions made by it.

The pipe-line systems thus became the market for the independent producers, substantially all of whom sold to the seven companies. The same liability to loss by drainage through neighboring wells likewise deterred independent operators and local public-service corporations from taking up and carrying leases for future development or investment, while the landowner, moved by the same considerations, could not withhold his land from leasing. Thus the seven companies were enabled at once to discourage competitive leasing and to build up their reserves and control of the available territory. Nor was this condition changed by the subsequently increased demand for gas and increased prices paid therefor in many of the West Virginia cities located in the gas territory; for, insofar as the gas was not held by the seven companies, the increased demands and prices were met and overcome by the increased cost of transportation, due to the decline in rock pressure to the point where the gas ceased to be self-transporting, thus necessitating the additional and prohibitive cost of compressor stations (Rec., 1254-1257, 1269, 1270, 1300, 1330-1334, 1339-1340, 1346, 1359).

In the case of the oil companies which are included in the category of independent producers, even if possessed of the means to build and operate pipe lines and compressors, the scope of the enterprise and the proximity of the pipe lines have occasioned the same result. Such companies incidentally discovering gas while operating for oil, but not being engaged in the business of transporting gas, their only market has generally been the pipe lines of the seven companies in the vicinity of production.

Substantially all the oil companies sell their gas produc-

tion to the seven companies, and many of them operate upon an extensive scale and hold large acreages. For example, the South Penn Oil Company, Carter Oil Company, Ohio Fuel Oil Company and Pure Oil Company (formerly Ohio Cities Gas Company), Commonwealth Petroleum Company, Fisher Oil Company and Southern Oil Company, all of which sell to the seven companies and most of which are allied in interest with them, together hold 1,147,637 acres, primarily for oil development, but upon which gas is frequently discovered (Rec., 998, 1467-1474).

Exports of the Seven Companies.

We have already set forth the volume and proportions of West Virginia gas exported from the State, as given by the United States Geological Survey reports, showing the great preponderance of the exports. But confining the calculation, for the reasons already explained, to the net amount of gas available for public use, the percentage of exports is still greater, ranging from 74.4 per cent to 80.1 per cent as exhibited by the following tabulation (Rec., 996):

Year.	Net supply for public service.	Sales to W. Va. consumers.	Per cent to W. Va. consumers.	Per cent exported.
	M cu. ft.			
1911....	173,132,353	40,265,294	23.3	76.7
1912....	203,112,738	51,968,488	25.6	74.4
1913....	209,131,295	53,629,419	25.6	74.4
1914....	200,762,645	50,600,709	25.2	74.8
1915....	207,777,882	53,147,718	25.6	74.4
1916....	259,414,200	59,409,460	22.9	77.1
1917....	245,620,686	48,942,388	19.9	80.1
1918....	227,649,823	52,985,173	23.3	76.7
1919....	183,687,047	46,654,098	25.4	74.6

And as it is to be borne in mind that almost all of the public-service gas supplied by the local gas companies is supplied to West Virginia consumers, and that this gas is credited to West Virginia in the last preceding figures, it is apparent that the exports are to be attributed, almost in entirety, to the seven companies. And the true comparative treatment of consumers in West Virginia and elsewhere is to be found in apportionment of the gas of the seven companies. The following statement (deduced from the tabulation at Rec., 997) shows that of the West Virginia gas of the seven companies from 82.1 per cent to 89 per cent went to other States in the nine years from 1911 to 1919:

Year.	Net supply of seven companies.	Amount exported.	Per cent.
	M cu. ft.		
1911	147,431,246	130,230,499	88.3
1912	172,505,962	150,949,519	87.7
1913	167,897,746	145,600,069	86.7
1914	166,625,730	146,013,131	87.6
1915	170,694,495	151,833,628	89.0
1916	220,892,583	196,365,724	88.9
1917	223,517,777	196,627,901	88.0
1918	201,685,702	171,565,429	85.1
1919	164,426,341	134,065,530	82.1

Circumstances of Gas Exports.

Although limited quantities had been from early days marketed along the border lines from West Virginia into Ohio and Pennsylvania, and *vice versa*, especially in the Northern Panhandle of West Virginia, the business of exporting seems not to have reached an extensive scale until about the period from 1902 to 1905. At and for some years

before that time the defined gas fields of West Virginia afforded not only a large surplus over and beyond the demands of its people, but explorations had indicated the probability of the extension of productive territory to the southward (Rec., 322). In the meantime the gas fields of western Pennsylvania had been developed and utilized generally for domestic and industrial fuel at an earlier date and to a larger extent than those of West Virginia, chiefly by reason of the larger cities and population and the greater quantities consumed by the steel plants and other industries of Pittsburgh and that section of Pennsylvania. These fields began to decline and their production became insufficient to supply Pennsylvania consumers. In like manner the smaller and somewhat scattered gas fields of Ohio, never sufficient to supply more than a small part of the local consumers, also began to decline; in addition to which there were in Ohio many large cities and centers of industry served by local plants with artificial gas, to which the more efficient fuel of natural gas was attractive (Rec., 6063, 438, 521-524, 543-557, 699, 719, 726, 749, 947). And thereupon commenced the process of expansion of the West Virginia gas industry, which later assumed the proportions of wholesale exploitation.

In securing markets in the other States, the financial resources of the seven companies and their allied or controlling interests played an important part. Thus the deficiency in its own supply in Pennsylvania provided a direct and ready market for the supply of the West Virginia companies acquired by the Manufacturers Light & Heat Company; the Carnegie Natural Gas Company had only to extend its lines through West Virginia to the Pennsylvania line to connect

with its system in that State and market its surplus production into the steel plants of its parent company, the United States Steel Corporation; and the Pittsburg & West Virginia Gas Company, or its predecessor companies of earlier years, all owned by The Philadelphia Company, laid lines to the Pennsylvania border and there sold and delivered its surplus to the Equitable Gas Company, another subsidiary, which in turn transported to and supplemented the waning supply of the various other subsidiaries marketing to Pittsburgh and elsewhere in western Pennsylvania.

The West Virginia companies owned or controlled by the Standard Oil Company, viz., the Hope Natural Gas Company and the Reserve Gas Company, adopted a somewhat different method. The gas was sold under long-term contracts and delivery made at the State line to purchasing companies in Ohio and Pennsylvania, which laid lines from the interior of said States to the West Virginia boundary and thence transported and sold the gas, in some instances directly to consumers, but in the majority of cases to local distributing companies, generally subsidiaries, which in turn distributed to consumers in Ohio, Pennsylvania, and as far west as Indiana. In part, these purchasing companies were theretofore engaged in the natural-gas business in said other States and had established markets, as was the case with the Peoples Natural Gas Company, a producing and marketing company in Pennsylvania, acquired by the Standard Oil Company in 1903 (Rec., 424), and also with the Manufacturers Light & Heat Company, which had extensive markets in Pennsylvania and with which the Hope Natural Gas Company contracted in 1910 for future deliveries of large quantities of gas, substantially all of which went to Ohio and Pennsylvania consumers.

In another part, markets were created by the incorporation of subsidiaries of the larger interests controlling certain of the seven companies, which subsidiaries constructed pipe lines to the West Virginia border and transported the gas there purchased and received from the West Virginia companies to municipalities in Ohio, Indiana and Kentucky not theretofore using natural gas. This last was the case with the East Ohio Gas Company, an Ohio corporation organized by the Standard Oil Company, which first acquired the franchises and distributing plants of the artificial gas companies serving the cities of Akron and Canton, in the State of Ohio, and thereupon built pipe lines to the West Virginia State line to receive deliveries from the Hope Natural Gas Company, also a subsidiary, and transported and served the gas there received to consumers in the last-mentioned cities through the distributing plants so acquired, in lieu of artificial gas, and also distributed to consumers in other municipalities in the territory through which its pipe lines were constructed; and still later these lines were extended to Cleveland, where also the artificial-gas plants and distributing systems were acquired through a deal in which the Columbia Gas & Electric Company became the minority stockholder of the East Ohio Gas Company. So also the use of West Virginia gas was introduced into Cincinnati and other cities in Ohio and Indiana, as well as into Louisville and Covington and other municipalities in Kentucky, while further supplies from West Virginia were used to supplement the insufficient production of local companies theretofore serving Dayton, Columbus, Springfield, Toledo and other cities of Ohio and Indiana.

The various transporting, distributing, subsidiary and

allied corporations involved in the contracts and arrangements under which transportation and service was made, and the numerous cities and municipalities included in the upbuilding of these markets and the supplementing of markets insufficiently served, in the States of Ohio, Pennsylvania, Kentucky and Indiana, are too numerous and complex to justify further detail here. It suffices to say that between the year 1908 and the winter of 1916-17, when the shortages to West Virginia consumers commenced, the seven companies, in addition to the large amounts directly transported out of the State by certain of them, delivered an enormous aggregate of natural gas from the West Virginia fields to many purchasing companies, who transported and sold the same, either directly or through other companies, to consumers in municipalities and communities in Ohio, Pennsylvania, Kentucky and Indiana, under contracts severally made by the seven companies with the other companies to whom they delivered the gas.

Gas-Sale Contracts.

The gas-sale contracts above mentioned were and are as follows:

The *Hope Natural Gas Company* so contracted with the following:

1. The Northwestern Ohio Natural Gas Company, which serves Toledo and other cities in Ohio (Rec., 1509). This contract covers the majority share of the production of the Reserve Gas Company, which is sold or taken over by the Hope Natural Gas Company, its allied company. The re-

maining exportation of the Reserve Gas Company is sold and delivered by its other stockholder, the Union Natural Gas Corporation, to its subsidiary, the Logan Natural Gas & Fuel Company, which serves or sells to local companies serving Athens, Chillicothe, Dover, Logan, Newark, Dayton, and other municipalities in Ohio, and Richmond, Muncie and other places in Indiana (Rec., 749 *et seq.*).

2. The Peoples Natural Gas Company, which serves a portion of Pittsburgh and other cities in Western Pennsylvania (Rec., 1524).

3. The East Ohio Gas Company, which serves Akron, Dayton, Cleveland and other cities in Ohio (Rec., 1544).

4. The River Gas Company, which serves Marietta and other Ohio cities (Rec., 1554), this contract being made by the Mountain State Gas Company and subsequently assumed by the Hope Natural Gas Company on its taking over the former company.

5. The Fayette County Gas Company, which serves Uniontown, Connellsville, and other cities in Western Pennsylvania (Rec., 1560).

The *Pittsburg & West Virginia Gas Company* so contracted with the Equitable Gas Company, which serves consumers in Pittsburgh and other cities in Western Pennsylvania (Rec., 1729).

The *United Fuel Gas Company* so contracted with:

1. The Louisville Gas & Electric Company, which serves the City of Louisville, Kentucky, and vicinity (Rec., 1738).

2. The Portsmouth Gas Company, which serves the City of Portsmouth, Ohio (Rec., 1745).

3. The Central Kentucky Natural Gas Company, which serves Frankfort and other municipalities in Kentucky (Rec., 1752).

4. The Ohio Fuel Supply Company, which serves Columbus, Cincinnati, Toledo, Zanesville and other Ohio municipalities (Rec., 1761).

5. The Columbia Gas & Electric Company, which serves Cincinnati, in Ohio, and Covington, in Kentucky, and their vicinities (Rec., 1791).

In addition to the foregoing, there were and are a number of similar contracts for sales and deliveries within the State of West Virginia of large quantities of gas by certain of the seven companies to others of the seven, the major portion of which deliveries is either transported and sold directly, or sold and delivered to other companies at the State line under the contracts above listed, which transported to consumers in Ohio, Pennsylvania and Kentucky. Thus the Hope Natural Gas Company so contracted with the Manufacturers Light & Heat Company for a large supply, the major portion whereof the latter company transports and markets in Pennsylvania, with a small part in Ohio and another small part in West Virginia (Rec., 1712). The United Fuel Gas Company so contracted with the Hope Natural Gas Company (Rec., 1769, 1776, 1777) and with the Pittsburg & West Virginia Gas Company (Rec., 1780-1788), which vendee companies in turn sell and deliver the major portion

of the quantities so purchased to other companies at the State line under the contracts above mentioned.

These contracts contain a number of provisions more or less common, though in varying language. Among the most important in their bearing on this litigation may be pointed out the provision, found in most of them, that the amount of gas delivered shall be sufficient to supply all the then domestic consumers of the purchasing companies, as well as all those which may be thereafter acquired, throughout the term of the contracts, together with a frequently added covenant by the purchasing companies to use their best efforts to extend their service; the provision for payment for the gas in the form of a percentage of the gross receipts of the purchasing companies from their consumers, thus directly interesting the vendor companies in the marketing in other States; and especially the provision whereby the vendor companies are compelled to deliver the contract quantities in preference to all other purchasers or consumers, save only the domestic consumers of the vendor company then on its lines in West Virginia, thereby disabling themselves from serving gas for the other public uses of heating and lighting schools, churches, hotels, hospitals, municipal and other governmental buildings, and all industrial use. (See, for example, Rec., 1533, 1546). And in this connection it is important to remark that all of the companies purchasing from the seven companies market a portion of the gas for industrial use, and that, as we shall later observe, the contracts of purchase contemplate industrial consumption by consumers of the distributing companies.

Pipe Line Systems and Commingling of Gas.

The gas of the seven companies going to Ohio, Pennsylvania and other States is transported by, and delivered out of, their general pipe-line systems. These systems, which are more or less welded into one by the connections of the seven companies among themselves, constitute a vast reservoir, both to receive gas and to transport and distribute it. Throughout the gas-producing counties, from the interior of the State to its boundaries, the gas is fed into the main pipe lines by smaller lines leading mediately or immediately from the wells, and gas is fed out through distributing lines leading to the consumers or communities served along the lines. Whether consumed in West Virginia or in other States, the gas is commingled and carried in the same trunk lines. And the process of feeding in by gathering lines and feeding out by distributing lines continues substantially to the limits of the State.

When fed into the pipe-line system from a particular well, or from wells in a particular section, the gas is at once commingled into a common and homogeneous stock. From its very nature, no mark of identification can ever be placed upon, nor is it possible to identify, any atom or specific quantity thereof. And so it is that, until in the progress of the gas through the trunk lines the last connection of a pipe devoted to local service in West Virginia has been passed, it is not and cannot be ascertained whether any particular part of the gas, in the aspect of a physical entity, will be consumed in West Virginia or will pass to and be consumed in another State (Rec., 933).

The main pipe lines of some of the seven companies extend only to the State boundary, while in other instances the pipe lines reach into the adjacent States. The West Virginia gas furnished by the Hope Natural Gas Company, Reserve Gas Company, and Pittsburg & West Virginia Gas Company, no one of which operates outside of West Virginia, is all delivered to the purchasing companies at, or practically at, the State line. Of the total amount sold under contract by the United Fuel Gas Company to other companies, about one-fifth is delivered just across the State line in Kentucky and Ohio and the remaining four-fifths are delivered in part to the Ohio Fuel Supply Company at the State line (Rec., 1762), but in the much greater part at points within the State to others of the seven companies, viz., the Columbia Gas & Electric Company (Rec., 1793), Hope Natural Gas Company (Rec., 1770, 1772), and Pittsburg & West Virginia Gas Company (Rec., 1780-1782), which receive such deliveries into their general system. The Manufacturers Light & Heat Company (Rec., 1712, 1716) and Columbia Gas & Electric Company, while both producing and marketing in West Virginia, acquire much the greater part of their respective supplies in West Virginia under their purchase contracts from the Hope Natural Gas Company and United Fuel Gas Company, above mentioned, and thereupon transport out of the State; the Manufacturers Light & Heat Company about four-fifths of its entire net supply, and the Columbia Gas & Electric Company substantially all (Rec., 1736; insert, 380, 415). The Carnegie Natural Gas Company has no contracts for out-of-state deliveries, but transports and markets directly to the steel works of its parent company in Pennsylvania.

Service by Local Companies.

Many of the larger local companies were absorbed by the seven companies, as heretofore pointed out, and a number of others have gone out of business. The present list (Rec., 982) of natural-gas public-service corporations in West Virginia, including the seven companies, is sixty-seven.* A considerable number of these are survivors from the early days, and yet are engaged in the production and supply of gas, particularly in northern West Virginia. The important municipalities of Morgantown, Fairmont, Clarksburg, Weston, Salem, Shinnston, Lumberport, Pennsboro, and others are so served and supplied, in whole or in part (Rec., 1026).

In some of the oldest and richest gas counties, where one or more of the seven companies hold ample supplies and facilities, they furnish either substantially no gas or none at all by direct service.†

*The sixty-seven companies include a number only incidentally serving gas, such as oil companies and certain carbon-making and manufacturing plants, which utilize their production in their own private enterprises and whose consumers are limited to their employees or to lessors entitled to free gas. Of this character are the South Penn Oil Company (Rec., 1447), Ohio Fuel Oil Company (Rec., 1004), Columbian Carbon Company, Imperial Oil & Gas Products Company, and Owens Bottle Machine Company, none of which in fact supplies gas to the public, nor do they profess or hold themselves out to be public-service corporations (Rec., 998, 1004 *et seq.*).

†In Harrison County, in 1919, five of the seven companies owned and operated an aggregate of 127,996 acres of territory, 1,674 wells, and 1,157 miles of pipe line and bought the gas of 161 wells from 57 independent producers. These five companies served not more than 900 domestic consumers and no industries in that county, although their pipe-line systems, gas territory and production surrounded, and in some cases extended into, the cities of Clarksburg and Salem,

The local companies operated contemporaneously with the development and expansion of the seven companies, produced from the same pools, and transported and marketed to consumers in the same West Virginia territory in which the seven companies produced and marketed; and in some instances the same community was partially served by both. In the earlier years the volume of the wells was large, the rock pressure great, and the gas easily marketed through its own native force; and, having an abundant supply and no present or prospective market other than the particular communities then served, these smaller companies in most cases acquired and held only a limited territory, close to the place of consumption, and acquired little or no reserve territory (Rec., 212-213, 1001-1003, 1020, 1021, 1568). While the opportunity to obtain reserve acreage was open to them equally with the seven companies, before and at the time when the latter began their activities in this direction, yet it was neither wise nor financially possible to acquire extensive territory. To have developed additional acreage for which they had no market, would have defeated the very object of a reserve; and to hold such acreage in reserve until an additional supply was needed rendered it probable that the gas would be drained away through the operations of the seven

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Shinnston and other municipalities, which have been without an adequate supply of gas since 1916. In Lewis County, in the same year, four of the seven companies owned and operated an aggregate of 176,739 acres of territory, 1,106 wells, and 795 miles of pipe line and bought the gas from 66 wells owned by 16 independent producers. These four companies sell gas to no industries and no local utilities, nor serve any incorporated cities or towns in that county, their service being limited to approximately 1,200 consumers in rural communities, chiefly lessors receiving free gas as rental (Rec., 1026-1028).

companies in surrounding territory. And when later they required additional gas by reason of the decline of the supply from their own wells or the growth of the communities served, the smaller companies found not only that substantially all available territory had been acquired by the seven companies, but also that such occasional and isolated tracts of gas territory as could be secured were worthless; for the cost of pipe lines to reach these scattered parcels was beyond their financial resources and out of proportion to the value of the project, and the enormous quantities of gas theretofore extracted from the pool by the seven companies had reduced the rock pressure of all wells in the field to the point where compressor stations were necessary adjuncts to transmission of the gas through the lines. In like manner the local companies were unable to reach out into the field to secure the production of the independent producers, for the amount of such production not held under contracts of sale to the seven companies was small and scattered and entailed the like disproportionate and prohibitive cost of lines and compressor stations (Rec., 1278, 1279, 1308-1310, 1361-1362).

Previous Supply to Local Companies by the Seven Companies.

Until the gas shortage of 1916-1917, the lack of reserve territory by the local companies and the diminishing volume of the gas occasioned no practical difficulty in West Virginia; for, notwithstanding the export business of the seven companies and the contracts under which that business was carried on, the local companies, whose own stocks of gas be-

came insufficient, were able to, and did, make up the deficiency by purchases from one or more of the seven companies. (Rec., 1034-1036, 1724, 1728; 1736, at insert pp. 402, 414, 280, 297, 314, 345, 349.) The quantities so purchased were readily and easily furnished, since the seven companies were possessed of an ample surplus, and one or more of their trunk lines lay within the immediate vicinity of, or traversed, the areas of service of the smaller companies, and often served consumers in the same community or territory (Rec., 1011, 1012, 1037). It was thus a mere matter of connecting the lines of the two companies and discharging gas from the one to the other. Sales by the seven companies to local companies were thus customarily effected for some years prior to the commencement of the shortages to West Virginia consumers in 1916-1917. The Hope Natural Gas Company was connected with and supplied the deficiency of the several local companies serving Fairmont, Clarksburg, Weston, and Pennsboro (Rec., 1035); the Carnegie Natural Gas Company was connected with and supplied the several local companies serving Fairmont and Morgantown (Rec., 1034); the Pittsburgh & West Virginia Gas Company was connected with and supplied the deficiency of the local companies serving Fairmont and Glenville (Rec., 1034), and the United Fuel Gas Company was connected with and supplied the deficiency of the local company serving Dunbar, South Charleston and St. Albans (Rec., 1036). Many of these sales yet continue during the milder periods of the year, but since the demands in other States have equalled and exceeded the supply the seven companies have asserted priority of their sales contracts and their obligations to the consumers abroad, and have declined and refused to sell to the

local companies during the winter periods, when the requirements of the domestic consumers are greatest, both in amount and necessity (Rec., 276, 277, 1209, 1210, 1230, 1231, 1724, 1728). This refusal has been one of the chief causes of the suffering, inconvenience and losses by West Virginia consumers.

As a result of the foregoing conditions and circumstances, the local companies and the consumers supplied by them became, were and are dependent upon the seven companies for a part of their supply. As the production of the local companies decreases, this dependency will necessarily become greater. And if and when the seven companies resort to the process of suction (to which the compressor stations are readily applicable) to increase the output of their West Virginia wells, the wells and territory of the local companies will be so far depleted as to render their dependence substantially complete (Rec., 1279, 1310-1312). An official of the Reserve Gas Company and Hope Natural Gas Company says (Rec., 345-6) that this suction is now a common practice in Pennsylvania and eventually will have to be resorted to in West Virginia. This, of course, means the suction of gas from the entire territory surrounding the pump station, and that no well therein will be capable of producing except by the employment of the like suction or other artificial means of extracting the gas; and, as a necessary result, all local companies dependent upon natural pressure to market and distribute their supply will be effectually put out of business unless supplied by the seven companies.

Violation of Seven Companies' Duties to West Virginia Consumers.

From the foregoing it appears that the seven companies, through which the plaintiff States derive West Virginia gas and whose alleged rights are so extensively relied on in assertion of the claims of the plaintiffs, have, in manifest disregard of their duties and obligations to West Virginia and its people:

(1) Engrossed the gas supply of the State.

(2) Absorbed the most important local companies, which, if independent, would have continued to serve West Virginia consumers.

(3) Deprived the remaining local companies of their ability to supply adequately their localities.

(4) Failed and refused to furnish in later years, when the deficiency of the local companies became acute, gas to make good the deficiency, except out of any surplus remaining after satisfying consumption in other States.

(5) Failed and refused themselves to supply needed gas to consumers in the territory of their production or their transportation lines.

(6) Subjected to suffering and inconvenience in homes and public institutions and to industrial loss the people of West Virginia.

(7) Transported for consumption out of West Virginia the gas required for reasonably adequate service therein.

(8) Transported their gas for consumption in other States under color of contracts which (except as to the theoretical provision in favor of West Virginia domestic consumers) subordinated the service of West Virginia consumers to the service of the out-of-state gas companies and consumers.

(9) Aided and abetted by the tenor and intent of their contracts and by their practices the unlimited increase of use of West Virginia gas in the other States by providing for the extension of service to additional consumers there.

(10) Arrogated their contracts to superiority over the pre-existing laws of West Virginia, to which they owed their existence and special rights and prvileges.

(11) By the contracts and transportation above mentioned, renounced their obligations and duties to West Virginia and disabled themselves from the performance thereof.

Causes of Increased Exports.

The causes of the augmented export of West Virginia gas are apparent. Partly applied to substitution for the declining production of Ohio, Pennsylvania, and Indiana, the consumption of West Virginia gas has been gradually increased by the expansion of the distributing gas companies, especially in Ohio, Pennsylvania, and Kentucky; the extension of lines of service; the growth in the number of consumers; and the substitution of natural gas for artificial gas in many places. Much of this is already embraced in this statement, and the record contains many instances and numerous statistics illustrating the growth of the out-of-state companies and their consumers, without regard to the

needs of West Virginia or the inevitable day when even the West Virginia gas would diminish. It will, however, be of interest to cite the following:

Since the year 1903 the Peoples Natural Gas Company, by expansion of its area of service, has increased its consumption threefold (Rec., 431), and during the period 1910 to 1919, the number of consumers increased from 43,315 to 79,112 (Rec., 614-616). In the case of the East Ohio Gas Company the increase was from 161,580 consumers using 26,445,512 M cubic feet in 1910 to 329,005 consumers using 43,469,893 M cubic feet in 1919 (Rec., 621-626). From 1899 to 1919, the consumers of the Philadelphia Company increased from about 16,000 to over 140,000 (Rec., 486).

Uses of West Virginia Gas in Other States.

Much is said in the evidence, and doubtless more will be said as to the use of gas in West Virginia for industrial purposes. We shall refer to this in due order. But at this point it is to be noted that of the West Virginia gas exported to the other States, much was and is furnished directly to manufacturers and other industrial consumers. In other cases, West Virginia gas was and is utilized to supply the domestic consumption of purchasing companies, whose own production was and is diverted to industrial service. This diversion is expressly contemplated under the contracts made by the Hope Natural Gas Company with Manufacturers Light & Heat Company and Peoples Natural Gas Company, above mentioned, and is impliedly contemplated and fully effectuated under the provisions of a number of the other contracts requiring the vendor companies to deliver all the

natural gas needed to supply all of the present and future domestic consumers of the vendee companies (Rec., 1524, 1544, 1560, 1712, 1761). Statistics of the United States Geological Reports for the years 1914 to 1918, both inclusive, show that the amounts used for manufacturing purposes in Pennsylvania (being all industrial consumption except that used for field purposes) were between 92.84 per cent and 100.23 per cent of the entire production of that State (Rec., 1104); and that the amounts used for such manufacturing purposes as compared with the total production in the other importing States ranged during said years as follows: In Ohio, from 54.59 per cent to 93.90 per cent; in Indiana, from 28.37 per cent to 118.50 per cent; and in Kentucky from 122.92 per cent to 169.17 per cent (Rec., 1107, 1109, 1111-1112). Concretely illustrating these proportions, it may be noted that in 1916 Pennsylvania consumed industrially 131,571,641 M cubic feet (Rec., 1736; insert, W. Va. Ex. No. 23), which was more than the total production of that State and practically two-thirds of the total consumption therein for all purposes, and considerably more than double the entire amount furnished to West Virginia consumers by all of the public-service corporations thereof.

So also with the amounts used for such manufacturing purposes, as compared with the total consumption in the importing States. Thus in Pennsylvania the amounts used therefor have at all times during the years 1914 to 1918, both inclusive, exceeded the amounts served to domestic consumers, averaging double the domestic consumption. In the remaining importing States, the amounts used for such manufacturing, as compared with the total consumption during said years, have ranged as follows: In Ohio, from

23.29 per cent to 38.71 per cent; in Indiana, from 16.59 per cent to 35.06 per cent, and in Kentucky from 28.23 per cent to 36.04 per cent (Rec., 1107, 1109, 1111).

Future Prospects of Gas Supply.

It is uncontroverted that the gas fields in Ohio, Pennsylvania and Indiana are either exhausted or in progressive process of exhaustion; that the West Virginia production has passed its peak and for several years has been declining rapidly; that no other gas fields are known or in prospect in Ohio, Pennsylvania, West Virginia or neighboring States; and that the costly explorations to the deeper sands have not yet warranted belief that material increase in supply will result by such means. But, remarking in passing that the statute in question does not forbid or restrict export of gas and that all that is demanded is reasonably adequate service by its public-service corporations, if, by future discoveries of other fields or deeper sand development, a sufficient supply results to provide adequate service to West Virginia consumers concurrently with consumers in other States, nothing in the statute forbids. And some of the larger companies, the seven companies as well as those in Ohio and Pennsylvania, are yet exploring for new fields and profess the hope that the deeper sands will eventually be found profitable (Rec., 135).

But, as bearing on the available volume of gas of the seven companies and the consequential effects of the statute in the other states, is to be noted the capacity of the presently commercial gas sands in holdings in the known fields. The seven companies have an aggregate territory in West Vir-

ginia, which, since the year 1910, at all times has exceeded 2,400,000 acres, with only 689,205 acres thereof developed up to 1920 (Rec., 1736, insert p. 391). It cannot be supposed that this immense reserve has been carried at its great cost for more than a decade, unless they considered these lands to contain gas in profitable quantities.

It is relevant, also, that the required quantity of gas for all consumers probably could be provided by the drilling of additional wells. In 1919, the last year for which statistics are available, the seven companies drilled fewer wells than during any other year in the ten years covered by the statistical table (Rec., 1023); and there was a marked decrease in the number drilled in 1918 as compared with those drilled in 1917. The United Fuel Gas Company, holding the second largest acreage and the least developed territory of the seven companies in 1919, drilled only 15½ producing gas wells and abandoned the same number (Rec., 1736; insert p. 313). A managing officer of the Hope Natural Gas Company and Reserve Gas Company frankly recognizes that the required supply could be had if enough wells were drilled, and that it is merely a question of whether the residuum of gas in the West Virginia fields is to be produced and utilized over a shorter or longer period. He says "it is just up to the people what they are going to do with it;" that the companies "can use it up in two or three years," or "can extend it over a period of ten or fifteen years" (Rec., 349).

Let it be assumed, however, that development is to proceed as before, in the known fields and sands, and that the rate of well drilling is to go on as previously, so that the natural decline will not be overcome, the exhaustion of the West Virginia gas will not be presently retarded.

Mr. Corrin, vice-president of the Hope Natural Gas Company, fixes the maximum life of the present gas supply at ten or fifteen years (Rec., 349). Judge Reed, president of The Philadelphia Company, states that at the present rate of consumption he will be very much surprised if it lasts ten years (Rec., 507). The record contains other estimates of similar character, with some variation in estimated periods (Rec., 943).

From the very beginning of the use of West Virginia gas by the people of the plaintiff States, it was inevitable that some day the production of the West Virginia fields would decline and the gas supply therefrom become insufficient to serve all consumers. This day came in the winter of 1916-1917, and it is now admitted by the seven companies and also by the companies purchasing from them that their present supplies of gas, including the production in the other States, have been for several years insufficient in winter periods to furnish fuel for the heating of dwellings or otherwise to supply their consumers in Ohio, Pennsylvania, Kentucky and Indiana, and that their ability to serve such consumers has become less and less with each succeeding year. Hence it is that, taking as true the testimony for the plaintiffs, the predicted lack of sufficient West Virginia gas to heat the dwellings and otherwise serve these consumers in the plaintiff States, so elaborately and gloomily charged in the bills of complaint as the necessary result of enforcing the statute in controversy, has already come to pass, has existed for several years, and this lack will certainly increase in the future. This has resulted, and will result, by the process of nature, and not as an effect of the statute, which has never been put into force.

Remedies for Gas Shortage.

The consumption of gas has its distinguishing characteristics. Its supply has been aptly described in the record as the rendition of a service rather than the delivery of a commodity (Rec., 1434, 1435, 1652). For cooking, hot-water heating and the heating of dwelling-houses, stores, office buildings, churches, schools and other public and private buildings, as well as for the conduct of industries, gas is valuable according to its constant availability and adequacy. No reserve can be stored on the consumer's premises, as with coal, oil or wood. When needed it is needed immediately and the cost of equipping the premises for the occasional use of other fuel is as great as for a complete change. An intermittent service is undesirable, and unless the service of gas can be made constant and dependable, the value of its use is substantially destroyed. This essential feature, admitted throughout the testimony, is well expressed by Judge Reed, president of The Philadelphia Company, in testifying as to the practicability of apportioning an inadequate supply, who says (Rec., 525):

> "A. * * * You can't satisfy a man by giving him 50 per cent of his requirements. His wife can't cook with it, and his house is cold. He either wants all or nothing.
>
> Q. * * * The fact is, that to properly supply a thousand consumers is better than to improperly supply 2,000; is that the fact?
>
> A. That is the fact; yes, sir."

To the same effect is the testimony of the witness Wyer (Rec., 1437, 1668), who says "that usable service to a lim-

ited number is better than poor or no service to a large number", and recognizes this feature to be one of "the inherent characteristics and natural limitations of the natural gas industry."

This being the character of gas consumption and service, if the volume of gas is insufficient for all, it is obvious that a remedy devised and enforced by someone was and is essential, and that if man does not voluntarily provide the remedy nature will compel it. The manifest course, in view of what has been said, is the limitation of consumption either in respect of the purpose of use or by restriction of the area of service. And it appears that ultimately the restriction of area of service must come, even in the absence of the statute. The witnesses for the plaintiffs admit that in any event, in time of shortage, the shortage is first and most severely felt at the points farthest from the sources of supply, and that consumers nearest those sources obtain relatively the better service. It is also admitted that service to remote consumers is more costly and subject to losses by leakage in transportation. The contracts already referred to show that the gas companies themselves have theoretically recognized the paramount claims of the domestic consumers of West Virginia.

But without anticipating the argument, our present purpose is to point out that though the seven companies oppose the legislative remedy in the controverted statute, they and their officers are in the main wedded to the doctrine of *laissez faire*, with the corollary of uncontrolled discretion of themselves. And, where in cross-examination these specialists have been driven to suggest a remedy, they are at sea and disagree among themselves, agreeing only that West

Virginia consumers are getting too great a share of West Virginia gas. Certain of them advocate restriction of the use to cooking and hot water heating for domestic purposes (Corrin, 348); others suggest limiting the quantity allowed to each consumer (Tonkin, 441-3); others are positive the real remedy lies in increasing the price to the point where the consumer will himself cut down the amount used (Daly, 608; Freeman, 476); others say that eventually the number of consumers must be decreased and the area of service contracted toward the source of supply (Quay, 163-9; Denning, 698); while two others confess frankly that they do not know what can be done (Reed, 525; Sullivan, 297). All of these witnesses, officers of gas companies, declare necessary the use of gas for industrial purposes whenever there is a surplus over the needs of the domestic consumers, and state that the industrial consumption is financially necessary to the gas company and aids to keep down domestic rates (Rec., 288, 328, 437, 476, 525-526). One witness for the plaintiffs (Wyer, 942), advocates the complete elimination of gas for industrial use, as a matter of conservation, and eventually the cutting off of consumers in the remote areas of service.

Since the major portion of the gas used by consumers in the plaintiff States comes from West Virginia through its public service corporations, the necessary result of each of these suggestions, except that of contraction of area of service, is the same; that the adjustments of West Virginia consumers must be made, and their uses of gas must be regulated and restricted, according to the requirements of the consumers in Ohio, Pennsylvania, Indiana and Kentucky, and without regard to the character or extent of the public

service undertaken by these corporations in West Virginia, or their duties and obligations to the people thereof under the laws of that State.

Industrial Consumption in West Virginia.

Much is said in evidence as to the use of industrial gas in West Virginia. But in the light of what has already been said, and the concurring views of the officials of the seven companies, already referred to, that the industrial use is advantageous both to the companies and the domestic consumers, and that gas always has been, and is still used in large volumes in the plaintiff States and elsewhere, no special reference to the past use seems requisite.*

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*Gas Used by Carbon Companies.—Carbon-black manufacturing companies in West Virginia consumed in 1919 approximately nine per cent of the production of the State. An engineer for some of the seven companies, testifying for the plaintiffs, argues the alleged wastefulness of this use of gas, and points out that the quantities so used would provide the deficiency in supply of West Virginia consumers. It is shown by West Virginia that gas for carbon making has never been a customary or public use of gas; that no tariff or provision therefor has been made by the Public Service Commission, and that no public service corporation uses or serves gas for such purpose, except the United Fuel Gas Company, which operates a carbon plant for the utilization of isolated, low-pressure gas (Rec., 991-993, 1060, 1061, 1075). A like plant is operated by the South Penn Oil Company, an oil subsidiary of the Standard Oil Company owning the Hope Natural Gas Company, to which the South Penn markets most of its gas.

In addition to the private character of these carbon companies and their gas supply, their product can only be made from natural gas, and is an essential element of important manufactured products (Rec., 1100, 1101, 1130, 1131, 1137). Generally their gas territory and production are located at remote points. They are rapidly going out of business because of the increase in value of the gas for other purposes (Rec., 1349). And since the lines of the seven companies

As to the present it is to be observed that many of the factories in West Virginia have already been altered so as to consume coal and producer gas artificially manufactured from coal (Rec., 1229, 1345), thus reducing the industrial gas requirements of the State.

In respect of the future, the high price of natural gas, constantly rising, prevents profitable competition with producer gas, except in the few processes to which natural gas is more especially adapted (Rec., 1226-1227, 1345), and when once an industry has installed producer gas, even a temporary seasonal supply of natural gas—as in the summer—would not compensate for the disorganization consequent on the change from producer to natural gas (Rec., 1228).

Testimony was given on behalf of the plaintiffs to the effect that the enforcement of the statute would absorb for West Virginia its entire gas production; but this lies in assertion and prophecy, based largely on speculation and hearsay, coupled with the erroneous assumption that the statute compels not reasonably adequate service to the particular consumers and distributing companies in specified territory, but that the whole production of the State is to be

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afford practically the only market therefor, the gas of the carbon companies now marketed does not materially aid West Virginia consumers; nor would the entire diversion thereof from carbon-black add appreciably to the supply of West Virginia consumers (Rec., 1349). Aside from the questionable right of the plaintiff States to dictate the employment of West Virginia gas, compare the practically exclusive use by Carnegie Natural Gas Company of its supply from both West Virginia and Pennsylvania fields for steel making, in which other fuel is readily usable; the amount of West Virginia gas so used by this one company averaging three-fourths of the annual quantity used for carbon-black in West Virginia during the last decade (Rec., 996, also W. Va. Exhibit No. 19, Rec., 1736, insert pp. 414-423).

pooled and all consumers are to receive all the gas they may choose to demand (Rec., 123, 300-302, 446, 840, 841, 970, 971.) These general forecasts, of course, also leave out of view the circumstances already detailed, diminishing the probable industrial consumption in West Virginia and the jurisdiction of the Public Service Commission to limit consumption to reasonable adequacy, as well as to compel reasonably adequate service.

The character of the plaintiffs' evidence on the point may be summarized by reference to the testimony of their witness Anderson, an engineer employed by several of the seven companies, who supplies alternative estimates of increased industrial consumption in West Virginia, in case of the enforcement of the statute, as follows: on one theory, 98,628,380 M cubic feet; on another, 55,017,359 M cubic feet; on another, 38,468,334 M cubic feet, and on still another, 32,959,471 M cubic feet (Rec., 824, 825, 836-838).

The fallacy of Anderson's figures, as well as the speculative general forecasts of other witnesses seems sufficiently to appear from the fact that in the year of its largest consumption, the whole consumption of gas available for public service, was only 59,409,460 M cubic feet out of a total supply of 259,414,200 M cubic feet in the hands of the public service companies (Rec., 996). Witnesses for West Virginia testify, and the industrial conditions already stated are persuasive, that even this 1916 consumption will, insofar as the industrial element is concerned, be greatly reduced (Rec., 1345-1346).

Contentions of West Virginia.

It is the contention of West Virginia:

1. That these cases present no controversy between States, but are in reality controversies between West Virginia and its public-service gas companies, in attempted vindication of whose alleged rights the plaintiffs have become nominal suitors.

2. That the West Virginia gas companies, and especially the seven companies controlling the West Virginia gas supply and transporting the major part of the gas to or for consumption in other States, while a shortage exists in West Virginia, were and are West Virginia public-service corporations, owing their existence and their ability to transport gas to other States to the special rights and privileges granted by West Virginia upon the condition that a reasonably adequate service would be rendered to West Virginia consumers.

3. That the business of the gas companies and their gas, in the existing condition of shortage, are affected with the public interest of West Virginia.

4. That the duty to render a reasonably adequate service to West Virginia consumers extends alike to domestic users, public buildings and institutions and industrial users.

5. That under the conditions of existence of the gas companies, both implied and expressly reserved, and in the exercise of the police power, it was within the province of West Virginia to enact the statute in contest, and that the statute was and is necessary and reasonable in its provisions.

6. That the requirement of reasonable adequacy of service to industrial consumers, and the clauses requiring in certain circumstances (and under the safeguards of a hearing and determination before the Public Service Commission, with opportunity for judicial review) the furnishing of gas deficits to local companies, were and are justified and proper.

7. That the gas companies cannot by engagement in interstate commerce, or the desire so to do, evade or abandon their duty to render reasonably adequate service in West Virginia, and that if interstate commerce is engaged in by them, it is and must be in subordination of their duty to West Virginia and the regulating power of that State.

8. That interstate commerce is not regulated, nor was it intended so to be; that any effect on such commerce would be only indirect and incidental; and that under the conditions of gas production, transportation and distribution, the gas, commingled in the pipe lines and wholly incapable of identification, does not enter into interstate commerce until finally it ceases to be drawn on for local supply.

9. That the statute does not infringe upon any guaranty of the Federal Constitution.

10. And that the plaintiffs have no just ground for complaint against West Virginia and have established no case against it.

ARGUMENT.

I.

THE CASES PRESENT NO CONTROVERSY BETWEEN STATES.

In the motions to dismiss contained in the answers, we have assigned, among other grounds, that these cases present no controversy between States within the meaning of Article 3, Section 2, of the Constitution. And we think that the general trend of the evidence, as well as the personnel of the witnesses, has fortified in fact the objection in law. The jurisdictional objection is emphasized by the fact, not to be blinked, that while sovereign States have sued, these cases are controversies between West Virginia and certain gas companies. Respecting the plaintiff States and their dignity, West Virginia, in objecting to the jurisdiction, shrinks from impugnment of their motives. But without intimating any unworthy design, we have no alternative except to question the jurisdiction—the preliminary question in every case in this Court. And, indeed, in Kansas *vs.* United States, 204 U. S., 331, this Court said:

> "In these circumstances we think it apparent that the name of the State is being used simply for the prosecution in this Court of the claim of the railroad company, and our original jurisdiction cannot be maintained."

The substantial ground upon which the plaintiffs sue is the individual grievances of their citizens sought to be redressed by the plaintiffs in their character of *parens patriæ*. Subsidiary and trifling in comparison are their complaints

of shortage of gas in municipalities and public institutions. Much that could be said against the jurisdiction is contained in the argument on the merits, to which in the interest of brevity—in a brief already longer than we might wish—the Court is respectfully referred.

The statute of West Virginia here complained of is local in character and applies to a commodity produced within that State, while yet within its borders, and in the hands of its public service corporations. The plaintiffs have no ownership of or property interest in the gas in its original character as a natural resource of West Virginia or at any time thereafter during the successive stages of production, transportation, and marketing thereof to the ultimate consumer. Neither does the statute in anywise affect, modify or trench upon any governmental or sovereign power of the plaintiffs; nor does its operation exert any force upon or prejudicially affect any land, stream, or other property within the sovereign or territorial jurisdiction of the plaintiffs. The thing most clamorously complained of is the non-delivery of a West Virginia commodity, exported therefrom in interstate commerce and ultimately delivered to citizens of Ohio and Pennsylvania. And the question thus arises whether there is presented a controversy between States by the process of aggregating alleged rights of citizens of Ohio and Pennsylvania against West Virginia.

The nature of a controversy between two States, or a controversy to which a State is a party, has been thoroughly discussed and previous cases reviewed in *Louisiana vs. Texas*, 176 U. S., 1, and *Missouri vs. Illinois*, 180 U. S., 208. Neither in those cases nor elsewhere have we found an instance in which this Court has entertained original juris-

diction, predicated solely upon the right of the plaintiff State to sue as the representative of its citizens to enforce their private grievances, or to protect their private claims arising out of the enforcement of the law of another State, in the absence of some special or additional right in the State itself. The right to invoke original jurisdiction in the representative capacity was upheld in *Missouri vs. Illinois, supra,* where there was pollution of the Mississippi River, lying partly within the territorial limits of Missouri, and also in *Kansas vs. Colorado,* 185 U. S., 125, where the question was as to the right of Colorado to divert the waters of the Colorado River flowing through both States.

On the other hand, jurisdiction was denied in *Louisiana vs. Texas, supra,* where the plaintiff sought to enjoin enforcement of quarantine laws of the defendant because of their discrimination against and injurious effect on citizens of Louisiana engaged in commerce between the two States. Referring to the nature of the case Mr. Chief Justice Fuller says:

> "It is in this aspect that the bill before us is framed. Its gravamen is not a special and peculiar injury such as would sustain an action by a private person, but the State of Louisiana presents herself in the attitude of *parens patriæ,* trustee, guardian, or representative of all her citizens.
>
> "She does this from the point of view that the State of Texas is intentionally absolutely interdicting interstate commerce as respects the State of Louisiana by means of unnecessary and unreasonable quarantine regulations. Inasmuch as the vindication of the freedom of interstate commerce is not committed to the State of Louisiana, and that State is not engaged in such commerce, the cause of action

must be regarded, not as involving any infringement of the powers of the State of Louisiana, or any special injury to her property, but as asserting that the State is entitled to seek relief in this way because the matters complained of affect her citizens at large. Nevertheless, if the case stated is not one presenting a controversy between these States, the exercise of original jurisdiction by this Court as against the State of Texas cannot be maintained."

Mr. Justice Harlan, in a concurring opinion, further says:

"But I am of opinion that the State of Louisiana, in its sovereign or corporate capacity, cannot bring any action in this Court on account of the matters set forth in its bill. The case involves no property interest of that State. Nor is Louisiana charged with any duty, nor has it any power, to regulate interstate commerce. Congress alone has authority in that respect. When the Constitution gave this Court jurisdiction of controversies between States, it did not thereby authorize a State to bring another State to the bar of this Court for the purpose of testing the constitutionality of local statutes or regulations that do not affect the property or the powers of the complaining State in its sovereign or corporate capacity, but which at most affect only the rights of individual citizens or corporations engaged in interstate commerce. The word 'controversies' in the clauses extending the judicial powers of the United States to controversies 'between two or more States' and to controversies 'between a State and citizens of another State,' and the word 'party' in the clause declaring that this Court shall have original jurisdiction of all cases 'in which a State shall be a party,' refer to controversies or cases that are justiciable as between the parties thereto, and

> not to controversies or cases that do not involve either the property or powers of the State which complains in its sovereign or corporate capacity that its people are injuriously affected in their rights by the legislation of another State. The citizens of the complaining State may, in proper cases, invoke judicial protection of their property or rights when assailed by the laws and authorities of another State; but their State cannot, even with their consent, make their case its case and compel the offending State and its authorities to appear as defendants in an action brought in this Court. If this be not so, we were wrong in *New Hampshire vs. Louisiana*, 108 U. S., 76, in which case it was held that one State could not, by taking charge of demands or debts held by its citizens against another State, acquire the right to bring a suit in its name in this Court against the debtor State."

From the foregoing it is evident that a suit by one State against another cannot be predicated upon the mere relation of *parens patriæ*, and that the multiplicity or unanimity of complaints by the citizens of the one against the acts of the other cannot be erected into a controversy between States.

In *Oklahoma vs. Atchison, T. & S. F. R. Co.*, 220 U. S., 277, effort was made by Oklahoma to invoke the original jurisdiction in a suit to enjoin foreign railroad companies from breach of the covenants contained in rights of way for their railroad tracks through that State. The question arose as to whether this constituted a controversy to which a State was a party within the meaning of the constitutional provision conferring original jurisdiction. Upon the authority of *Louisiana vs. Texas, supra*, the Court dismissed the bill for lack of jurisdiction, saying:

> "These doctrines, we think, control this case, and require its dismissal as not being within the original jurisdiction of this Court, as defined by the Constitution. Under a contrary view that jurisdiction could be invoked by a State, bringing an original suit in this Court against foreign corporations and citizens of other States, whenever the State thought such corporations and citizens of other States were acting in violation of its laws to the injury of its people generally or in the aggregate; although an injury in violation of law, to the property or rights of particular persons through the action of foreign corporations or citizens of States, could be reached, without the intervention of the State, by suits instituted by the persons directly or immediately injured."

The like holding was made in the companion case of *Oklahoma vs. Gulf, C. & S. F. R. Co.*, 220 U. S., 290, refusing jurisdiction of a suit by Oklahoma to enjoin citizens of other States from violation of the prohibition laws of Oklahoma, as not presenting a controversy to which a State is a party within the meaning of the Constitution.

At the outset we noted that the argument on the merits contains much that could be said against the jurisdiction. This is particularly true in respect of the effort of the plaintiffs to assert the infringement of rights of the gas companies and citizens of the plaintiff States, as to which we respectfully refer the court to Section VI of this brief.

If the original jurisdiction of this Court is attempted to be sustained because of the supply of West Virginia gas to municipalities or public institutions of Ohio and Pennsylvania, we submit that the jurisdiction is equally negatived by the above-cited cases. It cannot be overlooked that the

alleged rights claimed by the plaintiffs for themselves, as well as for their inhabitants, are alleged rights to West Virginia gas derived and derivable through public-service gas companies of West Virginia. Thus mediately derived, the alleged rights of the plaintiffs, as consumers of West Virginia gas in their municipalities or public institutions, can rise no higher than the West Virginia gas companies. We do not ignore the distinction between a question of jurisdiction, and the question whether the alleged right, prosecuted in the particular forum, really exists. But if the plaintiffs have a right to West Virginia gas, it is a right against the seven public service gas companies operating in West Virginia. And if as against some of these companies, as citizens of West Virginia, a suit might conceivably be brought in this Court to compel such companies to furnish gas to or for the use of the plaintiffs in a sovereign or corporate capacity, it would, at best, involve a controversy between the plaintiff States and such companies, and not a controversy between the plaintiffs and West Virginia. This, of course, is a basis of jurisdiction not invoked in the present cases. Whether, if such a suit were brought, it would be necessary for West Virginia to intervene to uphold its statute, and in the interest of a full hearing upon the validity of the statute under which the gas companies ought properly to justify, we need not discuss. But it is apparent that:

(*a*) On the one hand, whether the West Virginia companies shall furnish gas to the plaintiffs, is at most, a matter of controversy between such companies and the plaintiffs, and not a controversy between the plaintiffs and West Virginia, within the meaning of the constitution; and,

(*b*) The question whether West Virginia may validly regulate its public service corporations in the manner attempted by the statute in litigation, involves a controversy between West Virginia and such corporations, and is not a controversy between States within the meaning of the constitution.

In either view,—and both views extend to the full scope of these cases—there is no original jurisdiction in this Court.

II.

These cases must be considered in the light of the peculiar nature of gas and of the gas industry, and the exceptional rules of law applicable thereto.

Passing the question of jurisdiction, we premise discussion of the merits by reference to the fundamental fallacy which underlies the contentions of the plaintiffs. Basing their claim of right to West Virginia gas produced by West Virginia gas companies, they overlook the peculiar nature of the commodity itself and the exceptional status of the corporations, through and under which the plaintiffs seek to maintain their supply.

It is unnecessary to repeat in detail what already has been set forth at large in the statement of facts, is undisputed in the evidence, and has received judicial recognition. Briefly summarizing, the sources of natural gas are limited; the supply itself is exhaustible; and consumption involves the destruction of the very corpus of gas territory. Used for many years for illumination and fuel for domestic and industrial

purposes in West Virginia, Ohio, Pennsylvania, Indiana and Kentucky, the limits of the known or prospectively available gas fields have been defined. Knowledge or belief of the existence of other fields or sources of supply is disclaimed by the witnesses for the plaintiffs, one and all (Rec., 132, 210, 327, 372, 506, 553, 572, 670-671, and 822). There remain, aside from the complete development of the presently commercial sands by the customary methods of drilling and operation: the tenuous hope, none too confidently expressed, that additional paying gas sands may be discovered by the highly expensive and yet unsucessful drilling of deeper wells (Rec., 135); and the application of suction to the wells in the known sands, which process will but hasten the depletion of the sands and the exhaustion of the gas (Rec., 345, 1311).

In the known fields in all of these States it is uncontroverted that the curve of production is downward. The tendency to decline became manifest many years ago in Indiana, Ohio and Pennsylvania, preceding the development for other than local use in West Virginia (Rec., 60-63, 438, 521-524, 699, 726, 947). It was a known incident of gas industry and consumption in those States, the consequences of which were temporarily overcome or held in check by the extension of older fields or the discovery of new fields in those States, as the earlier production fell away. But it ultimately came about that production in those States declined—in Indiana to the point of practical exhaustion; in Ohio to the condition of depletion in some fields and of vast deficiency in the aggregate; and in Pennsylvania to a great insufficiency to meet the increasing domestic and industrial demands of the grow-

ing population in its gas-using districts (Rec., 60-63, 438, 521-524, 699, 726, 947).

Duplication of this history is in progress in West Virginia. Originally possessed of enormous gas resources, yielding a great surplus over its local needs, consumers or gas companies in the other States were permitted to make good the deficit of their own declining production from the ample stores of West Virginia. Finally, between 1916 and 1917, the production of West Virginia itself took a downward course, ever since pursued (Rec., 1603, 996, 997). And so it resulted that with a receding production, subjected to heavy drafts for transportation to other States, the service of West Virginia consumers, subordinated to the wants of consumers elsewhere, became inadequate.

We do not follow narrative further at this point. That already said has sufficed to mark natural gas and the natural-gas industry as peculiar, because of the inherent and antecedently known limitations upon the sources of supply and the inevitability of decline and exhaustion. In this regard natural gas differs essentially from other commodities, and even from those dealt in by ordinary public-service corporations supplying water, artificial gas or electricity. The waters of a water company are continually replenished from seemingly undimished natural reservoirs; an artificial-gas company can always manufacture new gas; an electric company can generate new power indefinitely. And in the instance of a public utility supplying services, as distinguished from a commodity, such as a railroad or a telephone line, the rendition of the service operates in no degree to diminish the volume of future service. Such instrumentalities may

wear out, but they can be duplicated from an abundance of materials.

It is a result that natural gas, and rights therein, are in many respects governed by exceptional rules of law. Illustrations are found in *Brown vs. Spilman*, 155 U. S., 665, 669, 670, holding that "decisions in ordinary cases of mining, for * * * minerals which have a fixed *situs* cannot be applied to contracts concerning" gas "without some qualification;" in *Ohio Oil Co. vs. Indiana*, 177 U. S., 190, holding valid a statute prohibiting the escape of gas in the air longer than two days, and *Walls vs. Midland Carbon Co.*, 254 U. S., 300, sustaining the prohibition, in certain circumstances, of the manufacture of carbon-black from gas, it being said that in both instances the power of regulation was "dependent upon the natures of oil and gas;" and *Westmoreland & C. Nat. Gas Co. vs. Dewit*, 130 Pa., 235, 18 Atl., 724; and see *Bacon vs. Walker*, 204 U. S., 311, 316. Consequent on this follows the inadmissibility of the indiscriminate application to natural gas and to public-service corporations engaged in its production, transportation or supply, of legal principles applicable to ordinary commodities and to individuals and corporations dealing in or with such commodities.

III.

THE WEST VIRGINIA PUBLIC SERVICE GAS COMPANIES, INCLUDING THE SEVEN COMPANIES, WERE AND ARE OBLIGATED, IRRESPECTIVE OF THE STATUTE IN CONTEST, TO FURNISH WEST VIRGINIA CONSUMERS A REASONABLY ADEQUATE SUPPLY OF GAS.

As stated heretofore, upon the basis of the statistics of the United States Geological Survey the West Virginia gas

transported to other States increased between 1908 to 1916 from 61,664,618 M cubic feet to 200,004,740 M cubic feet, from which year there was a decline to 174,664,650 M cubic feet in 1918, and a sudden drop in 1919 (early in which year the statute in contest was passed) to 139,939,062 M cubic feet (Rec., 1603); that, based on the same statistics, from 1908 to 1919 the proportion of gas so transported to the total production ranged from 55 per cent to 68 per cent (Rec., 1603); that from 1911 to 1916, the net supply of West Virginia gas in the hands of the public-service corporations increased from 173,132,353 M cubic feet to 259,414,200 M cubic feet, with a decline to 227,649,823 M cubic feet in 1918 and 183,687,047 M cubic feet in 1919, during which period of years West Virginia consumers received from 19.9 per cent to 25.6 per cent of this gas, and the exports were from 74.4 per cent to 80.1 per cent (Rec., 996); that from 1911 to 1919, the seven companies, Hope Natural Gas Company, Reserve Gas Company, Pittsburg & West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light & Heat Company, United Fuel Gas Company and Columbia Gas & Electric Company, have controlled from 80.3 per cent to 91 per cent of this public-service gas and sold to West Virginia consumers only from 11 per cent to 17.9 per cent (Rec., 996, 997), the residue being transported for consumption in other States, and that since the winter of 1916-1917 there has been a shortage of gas supply in the very West Virginia districts in or through which these seven companies have been producing, transporting or selling gas; that smaller surviving local gas companies were and are without sufficient gas production or reserves by reason of the control of the seven companies; that the

gas shortage in West Virginia has caused suffering and inconvenience in homes, business buildings and public institutions (Rec., 1194-1195, 1343-1345), interruption of industry and expense of alteration of factories and their processes and public institutions, so as to consume other fuel (Rec., 1139 *et seq.*, 1223-1224, 1343-1345); and that these conditions have been confined to no single locality, but have been general throughout large and populous sections of West Virginia.

Is it within the power of the State to protect its inhabitants, and to remedy this evil? We can best answer the inquiry by a brief survey of the rights which these companies have acquired at its hands and of the concomitant duties which they assumed as conditions of the granted rights.

Special Rights and Privileges of Gas Companies.

All of the seven companies, except the Manufacturers Light & Heat Company and the Carnegie Natural Gas Company, are West Virginia corporations. The excepted two are Pennsylvania corporations, admitted to carry on business in West Virginia, under the statute extending to foreign corporations so admitted "the same rights, powers and privileges that are conferred on domestic corporations created for the same purpose," and subjecting them "to the same regulations, restrictions and liabilities that are imposed upon like corporations" created by West Virginia.

Hydro Electric Co. vs. Liston, 70 W. Va., 83, 91; 73 S. E., 86.

Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557, 572; 79 S. E., 3.

Precedent to the statute in controversy, these corporations were at common law and by statute denominated as public service corporations, and were subject to the Public Service Commission Act.

Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 662; 44 S. E., 410.

Hardman vs. Cabot, 60 W. Va., 664; 55 S. E., 756.

Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557; 79 S. E., 3.

W. Va. Acts of 1913, Ch. 9, Sec. 3.

W. Va. Acts of 1915, Ch. 8.

United Fuel Gas Co. vs. Public Service Com., 73 W. Va., 571; 80 S. E., 931.

Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638; 100 S. E., 551.

Kelly Axe Mfg. Co. vs. Public Service Com. (W. Va.), 105 S. E., 152.

Manufacturers Light & Heat Co. vs. Ott, 215 Fed., 940.

They were constituted, in their capacity of pipe-line companies, common carriers, "subject to all the duties and liabilities of such carriers under the laws" of West Virginia.

Code of W. Va. (1913), Ch. 52, Sec. 24.

By the nature of the business in which they were actually engaged and by their express professions they held themselves out as public-service corporations, supplying, and ready and willing to supply, gas to the public in West Virginia, and desirous of extending their business in the State (Rec., 1804, 1823, 1843, 1857, 1876, 1896).

They received and hold franchises from municipalities, authorizing the public distribution of gas therein (Rec., 1016), and franchises or permits in the nature thereof, obtained from municipalities and counties, enabling them to lay and maintain pipe lines and other appliances in the public streets and highways (Rec., 1016, 1917).

They have long enjoyed and exercised the right of eminent domain, and in respect of pipe lines an exceptionally expeditious procedure for that exercise. The power of eminent domain, even when not actually called into use, is potentially ever present in aid of the acquisition of rights of way and other property by private contract.

Code of W. Va. (1913), Ch. 42, Secs. 1 and 20; Ch. 52, Sec. 24.

That these companies would have received the above special rights and privileges except upon the terms of affording adequate service to the public of West Virginia, or in contemplation of the subordination of that service to that of the people of other States, is unthinkable.

And yet it is true that the pipe lines and their appurtenances, the compressor stations, as well as the companies transporting the greater part of the West Virginia gas to or for use in other States, owe their existence to the foregoing special rights and privileges. For as the pipe lines and compressor stations enabled these companies to acquire their own holdings of gas territory, which thereby were withdrawn from acquisition by others, so the pipe lines and stations constitute them, except under special circumstances, the only purchasers from, or market of, the independent producer of gas. And by the pipe lines and stations, which

are the only means of transporting the gas to distant points of consumption, these companies are enabled to convey their gas, near or far, to the destination of their choice, within the range of their lines.

Regardless of the law already cited, which in the same breath by which it confers on them the power of eminent domain makes them common carriers (*Code*, W. *Va.*, Ch. 52, Sec. 24), these companies, as was the case in *United States vs. Ohio Oil Co.*, 234 U. S., 548, refuse to transport for other producers gas which might serve the public in West Virginia. The independent producer must, in general, either stand by and see his gas withdrawn through adjoining operations, or must sell it to one of these companies.

The monopoly thus held by these large companies is described by a short passage from *United States vs. Ohio Oil Co.*, 234 U. S., 548, 559, the language there used in relation to oil being equally applicable to gas:

> "Availing itself of its monopoly of the means of transportation the Standard Oil Company refused, through its subordinates, to carry any oil unless the same was sold to it or to them, and through them to it, on terms more or less dictated by itself. In this way it made itself master of the fields without the necessity of owning them, and carried across half the continent a great subject of international commerce coming from many owners, but, by the duress of which the Standard Oil Company was master, carrying it all as its own."

And the resulting evil is akin to that referred to by the Hepburn Act of June 29, 1906 (34 U. S. Stat. at L., 584), rendering it illegal for interstate carriers to transport com-

modities owned by them or in which they were interested. (See *United States vs. Delaware & H. R. Co.*, 213 U. S., 366; *Delaware, L. & W. Co. vs. United States*, 231 U. S., 363.)

Duties of Gas Companies to Serve West Virginia Public.

The duties assumed and undertaken by these corporations are well stated in *Carnegie Natural Gas Co. vs. Swiger*, 72 W. Va., 557, 571; 79 S. E., 3, as follows:

> "We observe that the Legislature, by general law, has conferred upon pipe-line companies, organized for transporting oil and natural gas, the right of eminent domain, and has thereby necessarily imposed upon them, as public-service corporations, the right and duty of performing a public service. That right and duty is fixed as firmly as if written into the statute. * * * Pipe-line companies organized for transporting gas must serve the public with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves, or by statute, or by contracts or ordinances of municipalities. * * * The rights of the people are thus protected in nearly every case where the public is served by public service corporations, furnishing water, gas, electricity, or transportation." (Citing *Charleston Gas Co. vs. Lowe*, 52 W. Va., 662; *Hydro-Electric Co. vs. Liston*, 70 W. Va., 83; *Calor Oil & Gas Co. vs. Franzell* (Ky.), 109 S. W., 328; *Olmstead vs. Morris Aqueduct*, 47 N. J. L., 311; *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396; *Munn vs. Illinois*, 94 U. S., 133).

In *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396, quoted in *Charleston Nat. Gas Co. vs. Lowe*, 52 W. Va., 662; 44

S. E., 410; *People vs. Chicago Gas Trust Co.*, 130 Ill., 393; 22 N. E., 803, and in many other cases, it was said:

> "These gas companies entered the streets of Baltimore, under their charters, in the exercise of the equivalent of the power of eminent domain, and are to be held as assuming an obligation to fulfill the public purposes to subserve which they are incorporated."

And see:

Producers Transp. Co. vs. Railroad Com. of California, 251 U. S., 228, 231, 232.

Franke vs. Johnstown Fuel Supply Co., 70 Pa. Super. Ct., 446, 457.

It thus appears that the right of eminent domain is delimited by, and coincides with, the public use which it is intended to aid. And that public use is shortly expressed in *Hydro-Electric Co. vs. Liston*, 70 W. Va., 83, 91; 73 S. E., 86, where, holding that a foreign corporation, authorized to do business in West Virginia, may enjoy the right of eminent domain, it is said:

> "This gives the right of eminent domain, to be exercised, however, *for the public use of the citizens of West Virginia.*"

In *Lewis, Em. Dom.* (3 ed.), Sec. 310, it is said:

> "The public use for which property may be taken is a public use within the State from which the power is derived. It seems to be an admitted fact generally, that the power inheres in a State *for domestic uses only, to be exercised for the benefit of its*

own people, and cannot be extended merely to promote the public uses of a foreign State."

See also *Grover, &c., Land Co. vs. Lovella, &c., Irr. Co.,* 21 Wyo., 204; 131 Pac., 43, elaborately discussing this point, and 1 *Nichols, Em. Dom.,* Sec. 29.

The duty of serving the public of West Virginia being plain, it follows that the gas companies were and are obligated to furnish that public within the territory of their operations or along their pipe lines a reasonably adequate supply of gas, and this apart from the Act of 1919, now in contest.

In *Charleston Nat. Gas Co. vs. Lowe,* 52 W. Va., 662, 671; 44 S. E., 410, it was asked and answered:

> "But have the citizens of Charleston an absolute and indefeasible right to the use of the gas upon reasonable and equal terms? Is the company bound to furnish gas to all who apply for it without an express legislative imposition of that duty upon it? Undoubtedly. The courts have so held in many of the States, and their decisions are grounded upon both reason and the best of authority."

In *Carnegie Nat. Gas Co. vs. Swiger,* 72 W. Va., 557, 571; 79 S. E., 3, it was said:

> "Pipe-line companies organized for transporting gas must serve the people with gas, under reasonable and proper regulations, along the entire line traversed, and for reasonable rates fixed by themselves, or by statute, or by contracts or ordinances of municipalities."

And see:

Kelly Axe Mfg. Co. vs. Public Service Com. (W. Va.), 105 S. E., 152.

So in *New York vs. McCall*, 245 U. S., 345, 351, Mr. Justice Clarke said:

> "Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve, and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render."

And see:

Ohio General Code, Secs. 614-12.

Pennsylvania Pub. Laws of 1913, p. 1374; *Public Service Com. Law*, Art. 2, Sec. 1.

Industrial Gas a Public Service.

It is relevant in this relation, though perhaps unnecessary in view of the previous and present professions and practice of the gas companies (*Producers Transp. Co. vs. Railroad Com. of California*, 251 U. S., 228, 232; *United States vs. Ohio Oil Co.*, 234 U. S., 548, 561), both in West Virginia and the plaintiff States, to mention that the scope of the public duty includes not merely the supply of domestic consumers, but also the furnishing of gas for public buildings and for industrial consumption. This relevancy arises because of the contention of one of the witnesses for the plaintiffs (Rec., 942) that the industrial consumption of gas is wasteful, and the prophecy of other witnesses for the plaintiffs that the enforcement of the statute in question will divert to West Virginia the entire gas production of the State. In the statement of facts it has already been indi-

cated that both by representations of readiness and willingness to supply gas for industrial use, and by their actual engagement in the business of furnishing such gas, these companies have stamped such service as a public service. It appears, also, that the industrial consumption has occurred and is still in progress in large volumes and proportions in the other States, and particularly in Pennsylvania (Rec., 344, 349-350, 1104, 1106-1107). And it has been testified with substantial unanimity by the managing officers of the gas companies operating in West Virginia, and by some of those operating in the other States, that the industrial consumption is a financial necessity to the gas companies and an advantage to domestic consumers, because of its influence in preventing the higher domestic rates which would be required if the gas were confined to domestic use (Rec., 288, 328, 437, 476, 525–526). Though in justice to these witnesses, it should be added that in upholding the necessity of industrial consumption they admit the propriety of subordinating the industrial consumption to the domestic.

Laying aside the matter of the professions and practice of the gas companies operating in West Virginia, and apart from the statute now in controversy, it has been held by the highest court of that State that the furnishing of gas for industrial purposes is a public service, and that the business of a gas company in this regard is affected with a public interest.

Clarksburg Light & H. Co. v. Public Service Com., 84 W. Va., 638; 100 S. E., 551.

Kelly Axe Mfg. Co. v. Public Service Com. (W. Va.), 105 S. E., 152.

Recognition of the public character of the service, though not the subject of direct decision, is to be found in *Pennsylvania Gas Co. v. Public Service Com.*, 252 U. S. 23, 31. And the same view is contained in principle in the negative answer in *Interstate Commerce Com. v. Baltimore & O. R. Co.*, 225 U. S. 326, 342, to the inquiry, "May a carrier look beyond the service it is called upon to render to the attitude and interest of the shippers before, or their attitude and interest after, transportation?"

See also:

Hydro-Electric Co. v. Liston, 70 W. Va., 83, 88; 73 S. E., 86.

Mill Creek Coal & C. Co. v. Public Service Com., 84 W. Va., 662; 100 S. E., 557.

Bailey v. Fayette Gas Fuel Co., 193 Pa., 175; 44 Atl., 251.

Lack of Power of Gas Companies to Disable Themselves from Performing Public Duty.

The duty of serving the public of West Virginia appearing, upon no pretext could or can these companies renounce or abandon the duty of furnishing gas to that public to the extent of their ability to do so, within the measure of reasonable adequacy and the territorial limits prescribed by law. In *Gibbs v. Consolidated Gas Co.*, 130 U. S., 396, Mr. Chief Justice Fuller said:

> "It is also too well settled to admit of doubt that a corporation cannot disable itself by contract from performing the public duties which it has undertaken, and by agreement compel itself to make pub-

lic accommodation or convenience subservient to its private interests.

"'Where,' says Mr. Justice Miller, delivering the opinion of the court in *Thomas vs. Railroad Co.*, 101 U. S., 71, 83, 'a corporation, like a railroad company, has granted to it a franchise intended in large measure to be exercised for the public good, the due performance of those functions being the consideration of the public grant, any contract which disables the corporation from performing those functions, which undertakes without the consent of the State to transfer to others the rights and powers conferred by the charter, and to relieve the grantees of the burden which it imposes, is a violation of the contract with the State and is void as against public policy.'

"These gas companies entered the streets of Baltimore, under their charters, in the exercise of the equivalent of the power of eminent domain, and are to be held as having assumed an obligation to fulfill the public purposes to subserve which they are incorporated.'

In *Attorney-General vs. Haverhill Gas L. Co.*, 215 Mass., 394; 101 N. E., 1061, it was said of the gas company:

"The respondent is a corporation, organized to exercise a public franchise of importance to the community in which it conducts its business. It is its duty to exercise this franchise for the benefit of the public, with a reasonable regard for the rights of individuals who desire to be served, and without discrimination between them. It cannot relieve itself from this duty so long as it retains its charter. It enjoys public rights in the streets, which are derived from the Commonwealth, through action of the board of aldermen under authority of the Legislature. It

is a quasi-public corporation, and as such it owes duties to the public. * * * Without legislative authority it cannot sell its property and franchise to another party, in such a way as to take away its power to perform its public duties."

See also:

Oregon R. & N. Co. vs. Oregonian R. Co., 130 U. S., 1, 23.

Central Transp. Co. vs. Pullman P. C. Co., 139 U. S., 24, 42-44.

South Covington & C. S. R. Co. vs. Kentucky, 252 U. S., 399, 403, 404.

Visalia Gas & El. Co. vs. Sims, 104 Cal., 326; 37 Pac., 1044.

Charleston Nat. Gas Co. vs. Lowe, 52 W. Va., 622, 671; 44 S. E., 410.

Town of Gassaway vs. Gassaway Gas Co., 75 W. Va., 60; 83 S. E., 189.

The principle of the foregoing authorities is applicable to the present case. Instead of disposing of their plants, as has been often attempted, the seven gas companies have attempted to disable themselves from the performance of their duty of serving the people of West Virginia by disposing elsewhere of the very subject matter of the service. The disability equally exists, and would be no greater if they sold their pipe-lines.

The Gas Business and West Virginia Gas are Affected with a Public Interest.

The lack of power to disable themselves from the performance of their public duties, applicable to public-service corporations in general, is especially pertinent in the case of natural-gas companies. That the business of such a company is affected with the public interest, within the meaning of the cases reaching from *Munn vs. Illinois*, 94 U. S., 113, to *Union Dry Goods Co. vs. Georgia Pub. Service Corp.*, 248 U. S., 372, 374, 375, is commonplace.

Charleston Gas Co. vs. Lowe, 52 W. Va., 662, 671; 44 S. E., 410.

Clarksburg Light & H. Co. vs. Public Service Com., 84 W. Va., 638; 100 S. E., 551.

Franke vs. Johnstown Fuel Supply Co., 70 Pa., Super. Ct., 446, 456.

Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23.

Manufacturers Light & H. Co. vs. Ott, 215 Fed., 940.

But we may justifiably go further. Given a commodity of peculiar attributes, local in its origin, exhaustible, and, in fact, approaching the point of exhaustion, as is West Virginia gas, so that on the one hand it has become a public necessity at home and is, or may be, insufficient both to supply that necessity and to furnish it to consumers abroad, in the hands of corporations owing public duties, in the performance of which the public has an interest, *the gas itself is in a just sense to be regarded as affected by a public interest.*

In *German Alliance Ins. Co. vs. Lewis,* 233 U. S., 38
it was held that even the making of personal contracts, suc
as contracts of fire insurance, might be affected by the publ
interest. Mr. Justice McKenna there said in reply to th
suggestion that only tangible property could be so affecte

> "The distinction is artificial. It is, indeed, but th
> assertion that the cited examples embrace all cases
> public interest. The complainant explicitly so co
> tends, urging that the test it applies excludes the id
> that there can be a public interest which gives th
> power of regulation as distinct from a public us
> which, necessarily, it is contended, can only apply
> property, not to personal contracts. The distinctio
> we think, has no basis in principle (*Noble State Ban*
> *vs. Haskell,* 219 U. S., 104), nor has the other co
> tention that the service which cannot be demande
> cannot be regulated."

In *Wilson vs. New,* 243 U. S., 332, it was held that th
personal services of the employees of interstate railroads we
so far affected with a public interest as to justify the regul
tion of hours of labor and in consequence a wage standard.

That the public interest may extend to property itself,
distinguished from a business, considered merely as an ins
tution, is illustrated by the instance of the grain elevators
Munn vs. Illinois, 94 U. S., 113. The same idea is co
veyed in *Union Dry Goods Co. vs. Georgia Pub. Servi*
Com., 248 U. S., 372, 374, where it was said "that capit
invested in an electric light and power plant to supply el
tricity to the inhabitants of a city is devoted to a use in whi
the public has an interest." In *Block vs. Hirsh,* U. S. Ad
Ops., 1920-'21, page 531, involving the District of Columb

rent law, cases were cited as sustaining the point "that the public interest may extend to the use of land."

In *Franke vs. Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct., 446, 456, this view is expressed as follows:

> "What the company did was from the beginning subject to the conditions under which it existed at all. The public had no interest in, or right to, the gas of the promoters of the Peoples Natural Gas Company until the latter, for the purpose of obtaining the advantages accorded to them under the statute, organized their company. The owners were not compelled to give to the public an interest in their supply of gas, but they became under obligation to the laws of the commonwealth if they used it in the manner prescribed by that law. When the shareholders accepted the charter of the company and proceeded to exercise the franchises thereby granted they invested the public or such limited portion of the public with a use or right of use in the commodity which they supplied. This constitutes a public use—such a use as might have been in the contemplation of the parties when the company was organized."
>
> See also *Bacon vs. Walker*, 204 U. S., 311, 315.

And in *Walls vs. Midland Carbon Co.*, 254 U. S., 300, regulating the consumption of gas in carbon-black manufacture, it was referred to as "a determining consideration" that the State had "an interest to adjust and preserve, natural gas being one of the resources of the State."

We need not go so far as to say that the whole quantity of gas existing in a State at any time is affected by the public interest; for if there is an abundance wherewith to serve all present requirements, it may well be that the public

cannot be said to have an interest in any particular part of i
But if the whole quantity of gas is so far reduced, or in pro
pect of reduction, that all who at the time desire to consum
it cannot be served, and the very gas which is being pr
duced by corporations, themselves affected by the public in
terest, is immediately necessary for consumption by the pe
ple of the State, that very gas may in a correct sense b
deemed to be affected with the public interest of the State, an
to fall within a different rule. For as said in *Block vs. Hirsh, supra*: "Plainly, circumstances may so change in tim
or so differ in space as to clothe with such an interest wha
at other times or in other places would be a matter of purely
private concern;" and then referring to previous decision
it was remarked: "They dispel the notion that what in its
immediate aspect may be only a private transaction may not
be raised by its class or character to a public affair."

Walls vs. Midland Carbon Co., supra, is, indeed, an example of these observations in *Block vs. Hirsh*; for the Walls
case related to a failing gas supply, in respect of which it was
said:

> "The determining consideration is the power of the
> State over, and its regulation of, a property in which
> others besides the companies may have rights, and in
> which the State has an interest to adjust and preserve,
> natural gas being one of the resources of the State."

And again it was said of previous cases that,—

> "the State of Wyoming has the same power to prevent
> the use of natural gas in the production of carbon
> black, the tendency of which is (it may be the in-
> evitable effect of which is) the exhaustion of the
> supply of natural gas, and the consequent detriment
> of other uses."

These considerations would, we believe, sufficiently distinguish *West vs. Kansas Nat. Gas Co.*, 221 U. S., 229, even if the legislation now in contest directly acted on interstate commerce. There the whole volume of gas produced in Oklahoma was more than sufficient to serve the then gas-consuming public of that State, and only the surplus, required by no present necessity in the State, was being transported out of it. Still further, the companies and individuals attacking the validity of the statute there involved were, as more fully appears in the report of the case below (*Kansas Nat. Gas Co. vs. Haskell*, 172 Fed., 545), not engaged, and apparently not obligated to engage, in the public supply of gas in Oklahoma. Therefore, neither they by their business, nor their surplus product, by any existing need, could be said to be affected by any immediate public use. We shall refer to this decision again, in relation to the commerce clause of the Federal Constitution.

IV.

IT WAS WITHIN THE RIGHT AND POWER OF THE STATE TO REGULATE THE GAS COMPANIES. THE RIGHT AND POWER ARE BASED ON SEVERAL GROUNDS AND THEIR EXERCISE WAS NECESSARY.

The nature of the gas companies and the relation of their service to the West Virginia public having been adverted to, the legislative right of the State to regulate them, in order to compel the performance of their duties, is manifest and well established. That right, and its due expression, rest upon a triple foundation:

(1) *The Implied Condition Accompanying the Grant of Rights and Privileges to the Companies.*

The implied condition of public service accompanied the grant of the corporate powers and special rights and privileges, and subject to such condition those powers, rights and privileges were accepted by these companies.

Charleston Gas Co. vs. Lowe, 52 W. Va., 662, 671; 44 S. E., 410.

Carnegie Nat. Gas Co. vs. Swiger, 72 W. Va., 557, 571; 79 S. E., 3.

Farmers Loan & T. Co. vs. Galesburg, 133 U. S., 156.

Lake Shore & M. S. R. Co. vs. Ohio, 173 U. S., 285.

New Orleans Waterworks Co. vs. Louisiana, 185 U. S., 336, 346.

Missouri P. R. Co. vs. Kansas, 216 U. S., 262.

In *Charleston Gas Co. vs. Lowe, supra*, it was said, with passing reference to *Gibbs vs. Consolidated Gas Co.*, 130 U. S., 396:

> "But have the citizens of Charleston an absolute and indefeasible right to the use of the gas upon reasonable and equal terms? Is the company bound to furnish gas to all who apply for it without an express legislative imposition of that duty upon it? Undoubtedly. The courts have so held in many of the States, and their decisions are grounded upon both reason and the best of authority.
>
> * * * * * *
>
> "Occupying the streets of Charleston by permission of its council, first had, for the purpose of supplying to the inhabitants natural gas, the company is bound

to furnish gas to every citizen applying therefor and willing to pay the prices agreed upon between the company and the city. The occupancy of the streets by such a company can only be for purposes in which the public is concerned, and the obligations thus assumed by the company, whether expressly incorporated in the franchise or not, will be enforced.

* * * * * *

"The same has been held in cases concerning water companies, which as shown are so nearly akin to gas companies. In *Olmstead vs. Aq. Co.*, 47 N. J. L., 311, we find: 'Although the aqueduct charter contains no express provision requiring the company to supply all consumers, * * * in accepting such charter the company impliedly engages to use it in a manner that will accomplish the legislative design. It is thereby bound to supply on reasonable terms all who apply for water.'

"In *Lombard vs. Stearns*, 4 Cush. (Mass.), 60, the court held: 'By accepting the act of incorporation they undertook to do all the public duties required of it.'"

In *Carnegie Nat. Gas Co. vs. Swiger, supra*, the statement is made of the implied right of the public to service and the duty to serve the public:

"That right and duty is fixed as firmly as if written into the statute."

In *Farmers L. & T. Co. vs. Galesburg, supra*, the inadequacy of the water supplied under a municipal franchise was held to warrant the revocation of the franchise.

In *Lake Shore & M. S. R. Co. vs. Ohio, supra*, it was said:

"The plaintiff in error accepted its charter subject necessarily to the condition that it would conform

> to such reasonable regulations as the State might from time to time establish, that were not in violation of the supreme law of the land."

In *Missouri P. R. Co. vs. Kansas, supra*, in upholding the validity of an order of a State Railroad Commission requiring an interstate railroad to operate an additional train within the State, it was said, quoting in part from *Atlantic Coast Line R. Co. vs. North Carolina Corp. Com.*, 206 U. S., 1:

> "But where a duty which a corporation is obliged to render is a necessary consequence of the acceptance and continued enjoyment of its corporate rights, those rights not having been surrendered by the corporation, other considerations are, in the nature of things, paramount, since it cannot be said that an order compelling the performance of such a duty at a pecuniary loss is unreasonable. To conclude to the contrary would be but to declare that a corporate charter was purely unilateral; that is, was binding in favor of the corporation as to all rights conferred upon it, and was devoid of obligation as to duties imposed, even although such duties were the absolute correlative of the rights conferred."

(2) *The Police Power.*

The general police power, apart from any implication of conditions annexed to the grant, embraces the settled right of the State exists to compel its creatures to perform the public duties for which they were created.

Munn vs. Illinois, 94 U. S., 113.

New Orleans Gas L. Co. vs. Louisiana Light, &c. Co., 115 U. S., 650.

Stone vs. Farmers L. & T. Co., 116 U. S., 307.

Reagan vs. Farmers L. & T. Co., 154 U. S., 362.

Prentis vs. Atlantic Coast Line Co., 211 U. S., 210.
Erie Railroad Co. vs. Board of Public Utility Com., 254 U. S., 394.
United Fuel Gas Co. vs. Public Service Commission, 73 W. Va., 571.
Mill Creek Coal & C. Co. vs. Public Service Com., 84 W. Va., 662; 100 S. E., 557.

It is unnecessary to multiply cases; for almost all in which the State's regulatory power has been upheld might be cited in added example.

Of the nature of the police power and its application to the cases at bar, we say nothing more at this point, because we shall have occasion to refer to it later.

(3) *The Reserved Power to Alter or Repeal Corporation Charters and Laws.*

The Legislature at the outset had the power to impose such conditions as it saw fit upon the grant of corporate charters, franchises, rights of condemnation and other privileges to gas companies.

Ashley vs. Ryan, 153 U. S., 436, 441-444.
Home Ins. Co. vs. New York, 134 U. S., 594, 600.
New Jersey vs. Anderson, 203 U. S., 483, 493.

It follows that in authorizing the incorporation of such companies, or such rights and privileges, the Legislature might, in the public interest, have imposed as conditions every provision of the statute assailed. And a corporation accepting a charter upon such conditions would have been estopped to rebel against them.

Ashley vs. Ryan, 153 U. S., 436, 441, 443.
Interstate Consol. S. R. Co. vs. Massachusetts, 207 U. S., 79, 84.

Now it appears that when the seven gas companies were incorporated or admitted to do business in West Virginia, and ever since, it has been within the reserved power of the Legislature "to alter or repeal the charter or certificate of incorporation * * * granted to any joint-stock company, and to alter or repeal any law applicable to such company."

Code of W. Va., Ch. 53, Sec. 8.

W. Va. Acts of 1867, Ch. 5, Sec. 6.

W. Va. Acts of 1882, Ch. 96, Sec. 8.

St. Mary's, &c., Petroleum Co. vs. West Virginia, 203 U. S., 183.

Manufacturers Light & H. Co. vs. Ott, 215 Fed., 940.

This being true, when the Legislature enacted the statute in question it was equally within its power to prescribe that they should render reasonably adequate service to West Virginia, and to provide for the supply of local companies experiencing a shortage, to the extent which the present statute contemplates.

Stanislaus Co. vs. San Joaquin & K. R. C. & I. Co., 192 U. S., 201, 211.

Erie R. Co. vs. Williams, 233 U. S., 685, 700-704.

Sutton vs. New Jersey, 244 U. S., 258, 260.

Fair Haven & W. R. Co. vs. New Haven, 203 U. S., 379, 388.

San Antonio T. Co. vs. Altgelt, 200 U. S., 304.

New York & N. E. R. Co. vs. Bristol, 151 U. S., 556, 567, 568.

Hamilton Gaslight & C. Co. vs. Hammond, 146 U. S., 258, 269-271.

Spring Valley Water Co. vs. Schottler, 110 U. S., 347, 353.

Greenwood vs. Union Freight Co., 105 U. S., 13.

Hammond Packing Co. vs. Arkansas, 212 U. S., 322, 345, 346.

From the decline of West Virginia gas production, the shortage of gas supply in West Virginia, the social and economic dependency on gas in reasonably adequate volume, the domestic and industrial evils resulting from the lack of such service, the "fact accomplished" that there is now, and for several years has been, insufficient West Virginia gas to permit at once the full measure of service in West Virginia and the other States to which it was and is transported, admittedly there must be, in the nature of things, a limitation upon the service and consumption of gas, in respect of either the purposes of the consumption or the territorial area of supply. In this situation, it was and is incumbent on some one to formulate and enforce suitable regulations. And the Congress not having acted, even in respect of the interstate transportation of gas (*Act of June 18, 1910,* Ch. 309, Sec. 7; 36 Stat. at L., 539, 544; *Pennsylvania Gas Co. vs. Public Service Com.,* 252 U. S., 23, 30), the exercise of a regulatory power must emanate either from the State or from the gas companies. And the question is, which should it be?

Inability of Gas Companies to Formulate Regulations and Necessity of State Action.

Even in the absence of the exertion of the State's power, it is to be observed that the managing officers of a majority

of the seven gas companies, and others experienced in the gas business or thrust forward as experts, and appearing as witnesses for the plaintiffs, are entirely at sea and disagree among themselves as to the appropriate remedy, agreeing only that West Virginia gas is declining and that West Virginia consumers are getting too great a share of it. Certain of them advocate restriction of the use to cooking and hot-water heating for domestic purposes (Corrin, 348); others suggest limiting the quantity allowed to each consumer (Tonkin, 441-3); others are positive that the real remedy lies in increasing the price to the point where the consumer will himself cut down the amount used (Daly, 608; Freeman, 476); others say that eventually the number of consumers must be decreased and the area of service contracted toward the source of supply (Quay, 163-9; Denning, 698); while two others confess frankly that they do not know what can be done (Reed, 525; Sullivan, 297). All of these officers of gas companies declare necessary the use of gas for industrial purposes whenever there is a surplus over the needs of the domestic consumers, and state that the industrial consumption is financially necessary to the gas company and aids to keep down domestic rates (Rec., 288, 228, 437, 476, 525-526). One engineer employee of the plaintiffs (Wyer, 942) advocates the complete elimination of gas for industrial use, as a matter of conservation, and eventually the cutting off of consumers in the remote areas of service.

The reasonable anticipation, if regulation were to be left to the gas companies, is accurately gauged by the denial of the plaintiffs of West Virginia's regulatory power, if and when its regulations affect the quantity of gas transported

to the other States, regardless of consequences in and to West Virginia; by the predictions of injury to the other States and gas companies operating therein, by the withdrawal of any West Virginia gas from export (Rec., 526, 605, 606, 854, 972, 973), and by the thought expressed by some witnesses for the plaintiffs, exemplified by Anderson, another engineer of these companies, that, irrespective of the statute, any increased consumption in West Virginia, even because of increased population, would prejudice the other States (Rec., 854):

> "Q. Would any increase of consumption in West Virginia have the result of depriving Pennsylvania and Ohio consumers?
>
> "A. It would have the result of depriving them to that extent, I think.
>
> "Q. That is, for every 1,000 feet of added consumption in West Virginia, consumers in Pennsylvania and Ohio will be deprived to that extent?
>
> "A. I think so.
>
> "Q. And to the extent that the gas companies are prevented from furnishing that 1,000 feet in Pennsylvania or Ohio, those companies will suffer a loss in their plants, or the operation of their plants?
>
> "A. And profits.
>
> "Q. I want to ask you whether the inconvenience in Pennsylvania and Ohio, resulting from the consumption of this extra 1,000 cubic feet of gas in West Virginia, would occur, whether that extra consumption were brought about by the enforcement of this statute, or brought about by additional consumers, or some other cause?
>
> "A. It would occur in the same way and to the same extent.

"Q. In other words, if some citizen of New York or New Jersey should move to Clarksburg, West Virginia, and add to the population that way, and consume gas for domestic purposes, some Pennsylvania or Ohio consumer, or the consumers in those States in the aggregate, would be deprived and inconvenienced to that extent?

"A. Providing he was located on the lines of some of these interstate companies.

"Q. That is what I mean.

"A. Where he could obtain some of their supply, or possible supply."

And see, in similar strain, the testimony of Wyer (Rec., 972, 973):

"Q. It is, however, your idea, regardless of the class of consumption that, to the extent of the increase of every thousand feet of consumption in West Virginia, there would be a corresponding diminution of supply in the other States?

"A. If the act in question were enforced, there would be no supply in the other States coming from West Virginia.

"Q. Suppose we forget about the act and answer the question in the light of the fact that you have declared it unconstitutional?

* * * * * * *

"Q. Putting the thing in this way: Suppose that for some unknown reason a resident and citizen of Massachusetts moves to Clarksburg, West Virginia, with his family, and by reason of the added population, theoretically assumed to be five, you have one more gas consumer and a matter of consumption of

5,000 cubic feet of gas a month. Would the effect of that added 5,000 cubic feet of consumption be to diminish the supply in Pennsylvania and Ohio and that regardless of this statute?

"A. It would not affect the supply in Pennsylvania or Ohio, but it would reduce the amount of gas that could be transported out of the State by the amount that would be used in West Virginia. * * *

"Q. Put it at 1,000 instead of 5,000. There would be in principle and in effect a corresponding diminution and increase?

"A. Yes, an increased demand which must, of course, be met from the local gas supply. I think you misunderstood my former answer. The thing I wanted to drive home was that the consumption per domestic consumer would not be very greatly increased unless there were a very radical reduction in prices from the condition you have now.

"Q. You would expect to cut down the domestic consumption by raising the price?

"A. A raise in price will cut it down. The increased price is the only thing that will adequately conserve natural gas."

In this diversity of opinion of specialists in the gas business, mainly effective to "darken counsel," we think that by the process of elimination, if nothing more,—aside from the aspect of legislative power and duty,—it necessarily fell to the State of West Virginia to enact fitting regulations. And the only question is, whether it had the power, and whether that power has been exercised within the limits of legislative discretion.

V.

WEST VIRGINIA HAD THE POWER TO ENACT THE STATU AND THE EXERCISE OF THE POWER WAS REASONABLE A WITHIN THE LEGISLATIVE DISCRETION.

Scope of the Statute.

We pass the question of power to state the substance the principal clauses of the statute. In pronouncing up its constitutionality, the Court will not declare it invalid "surmise or on the barren letter of the statute" (*Bacon Walker,* 204 U. S., 311, 317; and see *Walls vs. Midla Carbon Co.,* 250 U. S., 300).

Section 1, the dominant provision of the statute, has t following scope:

(*a*) It applies only to public-service corporations, vi those persons, firms and corporations who are engaged furnishing or are required by law to furnish, gas to W Virginia consumers for domestic, industrial or other c tomary purposes.

(*b*) The amount to be supplied is a reasonably adequa supply.

(*c*) The purposes or uses for which the supply is to furnished are domestic, industrial and the other customa uses for which gas is consumed or desired by the public.

(*d*) The consumers to be supplied are those residi within the particular territory in which each such publ

service corporation is engaged in producing, transporting or marketing natural gas.

(*e*) The obligation of such public-service corporation is to so furnish said consumers to the extent of its supply of gas produced in the State.

Section 2 covers the situation where two or more such public-service corporations are engaged in producing, transporting or marketing in the same territory and one of them has an insufficient volume of gas for the reasonably adequate supply of its West Virginia consumers, while the other has a supply in excess of the requirements of its West Virginia consumers. In such case the latter company is required, at its election, either to serve these inadequately supplied consumers as its own, as provided by Section 1, or, out of its excess, to sell to the former company a sufficient amount to cover its deficiency, at such reasonable rates and upon such reasonable terms and conditions as may be fixed by the Public Service Commission.

Section 3 removes the mooted question as to the jurisdiction of the Commission, by expressly extending its powers and authority to the matters embraced in the statute. Section 4 provides for complaint and hearing before the Commission as to alleged violations; and for protection of consumers by appropriate procedure, pending such hearings. Section 5 provides for penalties for violation of orders of the Commission. Section 6 gives to any person injured by violation of the statute the remedy of damages, and provides for the attendance of witnesses and other procedural matters. Section 7 defines the word "person," as used in the statute,

to cover persons, firms, and corporations. Section 8 declares the separability of the statute, both as to the several sections, provisions and clauses thereof, and as to the various persons, firms, corporations and consumers affected thereby.

Thus condensed, and excluding the procedural and punitive provisions, the statute simply means that all public-service corporations of the State must, to the extent of their supply of West Virginia gas, render a reasonably adequate service thereof to those inhabitants of the State who reside in the vicinities or territories where such corporations respectively produce or market, or through which they transport, West Virginia gas.

We have already indicated sufficiently, with citation of authority, that the duties prescribed by this section were, in the main, pre-existing duties at common law and under earlier statutes, the neglect of performance of which by the gas companies instrumental in exporting inordinate quantities of West Virginia gas, rendered necessary the fresh declaration of the rights of West Virginia consumers.

While Section 2 provides for sales by these companies having an excess supply to those having a deficiency, yet this provision has application only where the inadequately served, or unserved, consumers of the local companies reside in the same territory in which the company possessed of a surplus supply produces and markets, or through which it transports, which consumers the last-mentioned company is obligated to serve directly at common law and under the provisions of Section 1; and the requirement of sale to such local companies is not brought into play, unless and until the company having such excess supply first declines or refuses to comply with its obligation to serve directly these inadequately

supplied consumers. The election given to the company having the excess supply is for its benefit and to spare it what might, under certain circumstances, be a burden in providing its own extension for service.

The Statute is a Legitimate Exercise of the Police Power.

Were these provisions a legitimate exercise of the power of the State? The question must be answered in the light of the known characteristics of gas production and its originally inevitable and present decline in West Virginia and elsewhere; the nature of the gas companies as public-service corporations; the relation of the public interest to their business and gas; the absorption by the seven companies of other West Virginia companies; the gas shortage and its effects in West Virginia; the inability of local companies to supply the deficiency, because of the control by the seven companies of gas and gas territory, obtained through the possession of large capital, pipe lines owing their existence to special rights and privileges, and the compressor stations; the conditions attaching to the enjoyment of such special rights and privileges; the reserved statutory power to alter or repeal charters and laws affecting corporations, and the existence of the police power. Pretermitting abstractions, we respectfully insist that the power to enact this legislation is supported by the precedents, which in the latest development would have sustained a still more ample exercise of the power.

The Police Power.

In *Ohio Oil Co. vs. Indiana*, 177 U. S., 190, legislation to prevent wasteful escape of gas from wells was upheld, in view

of the peculiar nature of gas and the right of the State to "consider the relation of rights, and accommodate their coexistence, and, in the interest of the community, limit one that others may be enjoyed" (*Walls vs. Midland Carbon Co.*, 254 U. S., 300).

In *Lindsley vs. Nat. Carbonic Gas Co.*, 220 U. S., 61, relating to a statute prohibiting the pumping of mineral waters for the extraction of carbonic-acid gas, or the production of the unnatural flow of such gas, for commercial purposes otherwise than in conjunction with the mineral waters, it was said of *Ohio Oil Co. vs. Indiana*, "were the question an open one, we should still solve it in the same way."

More recently, in *Walls vs. Midland Carbon Co.*, 254 U. S., 300, it was held that in order to conserve gas, shown to be declining in certain fields where, or in the vicinity of which it was needed for more economical consumption, the State of Wyoming could constitutionally restrict the use of gas for carbon-black manufacture. And it was said, after citing *Ohio Oil Co. vs. Indiana* and *Lindsley vs. Nat. Carbonic Gas Co.*:

> "By reverting to these cases it will be immediately observed that the power of regulation over natural gas is possessed by a State, and in the first case (*Ohio Oil Co. vs. Indiana*) it was exercised to prohibit the employment of the gas as a means of agency in the production of oil against an asserted right of property in the ownership of the land upon which the oil was produced, and, therefore, of the oil and gas as incidents of such ownership, and could be used in such manner and quantity as the landowner might choose."

And in respect of the State's power to protect and preserve gas as a natural resource, it was remarked:

> "And there is great disproportion between the gas and the product, and necessarily there was presented to the judgment and policy of the State a comparison of utilities which involved as well the preservation of the natural resources of the State and the equal participation in them by the people of the State. And the duration of this utility was for the consideration of the State, and we do not think that the State was required by the Constitution of the United States to stand idly by while these resources were disproportionately used, or used in such way that tended to their depletion, having no power of interference.
>
> "The cited cases determine otherwise; and that, as the State of Indiana could prevent the exhaustive use of gas in the production of oil, and as the State of New York could prevent the owner of land from using artificial means to obtain the carbonated waters under his land, the State of Wyoming has the same power to prevent the use of natural gas in the production of carbon black, the tendency of which is (it may be the inevitable effect of which is) the exhaustion of the supply of natural gas, and the consequent detriment of other uses."

Apart from the cases dealing especially with gas, and the particular considerations affecting public-service corporations, the more general authorities dealing with the police power fortify their principles and their application to the cases now at bar.

Of the police power it has been said it is,—

"One of the most essential of powers, at times the most insistent, and always one of the least limitable of the powers of government."

District of Columbia vs. Brooke, 214 U. S., 138, 149.

Eubank vs. Richmond, 226 U. S., 137, 142.

Sligh vs. Kirkwood, 237 U. S., 50, 59.

Hall vs. Geiger-Jones Co., 242 U. S., 539.

And, as said in *Chicago & A. R. Co. vs. Tranbarger*, 238 U. S., 66, 77:

"This power can neither be abdicated nor bargained away, and is inalienable even by express grant; and * * * all contract and property rights are held to its fair exercise. *Atlantic Coast Line R. Co., vs. Goldsboro*, 232 U. S., 548, 558, and cases cited."

The public welfare to which the protection of the power extends, embraces not only public health, morals, and safety, but also the public convenience and the general prosperity.

Chicago, B. & Q. R. Co. vs. Illinois, 200 U. S., 561, 592.

Bacon vs. Walker, 204 U. S., 311, 317.

Eubank vs. Richmond, 226 U. S., 137, 142.

Sligh vs. Kirkwood, 237 U. S., 52, 59.

Chicago & A. R. Co. vs. Tranbarger, 238 U. S., 66, 77.

In *Sligh vs. Kirkwood, supra*, it was said:

"It is not subject to definite limitations, but is coextensive with the necessities of the case and the safeguards of public interest. *Camfield vs. United States*, 167 U. S., 518, 524. It embraces regulations

designed to promote public convenience or the general prosperity or welfare, as well as those specifically intended to promote the public safety or the public health. *Chicago, B. & Q. R. Co. vs. Illinois,* 200 U. S., 561, 592. In one of the latest utterances of this Court upon the subject, it was said: 'Whether it is a valid exercise of the police power is the question in the case, and that power we have defined, as far as it is capable of being defined by general words, a number of times. It is not susceptible of circumstantial precision. It extends, we have said, not only to regulations which promote the public health, morals, and safety, but to those which promote the public convenience or the general prosperity.' * * * And, further: 'It is the most essential of powers, at times the most insistent, and always one of the least limitable of the powers of government.' *Eubank vs. Richmond,* 226 U. S., 137."

The scope of this power, and its flexibility in meeting and dealing with modern conditions, are illustrated in *German Alliance Insurance Co. vs. Lewis,* 233 U. S., 1011, where State regulation of fire-insurance rates was upheld, and, again, *Hall vs. Geiger-Jones,* 242 U. S., 539; *Caldwell vs. Sioux Falls Stockyards Co.,* 242 U. S., 599, and *Merrick vs. Halsey,* 242 U. S., 568, upholding the "Blue Sky laws." In *Merrick vs. Halsey,* Mr. Justice McKenna said:

"Every new regulation of business or conduct meets challenge, and, of course, must sustain itself against challenge and the limitations that the Constitution imposes. But it is to be borne in mind that the policy of a State and its expression in laws must vary with circumstances. And this capacity for growth, and adaptation we said, through Mr.

> Justice Matthews, in *Hurtado vs. California*, 110 U. S., 516, 530, is the 'peculiar boast and excellence of the common law.' It may be that constitutional law must have a more fixed quality than customary law, or, as was said by Mr. Justice Brewer in *Muller vs. Oregon*, 208 U. S., 412, 420, that 'it is the peculiar value of a written constitution that it places in unchanging form limitations upon legislative action.' This, however, does not mean that the form is so rigid as to make government inadequate to the changing conditions of life, preventing its exertion, except by amendments to the organic law."

The application of the police power to promotion of the public morality, as in the regulation or prohibition of the manufacture or sale of intoxicating liquors (*Mugler vs. Kansas*, 123 U. S., 623; *Kidd vs. Pearson*, 128 U. S., 1; *Crowley vs. Christensen*, 137 U. S., 86); the protection of the public health, as in the prevention of the adulteration of food (*Plumley vs. Massachusetts*, 155 U. S., 461; *Capital City Dairy Co. vs. Ohio*, 183 U. S., 238; *Price vs. Illinois*, 238 U. S., 446); or the limitation of the hours of labor (*Muller vs. Oregon*, 208 U. S., 412; *Miller vs. Wilson*, 236 U. S., 373; *Holden vs. Hardy*, 169 U. S., 366), are commonplace.

Measures to safeguard the business prosperity of the State are exampled by the prohibition of monopolies and combinations in restraint of trade (*Waters-Pierce Oil Co. vs. Texas*, 212 U. S., 86; *Grenada Lumber Co. vs. Mississippi*, 217 U. S., 433; *Standard Oil Co. vs. Missouri*, 224 U. S., 270; *International Harvest. Co. vs. Kentucky*, 234 U. S., 199); of unfair competition (*Central Lumber Co. vs. South Dakota*, 226 U. S., 157), and of the sale or shipment of products

detrimental to the business reputation of an important industry (*Sligh vs. Kirkwood*, 237 U. S., 50). In *Sligh vs. Kirkwood, supra*, Mr. Justice Day says:

> "We may take judicial notice of the fact that the raising of citrus fruits is one of the great industries of the State of Florida. It was competent for the Legislature to find that it was essential for the success of that industry that its reputation be preserved in other States wherein such fruits find their most extensive market. The shipment of fruits so immature as to be unfit for consumption, and consequently injurious to the health of the purchaser, would not be otherwise than a serious injury to the local trade, and would certainly affect the successful conduct of such business within the State. The protection of the State's reputation in foreign markets, with the consequent beneficial effect upon a great home industry, may have been within the legislative intent, and it certainly could not be said that this legislation has no reasonable relation to the accomplishment of that purpose."

If it be true that in any instance the State may legislate in the interest of the health and general business prosperity of its inhabitants, it must follow that health may be preserved against injury by cold as well as by disease or adulteration of food, and that the industry of the State may be protected as well from destruction by deprivation of necessary fuel as from mere injury by practices hurtful to its trade or reputation. Upon this ground, aside from any peculiar relations or obligations affecting public-service corporations, it is plain that the State may legislate in defense of its people

and its industries in prevention of a real and present danger arising from deprivation of gas.

Industrial Use of Gas.

We do not understand it to be contended seriously that the enforcement of the statute in respect of domestic users would materially add to the volume of West Virginia gas consumption. One of the plaintiffs' witnesses admitted as much (Rec., 972).

We anticipate, however, special reference on the other side to two features of the statute: (1) the provision made for industrial gas supply and (2) the provision made for the sale of gas to other gas companies not themselves possessed of a reasonably adequate supply.

In regard to the objection to the requirement of a reasonably adequate supply for industrial use, several answers at once appear:

(*a*) Assuming, as we have already shown, that the supply of industrial gas is, by the holding out by the gas companies of their readiness and willingness to furnish such gas (subject only to the needs of domestic consumers) and by the settled law of West Virginia, a public service, there is no distinction in principle between that service and the domestic service. The truth is, indeed, that between the supply of gas for domestic purposes and for industrial use there is but one difference. The service differs only in degree of necessity, because the hardship is personally more acute in case of failure of the domestic supply than where the failure pertains to the industrial supply. This, of course, constitutes a sufficient basis for classification, preferential to the

domestic consumer. But the fact that classification may be justified, proves nothing in regard to the nature of the subordinate service. The latter is still a public service, the obligation to render which may be suspended in time of shortage, but which revives whenever there is a surplus of gas which enables its performance.

The plaintiffs disagree with the policy of West Virginia in denominating the industrial service as public and in requiring its fulfillment, though they inconsistently permit industrial use within their own confines—even of West Virginia gas—and the gas companies in general emphasize the necessity of such use. We pursue this no further, because, however the plaintiffs may disagree, the uses to which gas may be applied in West Virginia was and is a local question for the determination of the Legislature of that State; and the objections of the plaintiffs go, as said in *Ohio Oil Co. vs. Indiana,* 177 U. S., 190, 211, "not to the power to make the regulations, but to their wisdom," and "with the lawful discretion of the legislature of the State" there can be no judicial interference.

And see:

Lindsley vs. Nat. Carbonic Gas Co., 220 U. S., 61, 76, 77.

Walls vs. Midland Carbon Co., 254 U. S., 300.

As to the dismal forebodings, the assertion that the enforcement of the statute as to industrial consumers will absorb all of the West Virginia gas, it may be sufficient to remark that these are wholly speculative, and "mere prophecies which are ventured" (*Tanner vs. Little,* 240 U. S., 369, 385).

But in this day the mantle of prophecy ordinarily yields to probabilities based on known facts.

The industrial changes as to fuel which have taken place in West Virginia, as a result of the gas shortage, and the constantly increasing rates, competing unfavorably with producer gas (Rec., 1229-1230), afford substantial evidence to this Court, as they may well have done to the Legislature, that no such result would happen.

Still further, in this relation, the presumption being in favor of the validity of the statute and the burden being on the plaintiffs to show a violation of constitutional guaranties, there can be no declaration of unconstitutionality upon mere loose opinion or conjecture. The repeated refusal to declare public-service rates confiscatory in advance of actual test, is illustrative.

Knoxville vs. Knoxville Water Co., 212 U. S., 1, 18, 19.

Willcox vs. Consolidated Gas Co., 212 U. S., 19, 54.

Northern Pacific R. Co. vs. North Dakota, 216 U. S., 579; 236 U. S., 585.

Des Moines Gas Co. vs. Des Moines, 238 U. S., 153, 173.

Missouri vs. Chicago, B. & Q. R. Co., 241 U. S., 533, 539, 540.

(*b*) The plaintiffs, overlooking the language of section 1, defining the territorial limits within which reasonably adequate service is required of each several company, imply the postulate, contrary to the fact, that the entire volume of gas is to be thrown into a vast hotchpot, to be drawn upon at will. Whereas by plain interpretation, the duty of each pipe-line

company severally is limited to the territory in which its gas supply is produced, or through which it is transported, or in which it is served by such company.

(*c*) Further, it is ignored by the plaintiffs that by the provisions of Section 4 and the correlation of the Public Service Commission Act, appropriate administrative hearing and determination, with judicial review, effectually guard against the requirement by the consumer, domestic or industrial, of more than a reasonably adequate supply. If a decision of the Commission as to reasonable adequacy, in respect of either volume or economy of consumption, is deemed erroneous, the gas companies will have their day in court. Such questions can be answered "when they arise" (*Noble State Bank vs. Haskell*, 219 U. S., 104, 112). This Court is not called upon to sit in "anticipatory judgment" (*Tanner vs. Little*, 240 U. S., 369, 385).

Supply of Gas to Local Companies.

What has been said as to industrial consumption, applies still more fully to Section 2 of the statute relative to the supply in amounts to be fixed by the Commission of deficits to gas companies having a shortage, when the supplying company has gas in excess of the amount necessary for the reasonably adequate supply of its own consumers in the State, and providing for physical connection of lines after due hearing, and the fixing of reasonable terms, conditions and rates; to which is added the proviso that the company having the surplus may itself, in the alternative, furnish the consumers within the territory a reasonably adequate supply.

In point of fact, it is shown by the proofs that the supply of gas to local companies having a deficit, is precisely what has been done by most of the seven companies in the past (Rec., 1034-1036), what in the present they do among themselves (Rec., 1712, 1769, 1780, 1791), and what they do, and desire to do, in respect of companies out of the State (Rec., 1509, 1524, 1544, 1554, 1560, 1729, 1738, 1745, 1752, 1761). It is shown also that the shortage of the West Virginia local companies is due in large measure to the control, amounting to a virtual monopoly, of the West Virginia gas supply and fields, acquired in their character as West Virginia public-service corporations obligated to serve the public of that State.

We submit that there is no savor of constitutional infringement, nor unreasonableness, in requiring the seven companies to perform acts of the precise character habitually performed by them in the past, nor in enacting that they shall, in the alternative, supply, either directly or indirectly through local companies, consumers whom the seven companies were legally compellable to supply in advance of the passage of the statute.

The requirement by the State, in the exercise of the police power, of co-operation in the public interest, among persons or corporations engaged in business, is no new thing in the law. *Noble State Bank vs. Haskell*, 219 U. S., 104, 110, 112, sustaining a statute establishing a depositor guaranty fund by the involuntary contributions of banks is an example. There it was said "that an ulterior public advantage may justify a comparatively insignificant taking of private property for what, in its immediate purpose, is a private use." The Workmen's Compensation Acts are a

added illustration (*New York Central R. Co. vs. White,* 243 U. S., 188; *Mountain Tie & T. Co. vs. Washington,* 243 U. S., 219).

The alternative compulsion of physical connections with local companies having a deficit is no different from the common requirement of physical connections or interchange of facilities in the case of railroads and other public utilities.

W. Va. Acts of 1913, Ch. 9, Sec. 8.

W. Va. Acts of 1915, Ch. 8, Sec. 24.

Ohio General Code, Secs. 522, 614-63.

Pennsylvania Pub. Laws of 1913, p. 1374, *Pub. Service Com. Law,* Art. I, Sec. 1.

And such connections already exist in most instances (Rec., 1034-1036; 1736 at pp. 402-414).

The validity of such requirements has often been sustained.

Wisconsin, M. & P. R. Co. vs. Jacobson, 179 U. S., 287.

Grand Trunk R. Co. vs. Michigan R. Com., 231 U. S., 457, 468.

Chicago, M. & St. P. R. Co. vs. Iowa, 233 U. S., 334.

Pacific Teleph. & Teleg. Co. vs. Wright-Dickinson H. Co., 214 Fed., 666.

Pioneer Teleph. & Teleg. Co. vs. State, 38 Okla., 554; 134 Pac., 398.

Hooper Teleph. Co. vs. Nebraska Teleph. Co., 96 Neb., 245; 147 N. W., 674.

VI.

THE PLAINTIFFS CLAIM THROUGH THE WEST VIRGINI GAS COMPANIES, HAVE NO HIGHER RIGHT, AND HAVE NO TITL TO RELIEF.

Various clauses of the Federal Constitution are invoked b the plaintiffs, as invalidating the statute. Much was said i the bills and evidence, and doubtless more will be said, as t the property, rights, and contracts of the gas companies, an losses from the predicted uselessness of pipe lines leading to and distributing plants located within, the other States, an the inability of the gas companies to perform their contract and to supply West Virginia gas to or in the other States.

The constitutional objections pressed by the plaintiffs ar these:

(1) Impairment of the obligation of contracts.

(2) Deprivation of property without due process of law.

(3) Denial of the equal protection of the laws.

(4) Abridgment of the privileges or immunities of citi- zens of the plaintiff States or of the United States.

(5) Violation of the interstate commerce clause.

Before passing to particular consideration, one general ob- servation is applicable. The alleged rights claimed by the plaintiffs for themselves and their inhabitants are alleged rights to West Virginia gas, derived and derivable through

gas companies, public-service corporations of West Virginia, obligated from the beginning to serve the public of that State, subject in their other transactions to that primary duty of public service, and from the outset amenable to the laws of the State. And thus mediately deriving their alleged rights, the rights of the plaintiffs can rise no higher than those of the gas companies, and the wrongs complained of are in reality alleged wrongs to the companies, which, if non-existent, leave the plaintiffs with cases of *damnum absque injuria.*

Leaving out of view the pertinent circumstances that in the majority of instances the West Virginia companies transporting through pipe lines gas to or for consumption in other States, have by their express contracts agreed to furnish gas for the other States only to the extent of their supply (Rec., 1509, 1524, 1544, 1712, 1738, 1745, 1769, 1780), that in most of the contracts West Virginia domestic consumption is abstractly given a preference (Rec., 1509, 1524, 1544, 1712, 1738, 1745, 1769, 1780), and that in some instances, notably the Hope Natural Gas Company and United Fuel Gas Company, the contracts provide for priority of supply as among the purchasing companies (Rec., 1560, 1565, 1738, 1752), so that by the contracts themselves in time of shortage, whether periodic or in the ultimately permanent condition, some companies in the plaintiff States may be supplied, while others are cut off, *we submit for consideration in the analysis of the alleged rights of the plaintiffs the following question: Whether the plaintiff States have a direct right or direct remedy against the West Virginia public service companies to enforce the transportation or delivery of West Virginia gas to, or for use in, the plaintiff States?* Unless the

question can be answered affirmatively, the plaintiffs' title to relief against West Virginia is at an end.

Title of Plaintiffs to Allege Unconstitutionality.

As to the gas companies, and especially the seven companies operating in West Virginia, as well as the citizens of the plaintiff States, a short answer may be made. If the statute unconstitutionally injures them in property or contract rights, that would not entitle the plaintiffs to complain, "since it is a well-settled rule of this Court that it only hears objections to the constitutionality of laws from those who are affected by its alleged unconstitutionality in the features complained of." "The plaintiffs must show that their own rights are infringed."

Jeffrey Mfg. Co. vs. Blagg, 235 U. S., 571, 576.

New York Central R. Co. vs. White, 243 U. S., 188, 199.

Plymouth Coal Co. vs. Pennsylvania, 232 U. S., 531, 545.

Arkadelphia Mill. Co. vs. St. Louis S. W. R. Co., 249 U. S., 134, 149.

VII.

LEAVING FOR SEPARATE CONSIDERATION THE COMMERCE CLAUSE, THE STATUTE DOES NOT VIOLATE OTHER CONSTITUTIONAL GUARANTIES.

Impairment of Obligation of Contracts, Due Process of Law, and Equal Protection of the Laws.

The constitutionality of the State's exercise of power in the manner of the statute is not sucessfully impugned by the circumstances that the gas companies have expended money in the construction of pipe lines and pump stations, and that for the supply of gas in foreign States they have made contracts with other companies or consumers there, or that consumers in other States have made contracts or mechanical arrangements for the consumption of gas. The plaintiffs and their citizens, and the gas companies in West Virginia and in the plaintiff States, knew, one and all, from the outset, the peculiar exhaustible nature of gas, the status of the West Virginia companies, and their subordination to West Virginia laws, present or prospective, enacted in the exercise of the police power. If it be true that the State may validly compel the rendition of adequate service to its people by public-service corporations operating within its borders, the State's authority cannot be defeated by expenditures in aid of evasion of that service, or contracts or arrangements having that result.

The contention that the seven companies engaged in business, and that their pipe lines and pump stations were constructed and are used as facilities for the service of con-

sumers in foreign States, is fallacious. These instrumentalities were built and are employed for the transportation of an available volume of gas at present consumed in part within West Virginia and in a greater part outside of the State. So long as these lines and stations are employed for the transportation of this quantity of gas, their owners are entitled to a fair return upon the reasonable value of their property so employed for the public convenience (*San Diego L. & T. Co. vs. National City*, 174 U. S., 739; *Cotting vs. Goddard*, 183 U. S., 79; *San Diego L. & T. Co. vs. Jasper*, 189 U. S., 439; *Stanislaus Co. vs. San Joaquin & K. R. C. & I. Co.*, 192 U. S., 201; *Knoxville vs. Knoxville Water Co.*, 212 U. S., 1; *Willcox vs. Consolidated Gas Co.*, 212 U. S., 19; *Railroad Com. vs. Cumberland T. & T. Co.*, 212 U. S., 414; *Lincoln Gas & El. Co. vs. Lincoln*, 223 U. S., 345; *Simpson vs. Shepherd*, 230 U. S., 352). And the right would be as clear if an increased quantity, or even the whole, of the gas were consumed in West Virginia as if apportioned to the advantage of other States, as now. The consumption in West Virginia of an augmented amount of gas would, of course, result in an enlarged aggregate of the rates paid by the consumers therein. And it might be that as a consequence of increased devotion of lines and stations to the service of the West Virginia consumers, or a not improbable influence on operating costs, an upward adjustment of rates in West Virginia would be proper. But this, after all, is but a matter of rates. If fairly compensated, the gas companies are not entitled to refuse to West Virginia an adequate service merely because a greater remuneration can be obtained elsewhere.

If in the case of some of these companies contraction of

the volume of gas conveyed to other States should result in the impairment and ultimate destruction of the usefulness of transportation or distributing facilities serving only those States, the injury to the owners of these facilities would be more apparent than real. The tendency of the gas supply to exhaustion, and the obligation to render adequate service to West Virginia consumers, was as well known on the first day of their career as on the last; and all of the gas companies, both in West Virginia and elsewhere, had the right and opportunity to anticipate in charges against consumers the depreciation or obsolescence resulting from diminished usefulness of these facilities (*Knoxville vs. Knoxville Water Co.*, 212 U. S., 1, 11; *Railroad Com. vs. Cumberland Tel. & Teleg. Co.*, 212 U. S., 414, 424; *Simpson vs. Shepard*, 230 U. S., 352, 458; *Kansas City S. R. Co. vs. United States*, 231 U. S., 423, 446). Whether all of the companies have disinterestedly refrained from exercising this right to compensate themselves we do not stop to inquire; but we perceive no reason for assuming the case to be in their favor on this point. And the affirmative proof, in a number of instances, shows depreciation allowances and reserves (Rec., 263-265, 443-444).

Whatever may be the result in reference to property devoted to the service of consumers in other States or to contracts made with them, or consequentially affecting their service, the constitutional power of West Virginia, nevertheless, remains clear and certain. The expenditures for that property and those contracts were made subject to the police power of the State and find no protection in the constitutional provisions against the impairment of the obligation of a contract or the deprivation of property without due

process of law or any other guaranty of the State or Federal Constitution. In *Chicago, B. & Q. R. Co. vs. McGuire*, 219 U. S., 549, 568, referring to the right to make contracts, Mr. Justice Hughes said:

> "It is subject, also, in the field of State action, to the essential authority of government to maintain peace and security, and to enact laws for the promotion of the health, safety, morals, and welfare of those subject to its jurisdiction. This limitation has had abundant illustration in a variety of circumstances."

In *Chicago & A. R. Co. vs. Tranbarger*, 238 U. S., 67, it was said:

> "But a more satisfactory answer to the argument under the contract clause, and one which at the same time refutes the contention of plaintiff in error under the due process clause, is that the statute in question was passed under the police power of the State for the general benefit of the community at large and for the purpose of preventing unnecessary and widespread injury to property.
>
> "It is established by repeated decisions of this Court that neither of these provisions of the Federal Constitution has the effect of overriding the power of the State to establish all regulations reasonably necessary to secure the health, safety, or general welfare of the community; that this power can neither be abdicated nor bargained away, and that all contract and property rights are held subject to its fair exercise. *Atlantic Coast Line R. Co. vs. Goldsboro*, 232 U. S., 548, 558, and cases cited. And it is also settled that the police power embraces regulations designed

> to promote the public convenience or the general welfare and prosperity, as well as those in the interest of the public health, morals, or safety. *Lake Shore & M. S. R. Co. vs. Ohio*, 173 U. S., 285, 292; *Chicago, B. & Q. R. Co. vs. Illinois*, 200 U. S., 561, 592; *Bacon vs. Walker*, 204 U. S., 311, 317."

In *Hudson County Water Co. vs. McCarter*, 209 U. S., 348, a statute of New Jersey prohibiting the diversion of the water from fresh-water streams of the State to other States was upheld as against the owner of water mains laid for the purpose of carrying water from New Jersey to New York. Overruling the argument that the statute impaired the obligation of contracts, took property without due process of law, and denied the equal protection of the laws, it was said by Mr. Justice Holmes:

> "The defense under the 14th Amendment is disposed of by what we have said. That under Article 1, Section 10, needs but a few words more. One whose rights, such as they are, are subject to State restriction, cannot remove them from the power of the State by making a contract about them. The contract will carry with it the infirmity of the subject-matter. *Knoxville Water Co. vs. Knoxville*, 189 U. S., 434, 438; *Manigault vs. Springs*, 199 U. S., 473, 480."

In *Rast vs. Van Deman*, 240 U. S., 342, 363, Mr. Justice McKenna said:

> "Besides, as the business is subject to regulation, the contracts made in its conduct are subject to such regulation. *Louisville & N. R. R. Co. vs. Mottley*, 219 U. S., 467, and *New York C. & H. R. R. Co. vs. Gray*, 239 U. S., 583."

Against the application of the foregoing principles, public-service corporations are not immune. The opinion of Mr. Justice Clarke in *Union Dry Goods Co. vs. Georgia Pub. Service Corp.*, 248 U. S., 372, fully demonstrates this. The following cases also, by express adjudication and concrete illustration, show that the requirement from a public-service corporation of adequate service to the public violates no constitutional provision, even though the rendition of such service is attended with pecuniary loss:

Wisconsin M. & P. R. Co. vs. Jacobson, 179 U. S., 287.

Atlantic Coast Line R. Co. vs. North Carolina Corp. Com., 206 U. S., 1.

Missouri P. R. Co. vs. Kansas, 216 U. S., 262.

Washington vs. Fairchild, 224 U. S., 510.

So in *Erie R. Co. vs. Board of Public Utility Com.*, 254 U. S., 394, in refuting an argument against the change of elevation of tracks at crossings, ordered by the Board, it was said:

> "That the States might be so foolish as to kill a goose that lays golden eggs for them has no bearing on their constitutional rights. If it reasonably can be said that safety requires the change, it is for them to say whether they will insist upon it, and neither prospective bankruptcy nor engagement in interstate commerce can take away this fundamental right of the soverign of the soil. *Denver & R. G. R. Co. vs. Denver*, 250 U. S., 241, 246. To engage in interstate commerce the railroad must get on to the land; and, to get on to it, must comply with the conditions imposed by the State for the safety of its citizens. Contracts made by the road are made subject to the

> possible exercise of the sovereign right. * * * If the burdens imposed are so great that the road cannot be run at a profit, it can stop, whatever the misfortunes the stopping may produce."

Abridgement of Privileges and Immunities.

What has been said above applies equally to the claim of abridgement of privileges and immunities of citizens of other States or of the United States. In *Barbier vs. Connolly*, 113 U. S., 27, 32, the whole matter was summed up by Mr. Justice Field as follows:

> "But neither the amendment as a whole, broad and comprehensive as it is, nor any other amendment was designed to interfere with the power of the State, sometimes termed its police power, to prescribe regulations to promote the health, peace, morals, education and good order of the people, and to legislate so as to increase the industries of the State, develop its resources and add to its wealth and prosperity."

And see:

Slaughter House Cases, 16 Wall., 36.
Re Kemmler, 136 U. S., 436, 448, 449.
Giozza vs. Tiernan, 148 U. S., 657, 661, 662.

In *Western Union Tel. Co. vs. Commercial Mill Co.*, 218 U. S., 406, 418, it was dryly remarked that it was "rather late in the day" to contend that the Fourteenth Amendment, either in the privileges and immunities clause or the other clauses, prevented "the regulation of public-service corporations" by a State.

In leaving this point, we stay for a moment to remark that

the plaintiff States are not citizens of any State or of the United States:

Stone vs. South Carolina, 117 U. S., 430, 433;
Postal Tel. Cable Co. vs. Alabama, 155 U. S., 487;
Title Guaranty & S. Co. vs. Idaho, 240 U. S., 136;

and that the gas companies are not citizens within the privileges and immunities clauses of the Federal Constitution:

Blake vs. McClung, 172 U. S., 239, 259;
Western Turf Assoc. vs. Greenberg, 204 U. S., 359, 363;
Selover vs. Walsh, 226 U. S., 112, 126.

VIII.

THE STATUTE DOES NOT REGULATE INTERSTATE COMMERCE.

It is urged against the statute that it amounts to an unconstitutional regulation of interstate commerce for the reason that if an adequate amount of gas is furnished to West Virginia the volume of gas transported to other States will be diminished. And this objection is argued as if the gas companies held no peculiar relation to West Virginia and were bound by no peculiar obligations to it, and as if the gas affected were a mere ordinary subject of barter and sale, like other commodities. The contention would be the same in principle, and not more startling in form, if the Consolidated Gas Company of New York City, engaged in supplying artificial gas in the metropolitan territory, should assert the right to abandon its obligations to the citizens of New York upon the plea that it was entitled to enter into interstate commerce by selling its gas to New Jersey or Philadelphia. In-

deed, the proposition, when based on the claim of freedom of interstate commerce, would equally support a contention that these companies have the right to export from West Virginia to other States the entire stock of gas at their command. For, as testified by witnesses for the plaintiffs, already quoted, every addition to consumption in West Virginia lessens to that extent the volume of gas available for transport to the other States. And the ultimate conclusion would be that no supply whatever to West Virginia could be compelled.

We think that to the objection, based on the commerce clause, there are several answers:

(1) That the West Virginia public-service corporations have no right to engage in interstate commerce, except in subordination to the performance of their duties to the State;

(2) That if interstate commerce is affected, the effect is only indirect and incidental, and therefore, in the absence of congressional enactment, the effect is not violative of the commerce clause; and

(3) That under the conditions of gas production, transportation and supply, the gas does not enter into interstate commerce until the local consumption has been provided for.

Interstate Commerce by Public-Service Corporations.

At the outset let us say that we do not in the least doubt that the sale and transportation of gas may be, and often are, interstate commerce. The decisions of this Court foreclose that question in the circumstances then in judgment. But anterior to sale and transportation, arises the inquiry whether,

and to what extent, the person engaging, or desiring to engage, in interstate commerce is lawfully entitled to do so.

The question here is, not whether a State may prohibit or restrict the transportation of natural gas from its territory into another State, but *whether the State may require companies—owing to its people the obligation of adequate service—to perform that service*, even though the performance may involve the intrastate consumption of gas which otherwise might be transported to another State.

If the gas companies owe a duty to the people of West Virginia, the performance of that duty cannot be evaded merely because they prefer to enter into interstate commerce rather than to perform it. In *Hudson County Water Co. vs. McCarter*, 209 U. S., 348, in upholding the validity of a New Jersey statute prohibiting the transportation of water from any fresh-water stream in the State to a place out of the State, Mr. Justice Holmes said:

> "A man cannot acquire a right to property by his desire to use it in interstate commerce. Neither can he enlarge his otherwise limited and qualified right to the same end."

The same principle is asserted in somewhat different form by three judges sitting in the District Court for the Northern District of West Virginia, in *Manufacturers Light & H. Co. vs. Ott*, 215 Fed., 940, 951. Although the question before the court was primarily one of rates, its language is equally applicable to the question of adequacy of service, since the regulatory authority of the State in respect to rates and service rest upon the same basis, the police power. Judge Woods, delivering the opinion, said:

"The testimony is undisputed that the main source of natural-gas supply is in West Virginia, and that the cost of supplying gas to consumers in that State is necessarily much less than in the other States. It seems obvious that West Virginia corporations supplying gas to the citizens of that State from wells in the State cannot say the rates fixed to consumers in West Virginia are confiscatory, because at the same rates the companies would lose money on business which they had chosen to conduct in other States in association with corporations of those States. Even if it be conceded that interstate commerce is involved, the principle must be regarded as settled beyond dispute."

And, on page 952, it was further said:

"The fact that the Manufacturers Light and Heat Co. may have improvidently accepted franchises from municipalities in Ohio and Pennsylvania requiring gas to be furnished at the same rates charged in West Virginia, and that reductions at these points would require gas to be furnished there at less than cost, may be worthy of consideration by the Commission in prescribing the rates in West Virginia.

"But it cannot be controlling, for to hold so would be to enable the gas companies to contract away the police power of the State of West Virginia to require reasonable rates to its own citizens."

In *South Covington & C. S. R. Co. vs. Kentucky*, 252 U. S., 399, 403, the principal business of the company was the carriage of passengers in interstate commerce between Cincinnati, Ohio, and Kentucky cities across the Ohio River. A subsidiary corporation through which the South Covington

Company operated in part had its termini in Kentucky, though many of the passengers traveled by continuous passage to Cincinnati. The Kentucky statute requiring separate cars or compartments for white and negro passengers was held constitutional, it being said that the effect of the statute, insofar as it touched interstate commerce, was merely incidental. Mr. Justice McKenna said:

> "There was a distinct operation in Kentucky. An operation authorized and required by the charters of the companies, and it is that operation the act in question regulates, and does no more, and therefore is not a regulation of interstate commerce. This is the effect of the ruling in *South Covington & C. Street R. Co. vs. Covington*, 235 U. S., 537. The regulation of the act affects interstate business incidentally, and does not subject it to unreasonable demands.
>
> "The cited case points out the equal necessity, under our system of government, to preserve the power of the States within their sovereignties as to prevent the power from intrusive exercise within the national sovereignty, and an interurban railroad company deriving its powers from the State, and subject to obligations under the laws of the State, should not be permitted to exercise the powers given by the State, and escape its obligations to the State, under the circumstances presented by this record, by running its coaches beyond the State lines."

In *Erie R. Co. vs. Board of Public Com.*, 254 U. S., 394, it was said in regard to an order of the board requiring the change of elevation of tracks at crossings:

> "If it reasonably can be said that safety requires the change, it is for them to say whether they will in-

> sist upon it, and neither prospective bankruptcy nor engagement in interstate commerce can take away this fundamental right of the sovereign of the soil. *Denver & R. G. R. Co. vs. Denver,* 250 U. S., 241, 246. To engage in interstate commerce the railroad must get on to the land; and, to get on to it, must comply with the conditions imposed by the State for the safety of its citizens. Contracts made by the road are made subject to the possible exercise of the sovereign right. * * * If the burdens imposed are so great that the road cannot be run at a profit, it can stop, whatever the misfortunes the stopping may produce."

The authorities cited by the plaintiffs are not pertinent. If it be true, as previously pointed out, that a gas company, or its business, or the commodity in which it deals, is affected by the public interest, precedents are not wanting to show that the principles relating to interstate commerce in ordinary goods and chattels are inapplicable. In *Geer vs. Connecticut,* 161 U. S., 519, and *New York vs. Hesterberg,* 211 U. S., 31, it was held that a State could prohibit the exportation of game killed within its boundaries, and also prohibit the sale therein of game imported from another State. While in these instances the public interest attained the dignity of public ownership, the cases establish that generalizations from authorities referring to ordinary subjects of interstate commerce are inapplicable to a business or commodity affected with a public interest, and that interstate commerce in a commodity so affected may be restricted, or even prohibited, though such commerce in ordinary merchandise could not be.

It is no answer to what has been said that if a State can

compel an adequate supply of gas to its citizens and thereby prevent its exportation to another State, the other State may impose a similar restriction on the interstate shipment of corn, wheat, lumber or other commodities. Those commodities lack entirely the exhaustibility and other peculiarities of gas. Until their production or distribution shall become affected with a public interest in the sense that the gas business is so affected, no such case will occur. In *Tanner vs. Little*, 240 U. S., 369, 385, in sustaining the validity of a statute imposing a heavy license tax on merchants using trading stamps or redeemable coupons, Mr. Justice McKenna said:

> "Nor is there support of the system or obstruction to the statute in declamation against sumptuary laws, nor in the assertion that there is evil lesson in the statute, nor in the prophecies which are ventured of more serious intermeddling with the conduct of business. Neither the declamation, the assertion, nor the prophecies can influence a present judgment. As to what extent legislation should interfere in affairs political philosophers have disputed and always will dispute. It is not in our province to engage on either side, nor to pronounce anticipatory judgments. We must wait for the instance. Our present duty is to pass upon the statute before us, and if it has been enacted upon a belief of evils that is not arbitrary we cannot measure their extent against the estimate of the Legislature."

In *Noble State Bank vs. Haskell*, 219 U. S., 104, where a law requiring banks to maintain a guaranty fund for the protection of depositors was held valid, Mr. Justice Holmes said:

> "It is asked whether the State could require all corporations or all grocers to help to guarantee each other's solvency, and where we are going to draw the line. But the last is a futile question, and we will answer the others when they arise."

And see also *German Alliance Ins. Co. vs. Lewis,* 233 U. S., 389, 415.

The case of *West vs. Kansas Nat. Gas Co.,* 221 U. S., 229, already referred to, is not inconsistent with the above views, and does not militate against the statute. In that case, as already noted, neither the corporations and individuals who were plaintiffs, nor their gas, could be said to be affected with a public use, since the persons themselves were not engaged in the business of public gas supply in Oklahoma, and their gas was required by no present necessity in that State. Accordingly, the Oklahoma statute was not in substance, or even ostensibly, enacted in regulation of a public utility, so as to render merely indirect or incidental any decrease in the volume of gas transported out of the State. On the contrary, the principal and direct design of the Oklahoma statute was to prevent exportation of gas. This was the more manifest from the discrimination in respect to the use of highways and the right of eminent domain, made between persons engaged in transporting gas within the State and those transporting it to other States, as pointed out in *Haskell vs. Kansas Nat. Gas Co.,* 224 U. S., 217, 221, a second appeal of the *West case.* And this dominant design to prohibit interstate transportation is referred to by Mr. Justice McKenna in 221 U. S., 229, 257, where, after citing *Manufacturers' Gas & O. Co. vs. Indiana Gas & O. Co.,* 155 Ind., 545; 58 N. E., 706, he says:

> "The case is valuable because the court, through the same justice who wrote the opinion, distinguished between an exercise of the police power to regulate the taking of natural gas and its prohibition in interstate commerce."

And, at page 262, Mr. Justice McKenna adds:

> "We repeat again there is no question in the case of the regulating power of the State over natural gas within its borders."

The later decisions in *Public Utilities Com. vs. Landon*, 249 U. S., 236, and *Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23, as well as *Franke vs. Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct., 446, and the other State decisions hereinafter cited, recognized the local character of gas supply and its regulations, even though the gas had theretofore been in interstate commerce. And we submit that in the latter aspect the local element equally inheres when by the public interest with which its owner's business or the gas itself is affected, or by the physical process by which the gas is transported, the gas remains subject to the local use in advance of its last journey across the State line.

Interference, If Any, with Interstate Commerce is Indirect and Incidental.

If by the statute interstate commerce is affected, the effect is indirect and incidental and does not invalidate the law. The direct purpose of the law is to compel the performance of a public duty by those obligated to perform it, and by a legitimate exercise of the police power to protect against

the injury to persons and property consequent on the failure to perform the public duty. Conceivably, interstate commerce might not be affected at all, and this is presently true, if, as the evidence indicates, the gas companies hold in reserve sufficient territory to supply the deficit without subtracting from the quantity of gas transported to other States. But even if the quantity of gas entering into interstate commerce should be diminished as a consequence of the statute, the authorities well establish that the commerce clause would not stand in the way. To argue to the contrary would be to contend that the State would stand powerless to relieve its citizens from the most flagrant discrimination, or even against *a total deprivation of gas*, at the hands of its public-service corporations, which, for gain, preferred to serve consumers in other States.

That the supply of gas for local consumption, even though it may previously have been transported in interstate commerce, or is derived from a common stock, part of which is destined for such transportation, is essentially a matter of local concern and subject to regulation by the States, in the absence of interference by Congress, is now settled.

Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23.

Public Utilities Com. vs. Landon, 249 U. S., 236.

Manufacturers Light & Heat Co. vs. Ott, 215 Fed., 940.

Franke vs. Johnstown Fuel Supply Co., 70 Pa. Super. Ct., 446.

State vs. Flannelly, 96 Kan., 372; 152 Pac., 22.

Union Dry Goods Co. vs. Georgia Public Service Com., 248 U. S., 372.

Mill Creek Coal & Coke Co. vs. Public Service Com., 84 W. Va., 662; 100 S. E., 557.

In *Pennsylvania Gas Co. vs. Public Service Com.*, 252 U. S., 23, 30, Mr. Justice Day said:

> "The thing which the State Commission has undertaken to regulate, while part of an interstate transmission, is local in its nature, and pertains to the furnishing of natural gas to local consumers within the city of Jamestown, in the State of New York. The pipes which reach the customers served are supplied with gas directly from the main of the company, which brings it into the State; nevertheless, the service rendered is essentially local, and the sale of gas is by the company to local consumers, who are reached by the use of the streets of the city in which the pipes are laid, and through which the gas is conducted to factories and residences as it is required for use. The service is similar to that of a local plant furnishing gas to consumers in a city.
>
> "This local service is not of that character which requires general and uniform regulation of rates by congressional action, and which has always been held beyond the power of the States, although Congress has not legislated upon the subject. While the manner in which the business is conducted is part of interstate commerce, its regulation in the distribution of gas to the local consumers is required in the public interest, and has not been attempted under the superior authority of Congress.
>
> "It may be conceded that the local rates may affect the interstate business of the company. But this fact does not prevent the State from making local regulations of a reasonable character. Such regulations are always subject to the exercise of authority by Congress, enabling it to exert its superior power under the commerce clause of the Constitution."

The validity of State legislation incidentally or indirectly affecting interstate commerce, even though it diverts to the local need commodities or facilities which otherwise might go into or aid interstate commerce, has been upheld by repeated adjudications. The principle is clearly stated by Mr. Justice Hughes in the *Minnesota Rate Cases* (*Simpson vs. Shepard*, 230 U. S., 352), where, after saying that the States cannot directly tax interstate commerce or prohibit interstate trade in legitimate articles of commerce, he says:

> "But within these limitations there necessarily remains to the States until Congress acts, a wide range for the permissible exercise of power appropriate to their territorial jurisdiction although interstate commerce may be affected. It extends to those matters of a local nature as to which it is impossible to derive from the constitutional grant an intention that they should go uncontrolled pending Federal intervention. Thus, there are certain subjects having the most obvious and direct relation to interstate commerce, which nevertheless, with the acquiescence of Congress, have been controlled by State legislation from the foundation of the government, because of the necessity that they should not remain unregulated, and that their regulation should be adapted to varying local exigencies; hence, the absence of regulation by Congress in such matters has not imported that there should be no restriction, but rather that the States should continue to supply the needed rules until Congress should decide to supersede them. Further, it is competent for a State to govern its internal commerce, to provide local improvements, *to create and regulate local facilities*, to adopt protective measures of a reasonable character in the interest of the health, safety, morals, and welfare of its people,

> although interstate commerce may incidentally or indirectly be involved. Our system of government is a practical adjustment by which the national authority as conferred by the Constitution is maintained in its full scope without unnecessary loss of local efficiency. Where the subject is peculiarly one of local concern, and from its nature belongs to the class with which *the State appropriately deals in making reasonable provision for local needs*, it cannot be regarded as left to the unrestrained will of individuals because Congress has not acted, although it may have such a relation to interstate commerce as to be within the reach of the Federal power. In such case, Congress must be the judge of the necessity of Federal action." (Italics ours.)

And again, on page 410, is set forth the exact principle for which we contend, stated as follows:

> "In the intimacy of commercial relations much that is done in the superintendence of local matters may have an indirect bearing upon interstate commerce. *The development of local resources and the extension of local facilities may have a very important effect upon communities less favored*, and to an appreciable degree alter the course of trade. The freedom of local trade may stimulate interstate commerce, while restrictive measures within the police power of the State, enacted exclusively with respect to internal business, as distinguished from interstate traffic, may in their reflex or indirect influence *diminish the latter and reduce the volume of articles transported into or out of the State*. It was an objection of this sort that was urged and overruled in *Kidd vs. Pearson*, 128 U. S., 1, to the law of Iowa prohibiting the manufacture and sale of liquor within the State, save for limited purposes. See also *Geer vs. Connecticut*, 161

U. S., 519, 534; *Austin vs. Tennessee*, 179 U. S., 343; *Capital City Dairy Co. vs. Ohio*, 183 U. S., 238, 245; *Missouri P. R. Co. vs. Kansas*, 216 U. S., 261." (Italics ours.)

The principle that interstate commerce may constitutionally be affected indirectly or incidentally by the State in the exercise of its police power has been asserted in many cases, wherein the inevitable result of the regulation within the State has been to subtract from the quantity of a commodity entering into interstate commerce. Examples are readily afforded by the instance of the prohibition of the manufacture and sale of intoxicating liquors (*Kidd vs. Pearson*, 128 U. S., 1); the prevention of the sale of oleomargarine, colored so as to imitate butter (*Plumley vs. Massachusetts*, 155 U. S., 461; *Capital City Dairy Co. vs. Ohio*, 183 U. S., 238); the shipment of game out of the State or the sale of imported game within the State (*Geer vs. Connecticut*, 161 U. S., 519; *New York vs. Hesterberg*, 211 U. S., 31); the transportation of water out of the State (*Hudson County Water Co. vs. McCarter*, 209, U. S., 348), and the shipment of immature citrus fruit from a State largely engaged in the production thereof (*Sligh vs. Kirkwood*, 237 U. S., 52). And it has been held that a general restriction of pipe-line pressure which in practical result would prevent transportation of gas out of a State was valid (*Jamieson vs. Indiana Natural Gas & O. Co.*, 128 Ind., 555; 28 N. E., 76).

The police power of the State embraces to this extent of indirect or incidental interference, not merely commodities which are the subject of interstate commerce, but also the very instrumentalities of that commerce.

Smith vs. Alabama, 124 U. S., 465.

Nashville C. & St. L. R. Co. vs. Alabama, 128 U. S., 96.

New York, N. H. & H. R. Co. vs. New York, 165 U. S., 628.

Erb vs. Morasch, 177 U. S., 584.

Southern R. Co. vs. King, 217 U. S., 324.

Chicago, R. I. & P. R. Co. vs. Arkansas, 219 U. S., 453.

Atlantic Coast Line R. Co. vs. Georgia, 234 U. S., 280.

St. Louis, I. M. & S. R. Co. vs. Arkansas, 240 U. S., 518.

Though interstate commerce be incidentally or indirectly affected, the police power of the State includes the authority to compel a reasonably adequate service to the communities within it at the hands of a public-service corporation, though it is engaged in interstate commerce; and *up to the point where reasonably adequate local facilities are afforded by a public-service corporation, the State may exercise a free hand. Until that point is passed, interstate commerce is not unconstitutionally infringed.*

Gladson vs. Minnesota, 166 U. S., 427.

Lake Shore & M. S. R. Co. vs. Ohio, 173 U. S., 285.

Wisconsin M. & P. R. Co. vs. Jacobson, 179 U. S., 287.

Atlantic Coast Line R. Co. vs. North Carolina Corp. Com., 206 U. S., 1.

Mobile J. & K. C. R. Co. vs. Mississippi, 210 U. S., 187.

Missouri P. R. Co. vs. Larabee Flour Mills Co., 211 U. S., 612.

Missouri P. R. Co. vs. Kansas, 216 U. S., 472.

Washington vs. Fairchild, 224 U. S., 510.

Grand Trunk R. Co. vs. Michigan R. Com., 231 U. S., 457.

Chicago M. & St. P. R. Co. vs. Iowa, 233 U. S., 334.

Michigan C. R. Co. vs. Michigan Railroad Commission, 236 U. S., 615.

Chicago, B. & Q. R. Co. vs. Railroad Commission 237 U. S., 220.

Illinois Central R. Co. vs. Mulberry Hill Coal Co., 238 U. S., 275.

Seaboard Air Line R. Co. vs. Railroad Com., 240 U. S., 324.

The substance of the foregoing authorities is negatively stated in *Mobile, J. & K. C. R. Co. vs. Mississippi*, 210 U. S., 187, wherein it was said:

> "It is enough to add to that which we have said, that the decree of the Supreme Court does not work an interference with, or cast a direct burden upon, interstate commerce. The cases of the *Illinois C. R. Co vs. Illinois*, 163 U. S., 142; *Cleveland, C., C. & St. L. R. Co. vs. Illinois*, 177 U. S., 514, and *Mississippi R. Commission vs. Illinois C. R. Co.*, 203 U. S, 335, cited by the companies to sustain their contentions, are not apposite. In those cases there was an interference with interstate trains for local purposes, though local needs had been adequately supplied."

The same proposition is affirmatively laid down in *Chicago, B. & Q. R. Co. vs. Railroad Commission*, 237 U. S., 220, 226, as follows:

> "In reviewing the decision we may start with certain principles as established: (1) It is competent for a state to require adequate local facilities, even to the stoppage of interstate trains or the rearrangement of their schedules. (2) Such facilities existing—that is, the local conditions being adequately met—the obligation of the railroad is performed, and the stoppage of interstate trains becomes an improper and illegal interference with interstate commerce."

Local Character of Gas Supply and Point of Entry of Gas Into Interstate Commerce.

We have already argued that the seven gas companies and others similarly situated, from their legal status, were and are incapacitated from engaging in interstate commerce, except in subordination to the fulfillment of their duty to consumers in West Virginia and to the extent of the surplus remaining after the fulfillment of that duty. Stated in another way, the gas in the pipe lines remains subject to the public interest and the duty of these companies as long as that duty remains unperformed, or until the public interest and the duty are effectually evaded by the escape of the gas over the State boundary.

Apart from the above legal contentions, we submit respectfully that by reason of the physical attributes of gas transportation and supply, it does not enter into interstate commerce until the State boundary is reached, or at least until the ultimate point where it is needed for reasonably adequate service in West Virginia has been passed.

Generalizing, though admitting that there may be exceptions in the great bulk of the record, it appears that the pipe

lines by which the gas is transported to other States are not confined to interstate transportation. The gas is fed into the pipe lines through innumerable subsidiary or field lines bringing the gas from the wells in West Virginia. The gas is commingled in the pipe lines, whether destined for consumption in West Virginia or whether it is proposed that a quantity thereof, definite or indefinite, shall cross the boundary and go into another State. Branching from the pipe lines are still other lines by which the gas supplied by these companies for use in West Virginia is withdrawn from the common stock and distributed directly or delivered to local companies for distribution.

While in the pipe line supplying at once the intrastate consumers and delivering gas to or for consumption in the other States, no mark or badge of identification is or can be placed upon any particular atom or larger volume of the gas. The situation is sufficiently set forth in the following excerpt from the testimony of the plaintiffs' engineer Wyer (Rec., 933, 934):

> "Q. In the case of a well feeding into a line, which line in turn carries gas partly to points of consumption in West Virginia, and partly to points of consumption in Pennsylvania and Ohio, does that gas have any label on it?
>
> "A. It does not. There is no original package, no identity, nothing to distinguish ownership, all intermingled.
>
> "Q. Well, how do you find out then where this gas is going when it comes out of the well and finds its way into a line?
>
> "A. Well, for any particular well in West Virginia, it might be very difficult—in many cases abso-

lutely impossible—to tell, the way the well is connected to some of these large trunk lines, whether that gas is ultimately going to get to Pennsylvania, or Ohio, or, in other cases, whether it is going to get to Ohio or Indiana.

"Q. In a company like the Hope Natural Gas Company, which is supplying gas partly in West Virginia, and supplying it partly to companies which in turn supply the other States, can you tell when that gas starts on its continuous journey, as you call it, from the well, where that gas is going?

"A. No, sir.

"Q. Can anybody?

"A. No, sir. That is, I mean, you could not state that this particular thousand feet of gas is going to be used in West Virginia, and this particular thousand feet of gas in the Hope property, will be used through the Peoples Company in Pennsylvania, and this one through the East Ohio Company in Ohio. The gas is all intermingled, without any chance for identity.

"Q. And where does the opportunity first occur for identifying the gas which is going into Pennsylvania or Ohio or any other States?

"A. There would be no chance for identifying the gas from particular individual wells. The only gas that you could identify would be the gas passing the measuring station at the State line, and that would be merely a total volume measurement giving you the total volume passing that point, without any relation as to whether it came from any particular well in West Virginia."

It may be fortuitous rather than influential that in some instances the deliveries of gas are made at measuring stations

located at, or as near as is practicable to, the State boundary line. An illustration is afforded by the Hope Natural Gas Company, which, professing not to operate outside of West Virginia (Rec., 184, 186, 187, 1736, insert p. 270) delivers gas to the Peoples Natural Gas Company, controlled as well as itself by the Standard Oil Company, at measuring stations situate at the West Virginia-Pennsylvania boundary (Rec., 303-304). The same is true of delivery by the Pittsburg & West Virginia Company to the Equitable Gas Company (Rec., 1730). The result of all which, it may be noted in passing, is to give room for insistence by the gas companies, on the one hand, that they are not subject to State regulation, because engaged in interstate commerce (as to which see *Franke vs. Johnstown Fuel Supply Co.,* 70 Pa. Super. Ct., 446, involving the Peoples Natural Gas Company and gas so derived from the Hope Natural Gas Company), and, on the other hand, that in the absence of Congressional action there can be no Federal regulation, the net result of which is the argument that these companies are free from any regulation. Not overlooking that interstate commerce is "a practical conception" (*Public Utilities Com. vs. Landon*, 249 U. S., 236, 245), it seems to us a necessary consequence of the character of the gas companies and the circumstances of gas transportation and supply, above detailed, that until the State boundary is reached, or until a reasonably adequate supply has been furnished to West Virginia consumers, or at least until the last branch line for service in West Virginia has been passed, so that the gas which will pass to the other State or States can be identified, the gas does not enter into interstate commerce.

The authorities supporting this principle, though dealing

with facts much more unfavorable to the States than the situation in the present case, have settled the rule that, as long as property intended for interstate commerce remains a part of the common mass of the property of the State, or when property which has been in such commerce becomes part of the common mass, it is not yet or longer in interstate commerce and is subject to the jurisdiction of the State like other property. It suffices to cite the following cases:

In *Brown vs. Houston*, 114 U. S., 622, it was held that coal arriving from Pennsylvania in Louisiana and there awaiting sale, still afloat in the Mississippi River on the barges on which it had been brought from Pennsylvania, and later sold for export, had entered into the common mass of property of the State, and was subject to its taxing power.

In *Coe vs. Errol*, 116 U. S., 517, 528, logs at the place of shipment, but not yet committed to the common carrier for carriage out of the State, were held subject to the taxing power of the State, it being said that they continued to be "part of the general property of the State," until they had "entered upon their final journey for leaving the State and going into another State."

In *Diamond Match Co. vs. Ontonagon*, 188 U. S., 82, 92, also relating to forest products, it was held that the property still remained a part of the general mass within the State, which had jurisdiction to tax it, and that this jurisdiction might be exercised at the village "nearest to the last boom or sorting gap of the stream in or bordering on the State in which said property naturally would be and was intended to be last floated during the transit thereof."

The same principle was involved in:

Pittsburgh & S. Coal Co. vs. Bates, 156 U. S., 577.

American Steel & W. Co. vs. Speed, 192 U. S., 500, 520.

General Oil Co. vs. Crain, 209 U. S., 211.

Bacon vs. Illinois, 227 U. S., 502.

McCluskey vs. Marysville & N. R. Co., 243 U. S., 36.

Arkadelphia Mill. Co. vs. St. Louis S. W. R. Co., 249 U. S., 134.

Public Utilities Co. vs. Landon, 249 U. S., 236.

Pennsylvania Gas Co. vs. Public Service Com., 252 U. S., 23.

The same rule was expressly applied by the plaintiff, Pennsylvania, in review of proceedings of its Public Service Commission in *Franke vs. Johnstown Fuel Supply Co.*, 70 Pa., Super. Ct. 446, having then before it the very system of delivery from the Hope Natural Gas Company to the Peoples Natural Gas Company disclosed in the case at bar. It being in evidence in the Pennsylvania case that after passing the measuring station at the State boundary gas from Pennsylvania wells became mingled with the West Virginia gas in the same pipe line, the court said:

> "When the gas was delivered by the Hope Gas Company at the State line there was no determinable destination or ascertained place of consumption in Pennsylvania. It was stored in the pipes of the Peoples Gas Company and in them distributed to various points where it was burned."

It was then said, at page 461 of the opinion:

> "Nothing has been said thus far of that aspect of the case with respect to which it is contended that

> the gas obtained from West Virginia was taken out of the operation of the Federal commerce law because it became mingled with the general body of property in the State. It is property of a peculiar character necessarily confined in tanks or pipes and distributed from place to place by pressure through diverging pipes. It was not consigned from one state to a terminus in another. It was delivered into the containers of the appellant in the State of Pennsylvania and controlled by the latter in its distribution from place to place and so mingled with the Pennsylvania gas that its identity as an imported product was entirely lost. It would seem to have as fully lost its distinctive character as an import as did the coal in the case of *Brown vs. Houston*, 114 U. S., 622, where a flat-boat loaded with coal at Pittsburgh and floated down the river to Louisiana was held to have become merged in the property of the State although it remained in the boat in the same condition in which it was shipped from Pittsburgh and was merely moored to the river bank. A like conclusion was reached in *Pittsburgh Coal Co. vs. Bates*, 156 U. S., 577."

We think it logically to follow, both from the cases in this Court and the *Franke case* (and that in view of the *Franke Case*, Pennsylvania, at least, is in no position to claim otherwise), that if gas thus intermingled after passing the West Virginia-Pennsylvania boundary has ceased to be in interstate commerce, gas thus confused before reaching the boundary, and applicable indiscriminately and without identification to local and out-of-state consumption, has not yet entered into interstate commerce.

In conclusion we submit that no ground exists for the exercise of the original jurisdiction of this Court herein; that upon the merits of the case the plaintiffs are not entitled to the relief prayed, or any part thereof; and that the restraining orders should be dissolved and the bills dismissed at the plaintiffs' costs.

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quirements of justice.

COMMONWEALTH OF PENNSYLVANIA *v.* STATE OF WEST VIRGINIA.

STATE OF OHIO *v.* STATE OF WEST VIRGINIA.

IN EQUITY.

Nos. 15 and 16, Original. Argued December 8, 9, 1921; restored to docket for reargument January 9, 1922; reargued February 28, March 1, 1922; restored to docket for reargument November 13, 1922; reargued April 20, 1923.—Decided June 11, 1923.

1. A justiciable controversy between States, in the sense of the Judiciary Article, is presented when the plaintiff State, relying on the Commerce Clause of the Constitution, seeks to enjoin the defendant State from consummating a purpose, evinced by her statutory enactment, and about to be carried out by her officials, of withdrawing natural gas from an established current of commerce moving from her territory into that of the plaintiff, when such withdrawal is likely to be productive of great injury to the interests of the plaintiff as the proprietor of public institutions and schools in which the gas is largely used, and to private consumers, including most of the inhabitants of many urban communities and a substantial part of the population of the plaintiff State, whose health, comfort and welfare are seriously jeopardized by the threatened withdrawal of the gas from the interstate stream. P. 591.
2. Suits by Pennsylvania and Ohio to enjoin West Virginia from enforcing an act of her legislature (c. 71, Acts 1919,) intended, through regulation of pipe line companies, to compel the retention

within West Virginia of all natural gas there produced, that might be required for local needs, were not premature in not awaiting an actual test of the act or an order of the public service commission vested by it with functions for its enforcement, since the act contains procedural, penal and remedial provisions adequate to accomplish its purpose, and the situation when the suits were brought was such that, directly and immediately, it would work a large curtailment of the volume of gas moving into the complaining States and, in a few years, with increasing demand and decreasing production, would work a practical cessation of the interstate stream which it was the object of the suits to protect. P. 592.

3. In such suits, neither the pipe line companies transporting and supplying the gas, nor consumers in the defendant State who would be benefited by an enforcement of the act, were essential parties. P. 595.
4. A State wherein natural gas is produced and is a recognized subject of commercial dealings may not require of those producing and transporting it that, in its sale and disposal, consumers in that State shall be accorded a preferred right of purchase over consumers in other States, when the requirement necessarily will operate to withdraw a large volume of the gas from an established interstate current whereby it is supplied in other States, to consumers there. P. 595.
5. The purpose of the Commerce Clause is to protect commercial intercourse from invidious restraints, to prevent interference through conflicting or hostile state laws, and to insure uniformity of regulation. It means, that, in the matter of interstate commerce, we are a single Nation—one and the same people. P. 596.
6. The transmission of natural gas from one State to another, for sale and consumption in the latter, is interstate commerce, and a state law, whether of the State where the gas is produced or of that where it is to be sold, which by its necessary operation prevents, obstructs or burdens such transmission, is a regulation of interstate commerce—a prohibited interference. P. 596.
7. The power of a State to require gas pipe-line companies to furnish reasonably adequate service within reasonable territorial limits, will not enable her to enforce preference to local consumption at the expense of interstate business which has grown up with her sanction and encouragement. P. 597.
8. Interference with interstate commerce in natural gas cannot be justified upon the ground that it is a measure designed to conserve the gas, as a natural product of the State in the interest of her

people, because the gas has become a necessity and the supply is no longer sufficient to satisfy local needs and be used abroad. P. 598. *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229.

9. The Court, on full consideration, having reached the conclusion that the West Virginia Act is unconstitutional, and that its intended enforcement will subject the complaining States to injury of serious magnitude, operating with obvious inequity against them,—the appropriate decree is one declaring the act invalid, and enjoining its enforcement, leaving any needed regulation of the interstate commerce involved to be sought elsewhere. P. 600.

Decrees for complainants.

THESE were two suits, brought originally in this Court, to enjoin the defendant State from enforcing an enactment of her legislature (c. 71, Acts 1919,) upon the ground that it would curtail or cut off the supply of natural gas produced within her territory and carried by pipe lines into the territory of the plaintiff States, and there sold and used for fuel and lighting purposes. The act, and the facts constituting the situation to which it applied, are fully analyzed in the opinion.[1]

Mr. John W. Davis and *Mr. George E. Alter,* Attorney General of the Commonwealth of Pennsylvania, with whom *Mr. John G. Price,* Attorney General of the State of Ohio, *Mr. A. Leo Weil, Mr. E. E. Corn, Mr. Freeman T. Eagleson* and *Mr. R. G. Altizer* were on the briefs, for plaintiffs.[2]

[1] After the first argument, the Court, on January 9, 1922, ordered the cases restored to the docket for reargument with special reference to the questions whether the suit was not prematurely brought and whether the bill presents a cause justiciable between the two States parties to the action. See 257 U. S. 620. After reargument, the cases were again, on November 13, 1922, restored to the docket for reargument before a full bench.

[2] At the first hearing, the case was argued by *Messrs. Alter* and *Weil* on behalf of the Commonwealth of Pennsylvania, and by *Messrs. Price* and *Eagleson* on behalf of the State of Ohio. At the second hearing, the case was argued by *Mr. Davis* on behalf of both States and by *Mr. Alter* on behalf of Pennsylvania.

The Act of West Virginia is an unconstitutional interference with established courses of interstate commerce.

The course of the gas from the well to the ultimate consumers in Pennsylvania and Ohio is determined by existing contract relations, public service duties in other States, long-established courses of business and the physical structures adapted thereto. The gas that goes into other States is actually in interstate commerce from the time it leaves the wells until it reaches the ultimate consumers. *United Fuel Gas Co.* v. *Hallanan*, 78 W. Va. 396; 257 U. S. 277; *Pennsylvania Gas Co.* v. *Public Service Comm.*, 252 U. S. 23.

The whole design of the West Virginia statute is to divert or retain for the benefit of West Virginia consumers natural gas that in the absence of the statute would go to consumers in the other States through these established channels of interstate commerce. This intention is made manifest:

(*a*) By the consideration of the extent and character of the industry to which it applies, from which it appears that the full supply of gas that the statute requires to be furnished can be furnished only at the expense of consumers in other States. (*b*) By the history of the efforts of other States and of West Virginia to secure for themselves the exclusive or preferential enjoyment of their natural products, of which the present act is the logical development. *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229, and cases there cited; *United Fuel Gas Co.* v. *Hallanan, supra.* (*c*) By the very terms of the act, which in effect if not in words, require that all gas produced in West Virginia shall be supplied to West Virginia consumers so far as they want it for any purpose, domestic, industrial, or other. (*d*) By the admissions in the answers, which in effect state that the purpose of the act is to supply fully the requirements of West Virginia consumers out of the abundance of gas produced in the State now going to supply consumers in other States.

The statute, to the extent that it requires natural gas that otherwise would go to other States to be diverted or retained for the use of West Virginia consumers, is equivalent to a prohibition upon the transmission of such gas to such other States and is void as a discrimination against interstate commerce. *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229, and cases there cited; *Ward* v. *Maryland*, 12 Wall. 418; *Woodruff* v. *Parham*, 8 Wall. 123; *Welton* v. *Missouri*, 91 U. S. 275; *Guy* v. *Baltimore*, 100 U. S. 434; *Walling* v. *Michigan*, 116 U. S. 446; *Minnesota* v. *Barber* 136 U. S. 313; *Brimmer* v. *Rebman*, 138 U. S. 78.

It may be conceded that state regulations that have to do primarily with matters of local concern, calling imperatively for regulation, and that do not discriminate against or burden interstate commerce, are unobjectionable. *Pennslyvania Gas Co.* v. *Public Service Commission*, 252 U. S. 23. It is an open question, not involved in this case, whether West Virginia, in the absence of congressional action, could prescribe regulations more directly affecting interstate commerce and designed to secure equality among consumers and the most advantageous use of the gas produced in her borders irrespective of state lines, for example, regulations designed to secure a preference for domestic consumers everywhere over industrial consumers. There is no discrimination in favor of consumers in Pennsylvania and Ohio and the act under consideration is not designed to prevent such discrimination. Its intention and necessary effect are to produce discrimination in favor of West Virginia.

The theory that there was an antecedent duty resting on the natural gas companies in West Virginia to supply fully the requirements of their West Virginia consumers before supplying gas for the use of consumers in other States does not rest on any special provisions contained in their charters, or on any contract obligations

into which they have entered. The preëxisting obligation, if any, must be inferred from the fact that the companies in question had the power of eminent domain under the West Virginia law and were engaged in the business of supplying gas to the public in West Virginia.

The obligations of the companies in West Virginia to supply gas for the use of consumers in Pennsylvania and Ohio were assumed before there was any question of the sufficiency of their supplies of gas both to meet fully the requirements of their West Virginia consumers and to meet fully the obligations assumed by them to furnish gas to or for the use of consumers in other States. If the order in time of the assumption of obligations were a matter of importance, the fact is that in large measure the obligations to furnish gas for use in other States antedated the obligations assumed to furnish gas in West Virginia. But it is believed that the order in time is of no consequence. The public service duties in West Virginia and elsewhere and the contract obligations were rightfully undertaken and were on a parity. When, by reason of subsequent events, the supply of gas has become insufficient to meet fully the wants of West Virginia consumers and the commitments for the supply of consumers in other States, the burden of the shortage must be borne on an equitable basis that recognizes this parity of obligation.

The fact that the companies in West Virginia were organized under the laws of that State, or were permitted to do business there and were given the power of eminent domain or were denominated common carriers, does not invalidate contracts made by them to deliver gas in interstate commerce or import into their interstate contracts and commitments a condition that they shall be subject to a prior obligation on the part of the West Virginia companies to supply fully the requirements of West Virginia consumers. A railroad organized under the laws

of a State and engaging in interstate commerce is not under an implied duty to devote its facilities to meeting fully the requirements of intrastate traffic in case they are insufficient to fully meet both intrastate and interstate requirements. Neither a public service corporation nor other corporation should assume obligations that it is unable to perform. But the situation here does not concern the propriety of a public service corporation's extending its service or entering into contracts and commitments that will interfere with its due performance of the public service duties to which it is already subject, but has to do with a system that already exists and has existed for many years and has supplied adequate service in all the States alike.

The act cannot be sustained on the ground that it is the exercise by West Virginia of a right to impose new duties on corporations of her creation or which she permits to do business within the State, or on any similar ground.

The question whether West Virginia might originally have imposed upon corporations of her creation or upon corporations which she permitted to do business within the State the condition that they should supply fully the requirements of West Virginia consumers before taking any gas out of the State is not involved. On principle the validity of such a statute may well be doubted. There is here, however, an existing system of interstate contracts, an established course and flow of interstate commerce, and West Virginia cannot under the guise of imposing new duties on corporations of her creation or new conditions on foreign corporations doing business within the State work a discrimination against or impose burdens upon this interstate commerce. *Western Union Tel. Co.* v. *Kansas*, 216 U. S. 1.

The statute in fact applies to individuals and partnerships as well as to corporations; it applies not only to

DARK PAGE BLEED THRU

those who are engaged in the business of furnishing gas to the public, but to all those who are furnishing or are required by the common law or by statute to furnish gas for the use of the public or any part of the public; it requires every person or corporation who is furnishing gas in any place to furnish it in every place that can be reached directly or indirectly by the lines of such person or corporation, and every person, firm or corporation who is furnishing gas for special purposes to furnish it for all purposes. It fastens not merely upon part but upon all the gas produced by any of the persons named, "to the extent of his supply produced in this state." It gives to the West Virginia consumer a preferential right which in times of scarcity must surely blossom into absolute monopoly. It can be sustained only on the theory that the right of all the persons and corporations to whom it applies to engage in interstate commerce in natural gas and all contracts entered into by them in furtherance of such commerce are subject to the prior performance by such persons and corporations of every obligation in favor of West Virginia consumers that the legislature of West Virginia may see fit at any time to impose. But such a theory substantially claims for West Virginia the right to refuse to allow her natural gas to be taken out of the State, which was the very right denied to Oklahoma in *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229.

There is no time after the gas comes into the possession of the companies in West Virginia when it is not in interstate commerce. When it first comes out of the ground or is first purchased from the local producer it comes into the possession of the public utility company, dedicated, so far as concerns the proportion thereof necessary to fulfill interstate contracts and obligations, to interstate commerce. The proportion that has an interstate destination is fixed from the first moment by existing contracts and relations. *United Fuel Gas Co.* v. *Hallanan*, 87 W. Va. 396; 257 U. S. 277.

But it may be said that the obligation of the statute goes back of the production or purchase by the West Virginia utility company, so that the gas first comes into existence as a possible subject of interstate commerce already charged with the obligation created by the statute. The answer to this suggestion is that the commerce clause is not confined in its operation to commodities in transit in interstate commerce. It renders void legislation that would forbid the putting of property into interstate commerce or the acquisition of property for delivery in fulfillment of interstate commerce contracts just as effectively as it renders void legislation interfering with the transportation of goods after they are in interstate commerce. The State may put many restrictions upon the production of gas, or on the manufacture of beer or on any other subjects of production and manufacture; it may in the exercise of its police powers prohibit altogether the manufacture of things deemed noxious and any resulting effect on interstate commerce is indirect and incidential; but if the State permits the production, or creation, or acquisition of a subject of commerce, it cannot limit such subject of commerce to intrastate commerce. It can no more by discriminatory legislation forbid the creation of a subject of interstate commerce than it can forbid its transportation. *Ohio Oil Co.* v. *Indiana,* 177 U. S. 190; *Geer* v. *Connecticut,* 161 U. S. 519.

The bill of complaint in each case presents a cause justiciable between the two States parties to the action.

Pennsylvania and Ohio sue to protect themselves and their citizens in the enjoyment of the natural gas service that has grown up under the free flow of interstate commerce against interference with that service by the wrongful act of West Virginia. The right they assert is their right and the rights of their citizens to receive natural gas that would come to them in the ordinary course of

interstate commerce following its accustomed channels and unimpeded by any illegal obstruction. They do not set up any title by contract or grant in the gas produced in West Virginia but each State rests its cause on the fact that there has grown up and is established a definite course of interstate commerce through the pipe line companies of West Virginia and the distributing systems in the plaintiff State, on which its institutions and inhabitants are dependent for their supply of fuel and which course of interstate commerce is threatened by the act of West Virginia. In a broad sense, the unlawful obstruction of interstate commerce threatened by West Virginia would constitute a nuisance, which each State has the right to have enjoined. The cause presents all the elements necessary to sustain an ordinary cause of action between individuals, to wit, a wrongful and unlawful act and special injury. The relation of cause and effect between the act threatened by West Virginia and the injury to the plaintiff States and their citizens would be immediate, whether the gas passes from its source in West Virginia to the consumers in the plaintiff States through the lines of a single company, or successively through the lines of several companies, and whatever the arrangements may be between the successive companies through whose lines it may pass. It is sufficient that the course of the gas from its source in West Virginia to the consumers in the plaintiff States is so fixed by existing facilities, business arrangements, contracts and custom as to establish the relation of cause and effect between the threatened interference on the part of West Virginia and the apprehended injury to the plaintiff States and their citizens.

The cause falls within the class of controversies justiciable between States.

The decisions indicate that the jurisdiction embraces every controversy between States determinable by any

rule which may be deemed to fix
other words, every controversy
n independent States might be
and even controversies which
tates would not be justiciable
s of independence or sover-
al interest. Indeed, it would
st include every controversy
one State against another,
ce must base it upon the
assumed principle fixing
iple exists and the viola-
made out; while if the
must go against the
Cohens v. *Virginia*,
Massachusetts, 12 Pet.

But whatever limits there may be upon the jurisdiction
between States to
or municipal law
early to establish
usticiable when
between inde-
prosecuted by
and (2) which
international or mu-
, 180 U. S. 208; 200 U. S.
do, 185 U. S. 125; 206 U. S. 46;
Tennessee Copper Co., 206 U. S. 230; 237 U. S.
New York v. *New Jersey*, 256 U. S. 296.

The controversies between Pennsylvania and West Virginia and between Ohio and West Virginia are clearly justiciable within the principles so established. In each case there is a controversy between two States, involving a grievance asserted by one against the other. The asserted grievance is that the State complained against is

threatening to do something that is forbidden by the Constitution governing the relations between the States and which will cause injury to the complaining State and its citizens. The Constitution itself and a long line of decisions interpreting the meaning of the Commerce Clause furnish the rules of law for the determination of the controversy.

To the suggestion that the suit cannot be maintained because it is brought to redress the grievance of individual citizens there are two answers: (1) Each of the plaintiff States sues as well in its own behalf in the capacity of owner and proprietor of its institutions, etc., and guardian of their inmates as in the capacity of representative or *parens patriæ* of its citizens. (2) In suing in a representative capacity the States do not represent individual citizens but the consuming public served by the public utilities companies that derive their gas from West Virginia.

While a State may not sue in this Court to promote purely private interests, it may properly sue to protect the health and comfort of its inhabitants and the value of their property, though in its sovereign capacity or in its capacity as proprietor it has no interest in the controversy, and though the danger it seeks to avert does not threaten all of its inhabitants, or does not threaten all of them in like degree. *Missouri* v. *Illinois*, 180 U. S. 208; 200 U. S. 496; *Kansas* v. *Colorado*, 185 U. S. 125; 206 U. S. 46; *New York* v. *New Jersey*, 256 U. S. 296. The line between the cases in which a State may bring suit as representative of its citizens and the cases in which it will be regarded as not a real party to the controversy is not hard to find. A State may not use its power of eminent domain or its taxing power for the benefit of an individual or for the benefit of defined individuals, however numerous. It may, however, use its power of eminent domain and its taxing power for the benefit of the public. But

the public does not mean necessarily all the people. So a State may maintain a suit for the benefit of the public though the public immediately concerned is less than all. The same principles that determine in other fields of action what are public and what are private purposes will serve to determine the cases in which a State may sue as representative of its citizens. Pennsylvania and Ohio sue for the benefit of all their citizens who are or may be dependent on the public service companies obtaining their supplies of natural gas from West Virginia. These citizens constitute the same public in whose behalf these States authorize their public service companies to exercise the power of eminent domain, and in whose behalf they assume the right to regulate the rates and service of the public service companies. This great class, including a great proportion of the population of each State, must be regarded not as the mere sum of the individuals of which it is at any given time composed, but as a part or factor of the community itself.

It is too late to question the right of a State to maintain a suit in this Court based on the Commerce Clause of the Constitution to protect its own proprietary rights. *Pennsylvania* v. *Wheeling and Belmont Bridge Co.*, 9 How. 647; 11 How. 528; 13 How. 518; 18 How. 421.

The Commerce Clause establishes, in the absence of congressional action to the contrary, the right to free trade between the States. It is a right which is the subject no less of judicial than of legislative protection. Whenever it is interfered with by state action, those injured, whether individuals or a State in its proprietary capacity, are entitled to resort to the courts for relief. In addition a State may sue as the representative of her citizens when there is special injury done or threatened to the special public whose interest and welfare it is the function of the State to safeguard.

The law of West Virginia is wrongful; through its effect upon an established and definite course of interstate

commerce it reaches into the territory of the plaintiff States, and there does injury to the plaintiff States and their citizens. The liability of West Virginia to suit rests upon the same principle declared in *Kansas* v. *Colorado*, 206 U. S. 46, 97, 98.

Rhode Island v. *Massachusetts*, 12 Pet. 657, determined for all time that controversies between States are not excluded from the cognizance of this Court because they involve questions that are political in their nature, and *Missouri* v. *Illinois*, 180 U. S. 208; 200 U. S. 496; *Kansas* v. *Colorado*, 185 U. S. 125; 206 U. S. 46, and *New York* v. *New Jersey*, 256 U. S. 296, are illustrations of the fact that a State is not immune from suit on account of the extra-territorial effect of its own laws, because such laws also immediately affect persons or property within its own jurisdiction, and have a final object which if sought to be attained by lawful means would be a proper aim for state legislation.

These suits are not prematurely brought.

Mr. George M. Hoffheimer, with whom *Mr. Edward T. England*, Attorney General of the State of West Virginia, *Mr. Fred O. Blue*, *Mr. Philip P. Steptoe* and *Mr. William S. John* were on the briefs, for defendant.[3]

In neither case does the bill present a cause justiciable between the two States.

Whether a suit is against a State, in the constitutional sense, is a matter of substance and effect, not to be determined by the names of the parties.

Conceding that no hard and fast line has yet been drawn delimiting the justiciable and the non-justiciable between States, *Missouri* v. *Illinois*, 180 U. S. 208, 241, we think that a brief survey of the cases and the mode of

[3] At the first hearing the case was argued on behalf of the State of West Virginia by *Messrs. Hoffheimer*, *Blue* and *Steptoe*. At the second hearing it was argued by *Messrs. Blue* and *Hoffheimer*.

DARK PAGE BLEE

their disposition, *Wisconsin* v. *Pelican Ins. Co.*, 127 U. S. 265, 287, 297, readily marks the present litigation as falling within the latter category. It is not the "subject of judicial cognizance," *Hans* v. *Louisiana*, 134 U. S. 1, 15; *Louisiana* v. *Texas*, 176 U. S. 1, 15; *Missouri* v. *Illinois*, 180 U. S. 208, 233, or "susceptible of judicial solution." *Louisiana* v. *Texas*, 176 U. S. 1, 18, 22; *Missouri* v. *Illinois*, 180 U. S. 208, 233, 234.

Of the cases of which this Court has taken original jurisdiction the most numerous have been those relating to the boundaries or territorial integrity.

In another class of cases jurisdiction was exercised because of a nuisance by the invasion of the plaintiff States by sewerage or disease germs polluting their waters and soil, to the injury, actual or threatened, of the lives, health and property of the citizens of those States. Examples are *Missouri* v. *Illinois*, 180 U. S. 208; 200 U. S. 496; and *New York* v. *New Jersey*, 256 U. S. 296. Falling within the same category is *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230.

These nuisance cases are identical in principle with the boundary cases. The sovereign rights and territorial integrity of a State may be as effectually invaded or infringed by the casting or precipitation thereon of intangible, but nevertheless noxious, bacteria or gases as by visible seizure of its lands. *Kansas* v. *Colorado*, 185 U. S. 125; 206 U. S. 46, was similar in aspect. In *Pennsylvania* v. *Wheeling and Belmont Bridge Co.*, 13 How. 518, the suit was treated "as brought to protect the property of the State."

Another class of cases has been those of contract,—of indebtedness from one State to another, or to the creditors of the latter, from the debts to whom the plaintiff was entitled to exoneration at the hands of the defendant. *South Dakota* v. *North Carolina*, 192 U. S. 286; *Virginia* v. *West Virginia*, 206 U. S. 290; 220 U. S. 1; 238 U. S. 202;

THRU

United States v. *North Carolina*, 136 U. S. 211; *United States* v. *Michigan*, 190 U. S. 379. Comparison of *South Dakota* v. *North Carolina*, and *Virginia* v. *West Virginia*, with *New Hampshire* v. *Louisiana*, 108 U. S. 76, indicates that jurisdiction in the former cases was predicated upon the property rights in the plaintiff States or the protection of their corporate credit.

But we have found no instance in which this Court has entertained original jurisdiction predicated solely upon the right of the plaintiff State as *parens patriae*, or as the representative of its citizens, to enforce their private grievances or to protect their private claims arising out of the enforcement of the law of another State, in the absence of a special or additional right of the character above indicated in the plaintiff State itself. Vide, *New Hampshire* v. *Louisiana*, 108 U. S. 76; *New York* v. *Louisiana*, 108 U. S. 76; *Louisiana* v. *Texas*, 176 U. S. 1; *Oklahoma* v. *Atchison, Topeka & Santa Fe Ry. Co.*, 220 U. S. 277; *Oklahoma* v. *Gulf, Colorado & Santa Fe Ry. Co.*, 220 U. S. 290. And see: *North Dakota* v. *Chicago & N. W. Ry. Co.*, 257 U. S. 485; *Pennsylvania* v. *Wheeling Bridge Co.*, 13 How. 518, 559; *Cherokee Nation* v. *Georgia*, 5 Pet. 1, 20.

From the foregoing it is evident that a suit by one State against another cannot be predicated upon the mere relation of *parens patriae;* that something more than a willingness or desire to vindicate the supposed rights of the plaintiff's citizens is requisite; and that the multiplicity or unanimity of complaints by the citizens of the one State against the acts of the other cannot, by a process of aggregation or combination, be erected into a controversy between States or present a cause justiciable between such States.

It follows that no justiciable cause arises by reason of the alleged threatened deprivation or shortage of gas supply to the inhabitants of the plaintiff States. And

much the more is this true in respect of the alleged infringement of constitutional guaranties of companies engaged in gas transportation, or of citizens of the plaintiff States alleged to have made investments in West Virginia, "since it is a well settled rule of this Court that it only hears objections to the constitutionality of a law from those who are affected by its alleged unconstitutionality in the features complained of." "The plaintiffs must show that their own rights are infringed." *Jeffrey Mfg. Co.* v. *Blagg*, 235 U. S. 571; *New York Central R. R. Co.* v. *White*, 243 U. S. 188; *Plymouth Coal Co.* v. *Pennsylvania*, 232 U. S. 531; *Arkadelphia Co.* v. *St. Louis S. W. Ry. Co.*, 249 U. S. 134; *Dahnke-Walker Co.* v. *Bondurant*, 257 U. S. 282.

If original jurisdiction is attempted to be sustained because of the supply of West Virginia gas to municipalities or public institutions in Ohio and Pennsylvania, the jurisdiction is equally negatived by the above cited cases. *Louisiana* v. *Texas*, 176 U. S. 1, 18; *Missouri* v. *Illinois*, 180 U. S. 208, 249; *Kansas* v. *Colorado*, 185 U. S. 125, 145.

The alleged right to West Virginia gas claimed by the plaintiffs for themselves and their inhabitants, if such right exists, is a right, not against the State of West Virginia, but against the gas companies to whom the plaintiffs and their inhabitants look for their gas supply. If the right exists against the West Virginia public service gas companies by whom the gas is furnished, either directly or remotely, it is manifest that the right can rise no higher than that of the companies themselves. As against the State of West Virginia the claim in substance is, not that West Virginia has directed its action against the plaintiffs, but that by the exercise of governmental power against the public service companies within the boundaries of West Virginia, the plaintiffs are, or may be, affected consequentially.

Whether the West Virginia companies shall furnish gas to or for the plaintiffs, is at most a matter of controversy between such companies and the plaintiffs, and not a controversy between the plaintiffs and West Virginia, within the meaning of the Constitution; and the question whether West Virginia may validly regulate its public service corporations in the manner attempted by the statute in litigation, involves a controversy between West Virginia and such corporations, and is not a controversy between States within the meaning of the Constitution.

The suits were not necessarily premature merely because no action was taken by West Virginia or its Public Service Commission under the statute. The suits were premature in the sense that, at the time of their commencement, the practical operation of the statute had not been tested, and no threatened injury of serious magnitude was clearly or convincingly proved, or susceptible of clear or convincing proof. *Grand Trunk Ry. Co.* v. *Michigan Railroad Comm.*, 231 U. S. 457; *Kansas* v. *Colorado*, 206 U. S. 46, 117; *Missouri* v. *Illinois*, 200 U. S. 496, 521; *New York* v. *New Jersey*, 256 U. S. 296; and other cases.

These cases must be considered in the light of the peculiar nature of gas and of the gas companies, and the exceptional rules of law applicable thereto. *Brown* v. *Spilman*, 155 U. S. 665; *Ohio Oil Co.* v. *Indiana*, 177 U. S. 190; *Walls* v. *Midland Carbon Co.*, 254 U. S. 300; *Westmoreland Gas Co.* v. *Dewit*, 130 Pa. St. 235; *Bacon* v. *Walker*, 204 U. S. 311.

The statute does no more than to declare, and to prescribe appropriate procedure for the enforcement of, the obligation of each public service gas company to furnish reasonably adequate service within reasonable territorial limits. It does not require unreasonable service or unreasonable extension by any company.

The public service gas companies were and are obligated, irrespective of the statute in contest, to furnish

DARK PAGE BLEE

West Virginia consumers a reasonably adequate supply of gas, and they cannot lawfully abandon or disable themselves from performing the obligation.

It was within the right and power of the State to regulate the gas companies. The right and power are based on: (1) The implied condition accompanying the grant of rights and privileges to the companies; (2) the reserved power to alter or repeal corporation charters and laws; and (3) the police power.

The statute is a legitimate exercise of the police power.

From the social and economic dependency on gas in reasonably adequate volume, the domestic and industrial evils resulting from the lack of such service, and the "fact accomplished" that there is now, and for several years has been, insufficient West Virginia gas to permit at once the full measure of service in West Virginia and the other States to which it was and is transported, admittedly there must be, in the nature of things, a limitation upon the service and consumption of gas, in respect of either the purposes of the consumption or the territorial area of supply.

In this situation, it was and is incumbent on some one to formulate and enforce suitable regulations. And the Congress not having acted, even in respect of the interstate transportation of gas (Act of June 18, 1910, c. 309, § 7, 36 Stat. 539, 544; *Pennsylvania Gas Co.* v. *Public Service Commission*, 252 U. S. 23, 30), the exercise of a regulatory power must emanate either from the State or from the gas companies.

As to the police power over the general subject, see *Ohio Oil Co.* v. *Indiana*, 177 U. S. 190; *Walls* v. *Midland Carbon Co.*, 254 U. S. 300; *Lindsley* v. *Natural Carbonic Gas Co.*, 220 U. S. 61.

The police power is "one of the most essential of powers, at times the most insistent, and always one of the least limitable of the powers of government." *District of*

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Columbia v. *Brooke*, 214 U. S. 138, 149. As said in *Chicago & Alton R. R. Co.* v. *Tranbarger*, 238 U. S. 66, 77, "this power can neither be abdicated nor bargained away, and is inalienable even by express grant; and . . . all contract and property rights are held subject to its fair exercise. *Atlantic Coast Line R. R. Co.* v. *Goldsboro*, 232 U. S. 548."

The public welfare to which the protection of the power extends, embraces not only public health, morals, and safety, but also the public convenience and the general prosperity. *Chicago, Burlington & Quincy R. R. Co.* v. *Illinois*, 200 U. S. 561; *Bacon* v. *Walker*, 204 U. S. 311; *Eubank* v. *Richmond*, 226 U. S. 137; *Sligh* v. *Kirkwood*, 237 U. S. 52; *Chicago & Alton R. R. Co.* v. *Tranbarger*, 238 U. S. 66.

The scope of this power, and its flexibility in meeting and dealing with modern conditions, are illustrated in *German Alliance Ins. Co.* v. *Lewis*, 233 U. S. 389, where state regulation of fire insurance rates was upheld; and, again, in *Hall* v. *Geiger-Jones Co.*, 242 U. S. 539; *Caldwell* v. *Sioux Falls Stockyards Co.*, 242 U. S. 599; and *Merrick* v. *Halsey*, 242 U. S. 568, upholding "Blue Sky laws."

Measures to safeguard the business prosperity of the State are exampled by the prohibition of monopolies and combinations in restraint of trade, *Waters-Pierce Oil Co.* v. *Texas*, 212 U. S. 86; *Grenada Lumber Co.* v. *Mississippi*, 217 U. S. 433; *Standard Oil Co.* v. *Missouri*, 224 U. S. 270; *International Harvester Co.* v. *Kentucky*, 234 U. S. 199; of unfair competition, *Central Lumber Co.* v. *South Dakota*, 226 U. S. 157; and of the sale or shipment of products detrimental to the business reputation of an important industry, *Sligh* v. *Kirkwood*, 237 U. S. 50.

If it be true that in any instance the State may legislate in the interest of the health and general business prosperity of its inhabitants, it must follow that health may be preserved against injury by cold as well as by disease

or adulteration of food, and that the industry of the State may be protected as well from destruction by deprivation of necessary fuel as from mere injury by practices hurtful to its trade or reputation. Upon this ground, aside from any peculiar relations or obligations affecting public service corporations, it is plain that the State may legislate in defense of its people and its industries in prevention of a real and present danger arising from deprivation of gas.

Nor is it an answer that the State did not interpose earlier. While the gas supply was adequate there was no occasion for the exertion of the State's power. And regardless of this, the delay did not detract from the power. *German Alliance Ins. Co.* v. *Lewis,* 233 U. S. 389; *Thornton* v. *Duffy,* 254 U. S. 361, 369.

Assuming, as we have already shown, that the supply of industrial gas is, by the holding out by the gas companies of their readiness and willingness to furnish such gas (subject only to the needs of domestic consumers) and by the settled law of West Virginia, a public service, *Clarksburg Light Co.* v. *Public Service Comm.,* 84 W. Va. 638; *Kelly Axe Mfg. Co.* v. *Public Service Comm.,* 87 W. Va. 105; *Mill Creek Coal Co.* v. *Public Service Comm.,* 84 W. Va. 662; there is no distinction in principle between that service and the domestic service. Between the supply of gas for domestic purposes and for industrial use there is but one difference. The service differs only in degree of necessity because the hardship is personally more acute in case of failure of the domestic supply than where the failure pertains to the industrial supply. This, of course, constitutes a sufficient basis for classification, preferential to the domestic consumer. The uses to which gas may be applied in West Virginia was and is a local question for the determination of the legislature of that State; and the objections of the plaintiffs go, as said in *Ohio Oil Co.* v. *Indiana,* 177 U. S. 190, 211, " not to the

power to make the regulations, but to their wisdom." *Lindsley* v. *Nat. Carbonic Gas Co.*, 220 U. S. 61, 76, 77; *Walls* v. *Midland Carbon Co.*, 254 U. S. 300.

As to forebodings that the enforcement of the statute as to industrial consumers will absorb all the West Virginia gas, these are wholly speculative, and "mere prophecies which are ventured." *Tanner* v. *Little*, 240 U. S. 369, 385.

If a decision of the Commission as to reasonable adequacy, in respect of either volume or economy of consumption, is deemed erroneous, the gas companies will have their day in court. Such questions can be answered when they arise.

The burden being on the plaintiffs to show a violation of constitutional guaranties there can be no declaration of unconstitutionality upon mere loose opinion or conjecture.

The plaintiffs claim through the gas companies, and have no higher right or title to relief.

The statute works no impairment of obligation of contracts, nor does it deprive of property without due process of law, nor deny equal protection of the laws.

If the State may validly compel the rendition of adequate service to its people by public service corporations operating within its borders, the State's authority cannot be defeated by expenditures in aid of evasion of that service, or contracts or arrangements having that result.

The contention that the seven companies engaged in business, and that their pipe lines and pump stations were constructed and are used as facilities for the service of consumers in foreign States, is fallacious.

If fairly compensated, the gas companies are not entitled to refuse to West Virginia an adequate service merely because a greater remuneration can be obtained elsewhere.

Whatever may be the result in reference to property devoted to the service of consumers in other States or to

contracts made with them, or consequentially affecting their service, the constitutional power of West Virginia, nevertheless, remains clear and certain. The expenditures for that property and those contracts were made subject to the police power of the State and find no protection in the constitutional provisions against the impairment of the obligation of a contract or the deprivation of property without due process of law or any other guaranty of the State or Federal Constitution. *Chicago, Burlington & Quincy R. R. Co.* v. *McGuire*, 219 U. S. 549; *Chicago & Alton R. R. Co.* v. *Tranbarger*, 238 U. S. 67; *Hudson County Water Co.* v. *McCarter*, 209 U. S. 348; *Rast* v. *Van Deman & Lewis Co.*, 240 U. S. 342; *Union Dry Goods Co.* v. *Georgia Public Service Corp.*, 248 U. S. 372; *Erie R. R. Co.* v. *Board of Public Utility Commissioners*, 254 U. S. 394.

What has been said above applies equally to the claim of abridgment of privileges and immunities of citizens of other States or of the United States. *Barbier* v. *Connolly*, 113 U. S. 27; *Western Union Tel. Co.* v. *Commercial Mill Co.*, 218 U. S. 406.

The plaintiff States are not citizens of any State or of the United States, *Stone* v. *South Carolina*, 117 U. S. 430; *Postal Tel. Cable Co.* v. *Alabama*, 155 U. S. 487; *Title Guaranty & Surety Co.* v. *Idaho*, 240 U. S. 136; and the gas companies are not citizens within the privileges and immunities clauses of the Federal Constitution. *Blake* v. *McClung*, 172 U. S. 239; *Western Turf Association* v. *Greenberg*, 204 U. S. 359; *Selover* v. *Walsh*, 226 U. S. 112.

The statute does not regulate interstate commerce.

We think that to the objection, based on the Commerce Clause, there are several answers:

(1) The West Virginia public service corporations have no right to engage in interstate commerce, except in subordination to the performance of their duties to the State;

(2) If interstate commerce is affected, the effect is only indirect and incidental, and therefore, in the absence of congressional enactment, the effect is not violative of the Commerce Clause; and

(3) The duties of these corporations to the State in respect of their gas exist not only during interstate commerce therein, but also before the entry of the gas into that commerce; and the gas enters interstate commerce subject to those duties and the operation of the statute.

The question here is, not whether a State may prohibit or restrict the transportation of natural gas from its territory into another State, but whether the State may require companies—owing to its people the obligation of adequate service—to perform that service, even though the performance may involve the intrastate consumption of gas which otherwise might be transported to another State.

If the gas companies owe a duty to the people of West Virginia, the performance of that duty cannot be evaded merely because they prefer to enter into interstate commerce rather than to perform it. *Hudson County Water Co.* v. *McCarter*, 209 U. S. 348; *Manufacturers Light Co.* v. *Ott*, 215 Fed. 940, 951; *South Covington Ry. Co.* v. *Kentucky*, 252 U. S. 399; *Erie R. R. Co.* v. *Public Commissioners*, 254 U. S. 394.

If it be true, that a gas company, or its business, or the commodity in which it deals, is affected by the public interest, precedents are not wanting to show that the principles relating to interstate commerce in ordinary goods and chattels are inapplicable. *Geer* v. *Connecticut*, 161 U. S. 519; *New York* v. *Hesterberg*, 211 U. S. 31.

It is no answer to what has been said that if a State can compel a supply of gas to its citizens and thereby prevent its exportation to another State, the other State may

impose a similar restriction on the interstate shipment of corn, wheat, lumber or other commodities. Those commodities lack entirely the exhaustibility and other peculiarities of gas. Until their production or distribution shall become affected with a public interest in the sense that the gas business is so affected, no such case will occur. *Tanner* v. *Little*, 240 U. S. 369; *Noble State Bank* v. *Haskell*, 219 U. S. 104; *German Alliance Ins. Co.* v. *Lewis*, 233 U. S. 389.

In *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229, neither the corporations and individuals who were plaintiffs, nor their gas, could be said to be affected with a public use, since the persons themselves were not engaged in the business of public gas supply in Oklahoma, and their gas was required by no present necessity in that State. The Oklahoma statute was not in substance, or even ostensibly, enacted in regulation of a public utility, so as to render merely indirect or incidental any decrease in the volume of gas transported out of the State. On the contrary, the principal and direct design of the Oklahoma statute was to prevent exportation of gas. *Haskell* v. *Kansas Natural Gas Co.*, 224 U. S. 217, 221.

The later decisions in *Public Utilities Comm.* v. *Landon*, 249 U. S. 236, and *Pennsylvania Gas Co.* v. *Public Service Comm.*, 252 U. S. 23, as well as *Franke* v. *Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct. 446, recognize the local character of gas supply and its regulation, even though the gas has been in interstate commerce.

Interference, if any, with interstate commerce is indirect and incidental. The direct purpose of the law is to compel the performance of a public duty by those obligated to perform it, and by a legitimate exercise of the police power to protect against the injury to persons and property consequent on the failure to perform the public duty. Conceivably, interstate commerce might not be affected at all, and this is presently true, if, as the evi-

dence indicates, the gas companies hold in reserve sufficient territory to supply the deficit without subtracting from the quantity of gas transported to other States. But even if the quantity of gas entering into interstate commerce should be diminished as a consequence of the statute, the authorities well establish that the Commerce Clause would not stand in the way. To argue to the contrary would be to contend that the State would stand powerless to relieve its citizens from the most flagrant discrimination, or even against a total deprivation of gas, at the hands of its public service corporations, which, for gain, preferred to serve consumers in other States.

The validity of state legislation incidentally or indirectly affecting interstate commerce, even though it diverts to the local need commodities or facilities which otherwise might go into or aid interstate commerce, has repeatedly been upheld. *Minnesota Rate Cases*, 230 U. S. 352; *Kidd* v. *Pearson*, 128 U. S. 1; *Plumley* v. *Massachusetts*, 155 U. S. 461; *Capital City Dairy Co.* v. *Ohio*, 183 U. S. 238; *Geer* v. *Connecticut*, 161 U. S. 519; *New York* v. *Hesterberg*, 211 U. S. 31; *Hudson County Water Co.* v. *McCarter*, 209 U. S. 348; *Sligh* v. *Kirkwood*, 237 U. S. 52; *Jamieson* v. *Indiana Natural Gas Co.*, 128 Ind. 555.

The police power of the State embraces, to this extent of indirect or incidental interference, commodities which are actually in interstate commerce. The fact that they are in such commerce does not necessarily withdraw them from the operation of reasonable state laws. The repeatedly held valid state inspection and labelling laws, designed to promote public health and safety, though applied to commodities in original packages, are a commonplace example. The rule is the same as to the instrumentalities of interstate commerce.

Though interstate commerce be incidentally or indirectly affected, the police power of the State includes the

authority to compel a reasonably adequate service to the communities within it at the hands of a public service corporation, though it is engaged in interstate commerce; and up to the point where reasonably adequate local facilities are afforded by a public service corporation, the State may exercise a free hand. Until that point is passed, interstate commerce is not unconstitutionally infringed. *Chicago, Burlington & Quincy R. R. Co.* v. *Railroad Commission*, 237 U. S. 220; *Mobile, etc. R. R. Co.* v. *Mississippi*, 210 U. S. 187; *Gladson* v. *Minnesota*, 166 U. S. 427; *Lake Shore, etc. Ry. Co.* v. *Ohio*, 173 U. S. 285; *Wisconsin, etc. R. R. Co.* v. *Jacobson*, 179 U. S. 287; *Atlantic Coast Line R. R. Co.* v. *North Carolina Corp. Comm.*, 206 U. S. 1; *Missouri Pacific Ry. Co.* v. *Larabee Flour Mills Co.*, 211 U. S. 612; *Missouri Pacific Ry. Co.* v. *Kansas*, 216 U. S. 262; *Washington* v. *Fairchild*, 224 U. S. 510; *Grand Trunk Ry. Co.* v. *Michigan R. R. Comm.*, 231 U. S. 457; *Chicago, M. & St. P. Ry. Co.* v. *Iowa*, 233 U. S. 334; *Michigan Central R. R. Co.* v. *Railroad Comm.*, 236 U. S. 615; *Illinois Central R. R. Co.* v. *Mulberry Hill Coal Co.*, 238 U. S. 275; *Seaboard Air Line Ry. Co.* v. *Railroad Comm.*, 240 U. S. 324.

But the objection that interstate commerce is interfered with, fails entirely when the transaction is analyzed in point of time. The duty of reasonably adequate service rests on the gas company in its character of a public service corporation. It exists prior to and contemporaneously with its acquisition of the gas, wherewith it is to perform its duty.

That the production of gas, or coal, or any other commodity, though intended for interstate commerce, is not interstate commerce, is now settled. See *Heisler* v. *Thomas Colliery Co.*, 260 U. S. 245; *Hammer* v. *Dagenhart*, 247 U. S. 251; *Delaware, Lackawanna & Western R. R. Co.* v. *Yurkonis*, 238 U. S. 439; *United Mine Workers* v. *Coronado Coal Co.*, 259 U. S. 344; *Public Utilities*

Co. v. *Landon*, 249 U. S. 236; *Pennsylvania Gas Co.* v. *Public Service Comm.*, 252 U. S. 23; *Franke* v. *Johnstown Fuel Supply Co.*, 70 Pa. Super. Ct. 446.

Before gas can enter into interstate commerce, it must become property susceptible of such commerce. Until it is reduced to possession by being brought into the well or to the surface of the earth, there is no property in it, save as a qualified right thereto as part of the land. *Walls* v. *Midland Carbon Co.*, 254 U. S. 300; *Ohio Oil Co.* v. *Indiana*, 177 U. S. 190; *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229; *Peoples Gas Co.* v. *Tyner*, 131 Ind. 281; *Hall* v. *Vernon*, 47 W. Va. 295.

Until reduced to possession, the gas is part of the real estate. *Brown* v. *Spilman*, 155 U. S. 665; *Carter* v. *Tyler County Court*, 45 W. Va. 806; *Preston* v. *White*, 57 W. Va. 278; *Warren* v. *Boggs*, 83 W. Va. 89; and other cases.

It follows, therefore, that at the very moment when gas produced by or for a public service gas company becomes property, and the subject of commerce, it finds the gas company incumbered with the obligation of public service, and subject to the statute. This is true, even though the gas is straightway discharged into the pipe line. It is the more clearly true of those wells which are shut in either upon completion of the drilling or in order to rest them after a period of use.

In this aspect there is no distinction between the gas produced by the gas company itself and that purchased from other producers. *Coe* v. *Errol*, 116 U. S. 517; *Heisler* v. *Thomas Colliery Co.*, 260 U. S. 245; *Champlain Realty Co.* v. *Brattleboro*, 260 U. S. 366.

Hallanan v. *United Fuel Gas Co.*, 257 U. S. 277, did not directly involve the question of adequacy of public service in West Virginia by the United Fuel Gas Company. We think that with the added element of the duty of public service on the part of the owner of the pipe line, the pipe

line is properly viewed, not only as an instrumentality of transportation, but also as a reservoir for the distribution of the gas, both that supplied within the State and that destined for other States. And in this light a situation is presented more nearly like that involved in *Champlain Realty Co.* v. *Brattleboro,* 260 U. S. 366; *Bacon* v. *Illinois,* 227 U. S. 504; *General Oil Co.* v. *Crain,* 209 U. S. 211; *American Steel & Wire Co.* v. *Speed,* 192 U. S. 500; *Diamond Match Co.* v. *Ontonagon,* 188 U. S. 82.

We think, too, the fact that in the *Hallanan Case,* much the greater part of the gas was destined to other States, as was the condition of most of the grain in *Lemke* v. *Farmers Grain Co.,* 258 U. S. 50, creates a distinction. These cases may apply when most of a commodity is to be taken to another State. But the question remains whether they apply to gas in a pipe line, most of which is intended for consumption within the State; and whether they will govern even in the ultimate time when by reason of the continuing depletion of the gas ninety-nine per cent. of the gas in a particular pipe line remains in West Virginia and one per cent. goes elsewhere.

Mr. Justice Van Devanter delivered the opinion of the Court.

These are suits, one by the Commonwealth of Pennsylvania and the other by the State of Ohio, to enjoin the State of West Virginia from enforcing an act passed by her legislature (c. 71, Acts 1919) which the complainants believe will largely curtail or cut off the supply of natural gas heretofore and now carried by pipe lines from West Virginia into their territory and there sold and used for fuel and lighting purposes. Although distinct, the suits are so much alike that they have been presented at the bar substantially as a single case. They will be dealt with accordingly in this opinion.

The West Virginia Act is set forth at length in the margin.[1] The complainants challenge its validity on the ground that it directly interferes with interstate commerce and therefore contravenes the commerce clause of

[1] The Act was passed February 10, 1919, went into effect May 11, 1919, and reads as follows:

"Section 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this state, shall to the extent of his supply of said gas produced in this state, (whether produced by such person or by any other person), furnish for public use within the territory of this state, and for the use of the public and every part of the public within the territory of this state, in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this state, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates.

"Sec. 2. That in case any person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, or for the use of the public or any part of the public within this state, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this state served by such person, then and in that event the public service commission shall have authority, and the same is hereby conferred on it, upon the application of any such person or any of his consumers within this state and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such in-

the Constitution of the United States; and they rest their right to relief on the grounds that to enforce the act will subject them to irreparable injury in respect of many of their public institutions and governmental agencies, which

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sufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such person having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable rules and regulations and provisions for the payment of the costs and expense of making the same or for the apportionment of such cost and expense as may appear just and reasonable. *Provided, however,* that no person shall, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time, have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this state; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing or required by law to furnish, natural gas for public use in a territory within this state, if and when the said person having said excess shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe shall actually furnish, to the consumers within said territory a reasonably adequate supply of natural gas.

"Sec. 3. That insofar as the same shall not be in conflict with this act, all of the authority, powers, jurisdiction and duties conferred and imposed on the public service commission by the act entitled, 'An act to create a public service commission and to prescribe its powers

long have been and now are using this gas, and will subject them to further and incalculable injury in that (a) it will imperil the health and comfort of thousands of their people who use the gas in their homes and are largely

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and duties, and to prescribe penalties for the violations of the provisions of this act,' passed February twenty-first, one thousand nine hundred and thirteen, as amended by the act entitled, 'An act to amend and re-enact sections one, two, three, four, five, nine, ten, fourteen, fifteen and twenty-two, of chapter nine of the acts of one thousand nine hundred and thirteen, creating a public service commission, prescribing its powers and duties, and penalties for violation of the provisions of said chapter, and to add thereto six sections to be known as sections twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, enlarging the powers and duties of said public service commission, prescribing additional penalties and giving to the commission power to punish for contempt,' passed February tenth, one thousand nine hundred and fifteen, are hereby conferred and imposed on the public service commission in respect to the subject matter of this act, or any part thereof.

"Sec. 4. That in case of violation of any provision of this act any person aggrieved or affected thereby may complain thereof to the public service commission in like manner, and thereupon such procedure shall be had, as is provided in respect to other complaints to or before said commission, and all such proceedings and remedies may be taken or had for the enforcement or review of the order or orders of said commission, and for the punishment of the violation of such order or orders, as are provided by law in respect to other orders of said commission. In case of the violation of any provisions of this act, the public service commission, or any person aggrieved or affected by such violation, in his own name, may apply to any court of competent jurisdiction by a bill for injunction, petition for writ of mandamus or other appropriate action, suit or proceeding, to compel obedience to and compliance with this act, or to prevent the violation of this act, or any provision thereof, pending the proceedings before said commission, and thereafter until final determination of any action, suit or proceeding for the enforcement or review of the final order of said commission; and such court shall have jurisdiction to grant the appropriate order, judgment or decree in the premises.

"Sec. 5. That if any person subject to the provisions of this act shall fail or refuse to comply with any requirement of the commis-

dependent thereon, and (b) will halt or curtail many industries which seasonally use great quantities of the gas and wherein thousands of persons are employed and millions of taxable wealth are invested.

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sion hereunder, such person shall be subject to a fine of not less than one hundred dollars nor more than five hundred dollars for each offense; and such person, or the officers of the corporation, where such person is a corporation, may be indicted for their failure to comply with any requirement of the commission under the provisions of this act, and upon conviction thereof, may be fined not to exceed five hundred dollars, and in the discretion of the court, confined in jail not to exceed thirty days. Every day during which any person, or any officer, agent or employee of such person, shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation of such order or direction of this act, as the case may be.

"Sec. 6. That any person claiming to be damaged by any violation of this act may bring suit in his own behalf for the recovery of the damage from the person or persons so violating the same in any circuit court having jurisdiction. In any such action the court may compel the attendance of the person or persons against whom said action is brought, or any officer, director, agent or employee of such person or persons, as a witness, and also require the production of all books, papers and documents which may be useful as evidence, and in the trial thereof such witness may be compelled to testify, but any such witness shall not be prosecuted for any offense concerning which he is compelled hereunder to testify.

"Sec. 7. That the word 'person' within the meaning of this act shall be construed to mean, and to include, persons, firms and corporations.

"Sec. 8. That the sections, provisions and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or un[en]forceable, the remaining parts thereof shall be and remain in full force and effect.

"Sec. 9. That all acts and parts of acts in conflict with this act are hereby repealed."

The conditions out of which the suits have arisen and the facts material to their disposal are as follows:

Natural gas is found at pronounced depths in [illegible] strata—usually sand rock—constituting a natu[illegible] ervoir and is brought to the surface and reduc[illegible] session through wells drilled into the contair[illegible] When a surface owner thus reduces it to p[illegible] becomes its owner and it becomes a subject [illegible] like any product of the forest, field or mine [illegible] closing strata it is under great pressure, ca[illegible] sure, which causes it to flow out rapidly w[illegible] are penetrated. If one surface owner drill[illegible] gins to draw off the gas, others desiring t[illegible] common right must take the same cours[illegible] the gas under their lands may be drain[illegible] wells. After the gas is drawn from the [illegible] there is no practicable mode of storing [illegible] It must be used promptly. Its chief u[illegible] ducing heat and light by burning it. [illegible] generally are in centers of population [illegible] or less remote from the places of pr[illegible] vening transmission is effected thr[illegible] normal rock pressure will carry t[illegible] tances and when that pressure [illegible] can be supplemented by using c[illegible]

In West Virginia the produ[illegible] as much as thirty years ago [illegible] has been greater than in ar[illegible] fields include thirty-two [illegible] first the gas was produc[illegible] tions, was regarded as [illegible] waste into the air. [illegible] valuable for heating [illegible] convenience attend[illegible] Its use within th[illegible] was far less than [illegible] the producers turned

to neighboring States, notably Pennsylvania and Ohio, for a further market.

West Virginia sanctioned that effort. She permitted the formation under her laws of corporations for the purpose of constructing pipe lines from her gas fields into other States and carrying gas into the latter and there selling it. She also permitted corporations of other States to come into her territory for that purpose. And she extended to all these companies the use of her power of eminent domain in acquiring rights of way for their pipe lines. In no way did she then require, or assert any power to require, that consumers within her limits be preferred over consumers elsewhere. The effort to find a further market succeeded, and the gas came to be extensively carried into Pennsylvania as far as Pittsburgh and into Ohio as far as Cleveland, Toledo and Cincinnati. In that way the entire production was made of value to the producers. Land owners and lessees in the gas fields were greatly benefited and the taxable wealth of the State was largely increased. Approximately $300,000,000 were invested in the business—fully one-half in West Virginia. More than 7,000 miles of the pipe lines are in that State,—2,000 miles being trunk lines.

Some of the pipe lines reach from the producing fields to the areas of consumption in Pennsylvania and Ohio. Some connect at or near the state line with others leading to the consuming areas. All are so operated that there is a continuous flow of gas from points of production to points of use. Branch lines divert some of the gas at intervening points, but without changing the general flow. Several lines cross and recross the state boundary repeatedly.

The pipe lines are all operated as public utilities, that is, in supplying gas to the public, and this is true in Pennsylvania and Ohio as well as in West Virginia. The lines long have been and now are supplying gas to the

three States for use in their charitable, educational and penal institutions, to their counties and municipalities for use in county, city and school buildings, to local utilities serving particular communities, to the people generally in many cities and towns for use in their homes, places of business and offices, and, in seasons when there is an adequate supply, to industrial plants for use in their operation. The predominant use is for fuel purposes, that for lighting being relatively small. All gas going into Pennsylvania and Ohio is carried and supplied under prior engagements respecting its disposal,—most of it under long time contracts exacted or preferred by the purchasers or consumers.

Experience in other gas fields has shown that multiplied and prolonged drafts on the natural supply will exhaust it. Since 1916 it has been apparent that the older portions of the West Virginia fields are approaching exhaustion and that production in those fields has reached and passed its maximum. The newer portions, however, in the judgment of informed operators, will make the fields commercially productive for several years more.

Latterly during the colder months—from November 1 to May 1—the combined needs of domestic and industrial consumers have been largely in excess of the production, and the pipe line companies generally have adopted and are pursuing the policy of preferring domestic consumers during those months. All the long time contracts contain provisions admitting of such a preference. During other months, when there is little occasion for heating homes and offices, the needs of domestic consumers drop so materially that much gas may be and is supplied for industrial use without affecting the domestic use. But increased population, enlarged industry—particularly in West Virginia—and the advantages inhering in the gas as a fuel have finally resulted in a gross demand, which cannot be satisfied even in the

summer months. The present actual consumption is all that the production will sustain. The pipe line companies cannot supply more gas in West Virginia without cutting down what they carry into Pennsylvania and Ohio; nor can they carry more into Pennsylvania and Ohio without cutting down what they supply in West Virginia. In short, the situation is such that to constrain the companies to supply more gas in any one of the three States necessarily will constrain them to supply less in the other two.

In 1918, 265 billion cubic feet of gas were produced in West Virginia, 38 billion were consumed within the State without becoming available to the public and 227 billion became available in the hands of the pipe line companies. The companies supplied 70 billion to consumers in the State and carried 157 billion to consumers outside. They also brought 4 billion into the State from gas fields outside and to that extent enlarged the amount supplied to local consumers. Of that amount, 21 billion went into domestic use and 53 billion into industrial use. The major part of the gas carried into Pennsylvania went to industrial consumers, and the major part of that carried into Ohio went to domestic consumers.

The gas carried outside the State is sold for more than that used therein, but this naturally would be so, considering the additional pipe lines, compressors and labor employed in the longer transmission. The proportion marketed beyond the State has not varied much. It now is practically what it was ten years ago. Nor has there been any discrimination against consumers inside the State. They have been dealt with on the same plane as others. The companies have declined to quit the existing service to communities and consumers outside and to serve only those inside, but there is nothing invidious in this. It is in the line of fair treatment rather than discrimination.

The gas carried into Pennsylvania and Ohio, respectively, and there supplied to the State and her municipal agencies for strictly public use is not negligible, but amounts to billions of cubic feet per year. It is the fuel with which food is cooked and water heated for thousands of dependents in charitable and penal institutions, with which hundreds of school houses are heated and made comfortable for thousands of children, and with which municipal water works are operated in several cities, notably Cincinnati and Toledo. The heating and other appliances have been adjusted to its use and to make the changes incident to substituting other fuel would involve an expenditure in each State of a very large sum of public money.

In Pennsylvania the gas is used by 300,000 domestic consumers caring for 1,500,000 people, and in Ohio by 725,000 domestic consumers caring for 3,625,000 people. This is where no other natural gas service is available. To change to other fuel would require an adjustment of heating and cooking appliances at an average cost of more than $100 for each domestic consumer, or an aggregate cost exceeding $30,000,000 in Pennsylvania and $72,500,000 in Ohio.

The act whose enforcement is sought to be enjoined was passed by the legislature of West Virginia February 10, 1919, and went into effect May 11th following.[2] These suits were brought eight days thereafter by direction of the legislatures of the complainant States, and by leave of this Court. Interlocutory injunctions were prayed and granted at the outset and are still in force.

Three questions bearing on the propriety of entertaining the suits were raised soon after the suits were begun

[2] Under the state constitution the act went into effect on the expiration of ninety days after its "passage" by the legislature as distinguished from its approval by the governor. *State* v. *Mounts*, 36 W. Va. 179.

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and consideration of them was postponed to the final hearing.

The first question is whether the suits involve a justiciable controversy between States in the sense of the Judiciary Article of the Constitution. We are of opinion that they do and that every element of such a controversy is present.

Each suit presents a direct issue between two States as to whether one may withdraw a natural product, a common subject of commercial dealings, from an established current of commerce moving into the territory of the other. The complainant State asserts and the defendant State denies that such a withdrawal is an interference with interstate commerce forbidden by the Constitution. This is essentially a judicial question. It concededly is so in suits between private parties, and of course its character is not different in a suit between States.

What is sought is not an abstract ruling on that question, but an injunction against such a withdrawal presently threatened and likely to be productive of great injury. The purpose to withdraw is shown in the enactment of the defendant State before set forth and is about to be carried into effect by her officers acting in her name and at her command. The State is the principal and the action of her officers rightly may be imputed to her, even though a suit for an injunction might lie against them.

The attitude of the complainant States is not that of mere volunteers attempting to vindicate the freedom of interstate commerce or to redress purely private grievances. Each sues to protect a two-fold interest—one as the proprietor of various public institutions and schools whose supply of gas will be largely curtailed or cut off by the threatened interference with the interstate current, and the other as the representative of the consuming public whose supply will be similarly affected. Both interests are substantial and both are threatened with serious injury.

Each State uses large amounts of the gas in her several institutions and schools,—the greater part in the discharge of duties which are relatively imperative. A break or cessation in the supply will embarrass her greatly in the discharge of those duties and expose thousands of dependents and school children to serious discomfort, if not more. To substitute another form of fuel will involve very large public expenditures.

The private consumers in each State not only include most of the inhabitants of many urban communities but constitute a substantial portion of the State's population. Their health, comfort and welfare are seriously jeopardized by the threatened withdrawal of the gas from the interstate stream. This is a matter of grave public concern in which the State, as the representative of the public, has an interest apart from that of the individuals affected. It is not merely a remote or ethical interest but one which is immediate and recognized by law.

In principle these views have full support in prior decisions, such as *Missouri* v. *Illinois*, 180 U. S. 208, 241; s. c. 200 U. S. 496, 518; *Kansas* v. *Colorado*, 185 U. S. 125, 141–143; s. c. 206 U. S. 46, 95–99; *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230, 237; *New York* v. *New Jersey*, 256 U. S. 296, 301, and *Wyoming* v. *Colorado*, 259 U. S. 419, 464. The defendant State relies on such cases as *New Hampshire* v. *Louisiana*, 108 U. S. 76; *Louisiana* v. *Texas*, 176 U. S. 1; *Kansas v. United States*, 204 U. S. 331; *Oklahoma* v. *Atchison, Topeka & Santa Fe Ry. Co.*, 220 U. S. 277, and *Texas* v. *Interstate Commerce Commission*, 258 U. S. 158, 162, but the facts on which they turned, as the opinions show, were so widely different from those here that they are not in point.

The second question is whether the suits were brought prematurely. They were brought a few days after the West Virginia act went into force. No order under it had been made by the Public Service Commission; nor

had it been tested in actual practice. But this does not prove that the suits were premature. Of course they were not so, if it otherwise appeared that the act certainly would operate as the complainant States apprehended it would. One does not have to await the consummation of threatened injury to obtain preventive relief. If the injury is certainly impending that is enough.

Turning to the act, we find that by its first section it lays on every pipe line company a positive duty,—to the extent of its supply of gas produced in the State, whether produced by it or others,—to satisfy the needs, whether for domestic, industrial or other use, of all intending consumers, whether old or new, who are willing to pay for the gas and want it for use within the section of the State in which it is produced, in that through which it is transported or in that wherein it is supplied to others. This is a substantive provision whose terms are both direct and certain, and to which immediate obedience is commanded. No order of the commission is required to give it precision or make it obligatory, and it leaves nothing to the discretion of those who are to enforce it. On the contrary, it prescribes a definite rule of conduct and in itself puts the rule in force. It imposes an unconditional and mandatory duty, as counsel for the State admit, and obviously is intended to enforce a preferred recognition and satisfaction of the needs of consumers within the State, present and prospective, regardless of the effect on the interstate stream or on consumers outside the State.

The second section invests the commission with authority,—on finding after notice and hearing that a company supplying gas for local needs is or probably will be without an adequate supply for the purpose,—to order another company having gas in excess of what is required for its "consumers within this State" to furnish

the company whose supply is or will be inadequate with gas to make up the deficiency, or in the alternative to undertake itself to supply such local needs " to the extent of such excess." This provision, like the first, shows the purpose to give local consumers, present and prospective, a preferred status and to permit surplus gas only to be carried into other States.

The fourth section empowers the commission to entertain complaints by persons aggrieved or affected by any " violation " of the act and to require that the violation be discontinued and the act obeyed, subject to a right of review in the courts, and also provides means of compelling obedience to the act pending the proceedings before the commission and until the decision on review.

Other sections contain penal and remedial provisions designed to make those just described effective. One in the fifth section declares that " every day " during which any company, or any of its officers, agents or employees, " shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation." Another in the sixth section subjects any company violating the act to an action for damages by anyone claiming to have been wronged by the violation.

We regard it as entirely clear that the act is intended to compel the retention within the State of whatever gas may be required to meet the local needs for all purposes, and that its procedural, penal and remedial provisions are amply adequate to accomplish that result. And we think it equally clear from the allegations in the bills, now established by the evidence, that the situation when the suits were brought was such that the act directly and immediately would work a large curtailment of the volume of gas moving into the complainant States. Indeed, the conclusion is unavoidable that with the increasing demand in West Virginia and the decreasing production

the act in a few years would work a practical cessation of the interstate stream.

It must be held therefore that the suits were not brought prematurely.

The third question is whether the requisite parties have been brought into the suits. It is objected that the pipe line companies have not been brought in. But there is nothing which makes their presence essential. The complainant States make no complaint and seek no relief against them. They are supplying gas in those States and evidently will continue to do so, if not restrained or prevented by the defendant State. It is only with her that the complainant States are in controversy. It also is objected that the consumers in the defendant State who will be benefited if the act is enforced have no representation in the suits. But this is a misconception. They are represented by that State, and there is nothing in the situation requiring that they be specially represented or brought in. With equal basis it could be objected in a suit to prevent the enforcement of a statute reducing railroad freight rates, or in one to prevent the enforcement of a municipal ordinance reducing telephone or electric light rates, that shippers or users who would be benefited by the reduction must be specially represented or brought in. Such an objection would of course be untenable; and so of the objection here.

We turn now to the principal issue, whether a State wherein natural gas is produced and is a recognized subject of commercial dealings may require that in its sale and disposal consumers in that State shall be accorded a preferred right of purchase over consumers in other States,—when the requirement necessarily will operate to withdraw a large volume of the gas from an established interstate current whereby it is supplied in other States to consumers there. Of course, in the last analysis, the question is whether the enforced withdrawal for the bene-

fit of local consumers is such an interference with interstate commerce as is forbidden to a State by the Constitution. The question is an important one; for what one State may do others may, and there are ten States from which natural gas is exported for consumption in other States. Besides, what may be done with one natural product may be done with others, and there are several States in which the earth yields products of great value which are carried into other States and there used. But, notwithstanding the importance of the question, its solution is not difficult. The controlling principles have been settled by many adjudications,—some so closely in point that the discussion here may be relatively brief.

By the Constitution, Art. I, § 8, cl. 3, the power to regulate interstate commerce is expressly committed to Congress and therefore impliedly forbidden to the States. The purpose in this is to protect commercial intercourse from invidious restraints, to prevent interference through conflicting or hostile state laws and to insure uniformity in regulation. It means that in the matter of interstate commerce we are a single nation—one and the same people. All the States have assented to it, all are alike bound by it and all are equally protected by it. Even their power to lay and collect taxes, comprehensive and necessary as that power is, cannot be exerted in a way which involves a discrimination against such commerce. *Ward* v. *Maryland*, 12 Wall. 418, 430; *Welton* v. *Missouri*, 91 U. S. 275, 280; *Webber* v. *Virginia*, 103 U. S. 344, 350; *Coe* v. *Errol*, 116 U. S. 517, 525–526; *Guy* v. *Baltimore*, 100 U. S. 434, 442–443; *Robbins* v. *Shelby County Taxing District*, 120 U. S. 489, 498.

Natural gas is a lawful article of commerce and its transmission from one State to another for sale and consumption in the latter is interstate commerce. A state law, whether of the State where the gas is produced or that where it is to be sold, which by its necessary opera-

tion prevents, obstructs or burdens such transmission is a regulation of interstate commerce,—a prohibited interference. *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229; *Public Utilities Commission* v. *Landon*, 249 U. S. 236, 245; *United Fuel Gas Co.* v. *Hallanan*, 257 U. S. 277; *Dahnke-Walker Milling Co.* v. *Bondurant*, 257 U. S. 282, 290–291; *Lemke* v. *Farmers Grain Co.*, 258 U. S. 50; *Western Union Telegraph Co.* v. *Foster*, 247 U. S. 105; *Minnesota* v. *Barber*, 136 U. S. 313; *Brimmer* v. *Rebman*, 138 U. S. 78. The West Virginia act is such a law. Its provisions and the conditions which must surround its operation are such that it necessarily and directly will compel the diversion to local consumers of a large and increasing part of the gas heretofore and now going to consumers in the complainant States, and therefore will work a serious interference with that commerce.

But it is urged that there are special considerations which take the act out of the general rule and sustain its validity, even though there be an interference.

One of these is that the pipe line companies are engaged in supplying the gas to the public in West Virginia, that this is a quasi-public business and that the act does no more than require the companies to furnish a reasonably adequate service within reasonable territorial limits. It is true that the business is of a quasi-public character, but it is so in Pennsylvania and Ohio as well as in West Virginia. The obligations inhering in it and the power to insist on an adequate service are the same in all three States. The supply of gas necessarily marks the extent of the service that can be rendered. Much of the business is interstate and has grown up through a course of years. West Virginia encouraged and sanctioned the development of that part of the business and has profited greatly by it. Her present effort, rightly understood, is to subordinate that part to the local business within her borders. In other words, it is in effect an attempt to

regulate the interstate business to the advantage of the local consumers. But this she may not do. A direction to one of her railroads when short of facilities for moving coal to haul intrastate coal to the exclusion of interstate coal would not be different in kind or force.

Another consideration advanced to the same end is that the gas is a natural product of the State and has become a necessity therein, that the supply is waning and no longer sufficient to satisfy local needs and be used abroad, and that the act is therefore a legitimate measure of conservation in the interest of the people of the State. If the situation be as stated, it affords no ground for the assumption by the State of power to regulate interstate commerce, which is what the act attempts to do. That power is lodged elsewhere. A contention, in essence the same, was presented and considered in *West* v. *Kansas Natural Gas Co.*, 221 U. S. 229, a case involving the validity of an Oklahoma statute designed to accomplish the retention of natural gas within the State. In the District Court the case had been heard on bill and answer, a proceeding in which the allegations of fact in the answer are taken as true. The hearing resulted in a decree adjudging the statute invalid and enjoining its enforcement. The decree was affirmed here. In the answer, as the opinion shows, it was alleged that physical conditions made it apparent that the gas field was of relatively short duration, that cities were near the field and their people needed the gas, that the State embodied only prairie land devoid of timber and there was no local fuel supply excepting coal and natural gas, that the production of coal was growing rapidly more costly, that "substantially, the only natural, practical, usable fuel, both for domestic and industrial use, is natural gas," and that if pipe lines, such as the plaintiffs were intending to construct and put in operation, were permitted to carry gas into other States the supply would be speedily ex-

hausted. Referring to these allegations and to a contention that the ruling principle of the statute was conservation of a needed natural resource, the Court said (p. 255):

"The results of the contention repel its acceptance. Gas, when reduced to possession, is a commodity; it belongs to the owner of the land, and, when reduced to possession, is his individual property subject to sale by him, and may be a subject of intrastate commerce and interstate commerce. The statute of Oklahoma recognizes it to be a subject of intrastate commerce, but seeks to prohibit it from being the subject of interstate commerce, and this is the purpose of its conservation. In other words, the purpose of its conservation is in a sense commercial—the business welfare of the State, as coal might be, or timber. Both of those products may be limited in amount, and the same consideration of the public welfare which would confine gas to the use of the inhabitants of a State would confine them to the inhabitants of the State. If the States have such power a singular situation might result. Pennsylvania might keep its coal, the Northwest its timber, the mining States their minerals. And why may not the products of the field be brought within the principle? Thus enlarged, or without that enlargement, its influence on interstate commerce need not be pointed out. To what consequences does such power tend? If one State has it, all States have it; embargo may be retaliated by embargo, and commerce will be halted at state lines. And yet we have said that 'in matters of foreign and interstate commerce there are no state lines.' In such commerce, instead of the States, a new power appears and a new welfare, a welfare which transcends that of any State. But rather let us say it is constituted of the welfare of all of the States and that of each State is made the greater by a division of its resources, natural and created, with every other State, and those of every

other State with it. This was the purpose, as it is the result, of the interstate commerce clause of the Constitution of the United States. If there is to be a turning backward it must be done by the authority of another instrumentality than a court."

Finally, it is urged that this Court can not prescribe and execute regulations respecting the apportionment and use of the gas among the three States, and therefore that the bills should be dismissed. The conclusion does not follow from the premise. The object of the suits is not to obtain decretal regulations, but to enjoin the enforcement of the West Virginia act on the ground that it is an unconstitutional enactment and its intended enforcement will subject the complainant States to injury of serious magnitude. On full consideration, we reach the conclusion that the act is unconstitutional, that the apprehensions of the complainant States respecting the injury which will ensue from its enforcement are well founded and that it obviously will operate most inequitably against those States. In this situation the appropriate decree is one declaring the act invalid and enjoining its enforcement. To dismiss the bills and leave the act to be enforced would be quite inadmissible. If there be need for regulating the interstate commerce involved, the regulation should be sought from the body in whom the power resides.

Decrees for complainants.

MR. JUSTICE HOLMES.

The statute seeks to reach natural gas before it has begun to move in commerce of any kind. It addresses itself to gas hereafter to be collected and states to what uses it first must be applied. The gas is collected under and subject to the law, if valid, and at that moment it is not yet matter of commerce among the States. I think that the products of a State until they are actually started to a point outside it may be regulated by the

State notwithstanding the commerce clause. In *Oliver Iron Mining Co.* v. *Lord,* 262 U. S. 172, it was held that the State might levy an occupation tax upon the mining of iron ore equal to six per cent. of the value of the ore produced during the previous year, although substantially all the ore left the State and was put upon cars for that purpose by the same single movement by which it was severed from its bed. There could not be a case of a State's product more certainly destined to interstate commerce. It was put upon the cars by the same act by which it was produced. But as it was not yet in interstate commerce the tax was sustained. I know of no relevant distinction between taxing and regulating in other ways. *McCulloch* v. *Maryland,* 4 Wheat. 316, 431.

But the States have been held authorized to regulate in other ways more closely resembling the present. In *Sligh* v. *Kirkwood,* 237 U. S. 52, a state law was sustained that made it criminal to sell or offer for shipment citrus fruits that were immature or otherwise unfit for consumption. That, upon grounds of local policy, intercepted before it got into the stream, what would have been an object of interstate commerce. The local interest in the present case is greater and more obvious than in that of green oranges. Again, the power of the State to preserve a food supply for its people by game laws notwithstanding an indirect interference with interstate commerce is established. *Geer* v. *Connecticut,* 161 U. S. 519, 534. *Silz* v. *Hesterberg,* 211 U. S. 31, 42. If there is any difference between the property rights of the State in game and in gas still in the ground it does not concern the plaintiffs and it is plain from the decisions cited that they do not depend upon a speculative view as to title. See *Missouri* v. *Holland,* 252 U. S. 416, 434. The right of the State so to regulate the use of natural gas as to prevent waste was sustained as against the

Fourteenth Amendment in *Walls* v. *Midland Carbon Co.*, 254 U. S. 300, and I do not suppose that the plaintiffs would have fared any better had they invoked the commerce clause. I need do no more than refer to prohibition of manufacture of articles intended for export, such as colored oleomargarine; *Capital City Dairy Co.* v. *Ohio*, 183 U. S. 238, 245; or spirits. The result of that and other cases has been expressed by this Court more than once in the form of a general recognition of the right of a State to make "reasonable provision for local needs"; *Minnesota Rate Cases*, 230 U. S. 352, 402, 410, 411; and the right has been recognized even when the interference with interstate commerce is direct, as when an interstate train is required to stop to accommodate passengers who do not leave the State. *Lake Shore & Michigan Southern Ry. Co.* v. *Ohio*, 173 U. S. 285. *Gulf, Colorado & Santa Fe Ry. Co.* v. *Texas*, 246 U. S. 58.

I see nothing in the commerce clause to prevent a State from giving a preference to its inhabitants in the enjoyment of its natural advantages. If the gas were used only by private persons for their own purposes I know of no power in Congress to require them to devote it to public use or to transport it across state lines. It is the law of West Virginia and of West Virginia alone that makes the West Virginia gas what is called a public utility, and how far it shall be such is a matter that that law alone decides. I am aware that there is some general language in *Oklahoma* v. *Kansas Natural Gas Co.*, 221 U. S. 229, 255, a decision that I thought wrong, implying that Pennsylvania might not keep its coal, or the northwest its timber, &c. But I confess I do not see what is to hinder. Certainly if the owners of the mines or the forests saw fit not to export their products the Constitution would not make them do it. I see nothing in that instrument that would produce a different result if the State gave the owners

motives for their conduct, as by offering a bonus. However far the decision in the case referred to goes it cannot outweigh the consensus of the other decisions to which I have referred and that seem to me to confirm what I should think plain without them, that the Constitution does not prohibit a State from securing a reasonable preference for its own inhabitants in the enjoyment of its products even when the effect of its law is to keep property within its boundaries that otherwise would have passed outside. *Hudson County Water Co.* v. *McCarter*, 209 U. S. 349, 357.

I agree substantially with my brothers McREYNOLDS and BRANDEIS, but think that there is jurisdiction in such sense as to justify a statement of my opinion upon the merits of the case. I think that the bill should be dismissed.

MR. JUSTICE McREYNOLDS, dissenting.

It seems to me quite clear that the record presents no justiciable controversy; certainly none within the original jurisdiction of this Court.

For the manifest purpose of protecting local consumers, West Virginia commanded her public service corporations not to transport natural gas beyond the borders of the State until they had satisfied the reasonable requirements of the people therein. Thereupon, complainants came here by original bills and alleged that if the statute were enforced they and their inhabitants could not obtain enough gas for their imperative demands from the divers pipe lines theretofore accustomed to supply them. They ask us to declare the enactment invalid because of conflict with the commerce clause of the Federal Constitution and to restrain its enforcement. If the pipe lines hereafter fail to comply with their contracts, of course, they may be proceeded against in a proper forum; but to say that they probably will fail because

of the statute and then to demand that the law-making power be enjoined is not to set up a real controversy cognizable in any court.

If West Virginia should prohibit the drilling of new gas wells, I hardly suppose complainants could demand an injunction here even if it were admitted that their supplies would be cut off. But why not, under the doctrine announced? Production has been permitted for years and appealing hardships would follow its cessation. And suppose West Virginia should repeal the charters of all her public service corporations now transporting gas and thereby disable them, could we interfere upon the demand of another State who claimed that she would suffer?

As originally adopted, the Constitution provided—"In all cases affecting ambassadors, other public ministers and consuls, and those in which a State shall be party, the Supreme Court shall have original jurisdiction." *Chisholm* v. *Georgia,* 2 Dall. 419, declared that a citizen of one State could proceed against another State by original action here. In *Louisiana* v. *Texas,* 176 U. S. 1, Mr. Chief Justice Fuller pointed out the character of controversies between States over which this Court has original jurisdiction. With emphasis he declared that vindication of the freedom of interstate commerce is not committed to any State as *parens patriae.* Unless this ruling is to pass into the discard, it follows that neither of the complainants has any higher standing than one of her citizens with a contract for gas would have if there were no Eleventh Amendment. It is unnecessary to argue that the framers of the Constitution never intended to empower this Court, at the suit of an individual, to enjoin a State from enforcing regulations prescribed for her own public service corporations. And yet, that possibility must be affirmed under the doctrine now announced.

Concluding his opinion in *Chisholm* v. *Georgia* (1793), Mr. Justice Iredell exclaimed—"I pray to God, that if the Attorney General's doctrine, as to the law, be established by the judgment of this Court, all the good he predicts from it may take place, and none of the evils with which, I have the concern to say, it appears to me to be pregnant." A like prayer seems not inappropriate here and now.

MR. JUSTICE BRANDEIS, dissenting.

The statement made by Mr. Justice Holmes seems to me unanswered. But, like Mr. Justice McReynolds, I think that there are reasons why the bills should be dismissed without passing upon the constitutional question presented.

Natural gas in quantity is produced in thirty-two of the fifty-five counties of West Virginia. One-half of the inhabitants of that State have for years been dependent upon it for domestic uses; and it has been supplied to nearly two thousand industrial establishments. Sixty-seven concerns are engaged in the business of distributing this natural gas to the public. Most of them are corporations organized under the laws of West Virginia. A few are organized under the laws of some other State. Some are unincorporated. Each had, prior to the Act of February 17, 1919, hereinafter referred to, been declared by statute to be a public service corporation [1] endowed with the power of eminent domain. Each was under the common-law duty of furnishing to the public,

[1] "The words 'Public Service Corporation' used in this act shall include all persons, associations of persons, firms, corporations, municipalities and agencies engaged or employed in any business herein enumerated, or in any other public service business whether above enumerated or not, whether incorporated or not." Acts, 1913, c. 9, § 3; Acts, 1915, c. 8, § 3; Acts, 1921, c. 150, § 3. See Acts 1919, c. 71, § 3.

throughout the West Virginia territory in which it does business, adequate service. *Carnegie Natural Gas Co.* v. *Swiger*, 72 W. Va. 557; *Clarksburg Light & Power Co.* v. *Public Service Commission*, 84 W. Va. 638. And as to each this duty has been confirmed by the legislation of that State.

Prior to the World War the production of natural gas in West Virginia and the demand were such that large quantities could be exported by its public service corporations to other States without thereby lessening the ability of these concerns to give adequate service to their West Virginia customers. During the war the demand, both within and without the State, increased greatly; and thereafter the supply became smaller. Of the net supply of West Virginia natural gas available for distribution by its public service corporations, 77.1 per cent. was exported in the year 1916; 80.1 per cent. in 1917; 76.7 per cent. in 1918.[2] The West Virginia consumers complained that the amount furnished them was inadequate; and that they were being discriminated against by West Virginia gas companies in the interest of residents of other States.[3]

[2] A large part of the gas produced is not available for distribution to the public. Much is consumed within the State for field purposes—such as drilling and cleaning out wells or the operation of compressor or pump stations to transport the gas. The producer must, also, under reservations in the leases, ordinarily deliver to the landowner free gas service.

[3] The temptation to discriminate may have been great. For Pennsylvania and Ohio communities formerly supplied from local production of natural gas could, if this is no longer possible, afford to pay a very high price for gas rather than to discard existing gas appliances and to instal new ones which would be required if oil or coal were to be substituted as fuel. In 1921 the average price per M cubic feet for domestic consumption was 26 cents in West Virginia, 44 cents in Pennsylvania and 42 cents in Ohio. For industrial consumption it was 16 cents in West Virginia; 32 cents in Pennsylvania; and 34 cents in Ohio. United States Geological Survey, "Natural Gas in 1919–1921," published May 22, 1923.

Some of the companies which exported gas sought to justify the inadequacy of their service to West Virginia customers by asserting that they were under contract, or other duty, to supply West Virginia gas to distributing companies or consumers in other States; and that the aggregate demand of their customers in the several States exceeded the available supply. Only twelve of the sixty-seven West Virginia public service corporations took part in the export business. The remaining fifty-five were engaged solely in distribution within the State; and many of these were dependent largely upon the other twelve for their gas supply. Some of these fifty-five companies sought to justify their inadequate service by the fact that, because of the demands for gas to be exported to the other States, the corporations on which they were dependent denied them their full supply.

West Virginia consumers insisted that the common law forbade its public service companies to so disable themselves from performing their duty to give adequate service within the State; and contended that the exporting public service corporations which habitually supplied the local distributing companies could not justify furnishing a reduced supply by setting up their contracts to furnish supplies to concerns in other States. These contentions were denied by the exporting companies; and it was asserted that they could not legally be controlled in this respect by the Public Service Commission of West Virginia. To remove all doubt concerning the statutory powers of the Commission and to ensure adequate service to West Virginia consumers, the legislature of the State enacted c. 71 of the Acts of 1919, approved on February 17 of that year, to take effect ninety days after its passage. That statute declared these rules of substantive law:

(a) That no public service corporation engaged in distributing natural gas produced within the State shall, by exporting its supply to other States, disable itself from

performing its duty to give adequate service within West Virginia.

(b) That any such public service corporation whose gas supply is insufficient to afford such service to its customers, may, under prescribed conditions, call upon any other public service corporation within the same territory which has a surplus supply, to furnish to it such part of this surplus as may be required to enable it to give adequate service.

Before the effective date of that act, the State of Pennsylvania and the State of Ohio each filed in this Court a bill in equity against the State of West Virginia, in which it prayed that the act be declared void, because obnoxious to the Federal Constitution, and that all West Virginia officials be enjoined from attempting in any way to enforce the statute. As a basis for the relief each bill set forth the extensive use of natural gas by state institutions, by their several municipalities, and by millions of residents; and it alleged that serious injury would result if these consumers were deprived of the West Virginia supply. The Ohio bill alleged also that cutting off the West Virginia supply of natural gas would greatly reduce the value of public service properties, would reduce taxable values of these and other properties, and would thereby deprive the State of important revenues. It prayed, specifically, that the plaintiff State, and its residents, be declared to have no adequate remedy at law; that West Virginia and its officials be enjoined from interfering with the transportation of natural gas for use in Ohio; and that pending the suit an injunction be granted against their instituting in any court of the State of West Virginia any suit under the statute against any "person, company or corporation which is engaged in the production or transportation of natural gas out of the State of West Virginia and into the State of Ohio." No public official or producer, exporter or distributor of gas or consumer (other than

these States) was made party plaintiff or defendant in either bill. A temporary injunction issued in each case upon the filing of the bill. In each a motion to dismiss, an answer, and a replication were filed. Without disposing of the motions to dismiss, the parties proceeded to take the evidence and, thereafter, submitted the cases for final hearing.

Several objections made to the maintenance of these suits may be passed without discussion. It will be assumed that the constitutional question submitted is not to be deemed merely a political one, as in *Georgia* v. *Stanton*, 6 Wall. 50, and *Massachusetts* v. *Mellon*, *ante*, 447. It will be assumed that the alleged right to acquire by purchase and to bring into a State natural gas produced elsewhere is—despite a fundamental difference [4]—to be treated as similar legally to the right asserted in *Kansas* v. *Colorado*, 185 U. S. 125; 206 U. S. 46, to have the water of an interstate stream continue to flow into a State; or the right recognized in *Missouri* v. *Illinois*, 180 U. S. 208; *New York* v. *New Jersey*, 256 U. S. 296, and *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230, to have the waters and the air within one State kept reasonably free from pollution originating in another. It will be assumed, further, that the use of natural gas in Pennsyl-

[4] The State has a property interest in running water naturally flowing into it and in the public waters and air within its boundaries. *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230, 237. If the running water is withheld, its property is taken. If the public waters or the air is polluted, its territorial integrity is invaded. But the alleged right to purchase in interstate commerce and to import a natural resource is, in no sense, a right of the State. It would be described appropriately as a privilege of citizens of the United States. Compare *Louisiana* v. *Texas*, 176 U. S. 1, 24, 25. Such privileges the State is not charged by the Federal Constitution with the duty to enforce; and the fact that the institution of these suits was specially authorized by the legislatures of Pennsylvania and of Ohio can be of no legal significance.

vania and in Ohio is shown to be so general as to bring these suits within the rule acted upon in the cases just cited and to render inapplicable the rule declared in *Kansas* v. *United States*, 204 U. S. 331, and *Oklahoma* v. *Atchison, Topeka & Santa Fe Ry. Co.*, 220 U. S. 277, 286, 289, where the suits were dismissed because brought in aid of interests deemed private. And finally it will be assumed—although this is still more doubtful—that a State which has permitted one of its natural resources to be freely dealt in as an article of interstate commerce may not thereafter prohibit all export thereof, although it appears that the whole of the remaining supply will be required to satisfy the needs of its own citizens. These objections raised by defendant will not be considered; because there are other objections which, in my opinion, present insuperable obstacles to the maintenance of the suits.

First. This Court is without jurisdiction of the subject-matter.

The bills present neither a "case," nor a "controversy," within the meaning of the Federal Constitution. *Marbury* v. *Madison*, 1 Cr. 137; *Muskrat* v. *United States*, 219 U. S. 346, 356, 359; *Texas* v. *Interstate Commerce Commission*, 258 U. S. 158. They are not proceedings "instituted according to the regular course of judicial procedure" to protect some right of property or personal right. They are, like *McChord* v. *Louisville & Nashville R. R. Co.*, 183 U. S. 483, 495, an attempt to enjoin, not executive action, but legislation. They are instituted frankly to secure from this Court a general declaration that the West Virginia Act of February 17, 1919, is unconstitutional. Compare *Giles* v. *Harris*, 189 U. S. 475, 486. The well settled rule that the Court is without power to entertain such a proceeding applies equally, whether the party invoking its aid is a State or a private person. And the rule cannot be overcome by giving to

pleadings the form of a bill in equity for an injunction. Compare *Fairchild* v. *Hughes*, 258 U. S. 126; *Atherton Mills* v. *Johnston*, 259 U. S. 13, 15; *Texas* v. *Interstate Commerce Commission*, *supra*.

Moreover, it is not shown that there is, in a legal sense, danger of invasion of the alleged rights. It is shown that the States of Pennsylvania and Ohio are, in their public institutions, themselves consumers of West Virginia gas—a "makeweight" as suggested in *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230, 237. And it is shown that these and many other consumers within the plaintiff States would suffer serious injury if the West Virginia supply were cut off. But it is not shown that discontinuance of the supply is threatened or that there is, in a legal sense, danger that the supply will be stopped. The mere enactment of the statute, obviously, does not constitute a threat to interrupt the flow of gas into the plaintiff States. The importation into Ohio and Pennsylvania is conducted, not by the State of West Virginia, but wholly by twelve privately owned public service corporations. If the importation ceases it will be, primarily at least, because of acts or omissions of these twelve corporations. Yet there is not even an allegation that these corporations threaten, or intend, to discontinue the importation; or that they will be compelled to do so unless the State of West Virginia is enjoined from enforcing the statute.

On the other hand, it clearly appears that, under the laws of West Virginia, there can be no present danger that any of these twelve corporations will be summarily prevented by that State from continuing in full volume the export of gas or will be compelled to reduce it. The only restriction, if any, imposed by the Act of 1919 upon exportation of gas is that which may result from the requirement that West Virginia public service corporations shall not, by means of export, disable themselves from performing their duties to consumers and to other dis-

tributing companies within the State. Before there can be, in a legal sense, danger that restriction will result, it must appear that one or more of the twelve exporting companies is disabling itself by such exportation, or is about to do so; and also that some state official is about to take effective action to prevent the exportation. But under the legislation of West Virginia many things would have to happen and much time must elapse before any of the exporting corporations would be under any legal duty to discontinue or lessen their exports, and still more time before it could actually be prevented from exporting gas. For, under West Virginia legislation, no executive officer and no court has power or jurisdiction to declare, or to enforce performance of, such alleged duty of a public service corporation until primary resort has been had to the Public Service Commission and the application to it has been acted upon, either by granting or by denying relief. *United Fuel Gas Co.* v. *Public Service Commission,* 73 W. Va. 571; *State* v. *Bluefield Water Works Co.,* 86 W. Va. 260; *Kelly Axe Manufacturing Co.* v. *United Fuel Gas Co.,* 87 W. Va. 368. The act establishing the Commission prescribes the methods and the remedies which are to be pursued in order to enforce the duty to give adequate service. C. 9, Acts of 1913, §§ 11 and 18; c. 8, Acts of 1915, §§ 23, 24; c. 71, Acts of 1919; c. 150, Acts of 1921; *Manufacturers' Light & Heat Co.* v. *Ott,* 215 Fed. 940. If it is claimed that there is failure to give adequate service, a petition may be filed before the Commission to secure it. After notice to and hearing of the corporation by the Commission an order may be made. Until the Commission issues some order which purports to restrict in some way the discretion theretofore exercised by a corporation in respect to exports, every such concern is, under the Act of 1919, legally as free to continue the transportation of gas to Pennsylvania and to Ohio as if that statute had not been passed.

It is possible that the Commission would never be called upon to act.[5] It is possible that if called upon, the Commission would refuse to make an order. It is possible that if the Commission made an order, the order would be of such a character as not to affect seriously the interests which plaintiffs seek to protect. And it is possible that if any order were made, the state court would suspend its operation and would eventually annul it. The act makes such careful provision for judicial review of the orders of the Commission and for postponing the incidence of penalties or other liabilities until

[5] The Attorney General of Ohio states in his brief: "The supply of gas was adequate, both for consumption inside the State of West Virginia and for transportation to other States, until during the time of the world war in 1917 and 1918. (Record, pages 331 and 334.) By reason of the vast demand for gas for industrial consumption, which occurred as a result of the war, and which drew upon the lines of the gas companies during the summer as heavily as, or more heavily than during the winter, the gas companies had no opportunity to rest their wells or to accumulate a surplus of gas, as they had been in the habit of doing, in accord with good practice, under normal conditions. The federal government, through the fuel administration, gave orders to the gas companies to supply essential industrial plants with all the gas possible. Wells were drilled and turned into lines which, under normal conditions, would have been held in reserve, to assure a future supply. (Record, pages 333, 334.) The supply of gas has never been adequate for all purposes, during periods of maximum demand, since that time."

It may be that production will increase. The war has closed. The excessive post war activities of 1919 and early 1920 ceased, and were followed by a period of industrial depression. There may again be opportunity for periodic rest which gas wells, as well as human beings, appear to need; and thus, seemingly exhausted wells may be restored. Furthermore, hitherto undeveloped gas areas may be worked or more wells may be drilled in areas already developed; or new areas may be opened. For of the 2,725,798 acres of the gas territory held by the sixty-seven public service corporations of the State in 1919, a large part are still undeveloped.

Moreover, the demand may lessen. Except in times of emergency, use of natural gas by the industries will be determined largely by

after such review can be had, that there could never be occasion for invoking in respect to this statute the doctrine of *Ex parte Young*, 209 U. S. 123.[6] For the Commission is without power to enforce an order or to impose a penalty. To overcome disobedience, or disregard, of an order, resort must, under the West Virginia statutes, be had to the courts; and to this end an original proceeding must be instituted. Whether the suit to enforce obedience is brought by the Commission or by others, the corporation is given opportunity to defend on the ground that the order is, for any rea-

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its relative cost as compared with coal or oil. The demands of economy in manufacture may alone compel a reduction of its use in industry and thus, for some time, leave the supply ample for domestic purposes. In 1920 Pennsylvania used for manufacturing purposes three times as much natural gas as it imported from West Virginia in 1921. U. S. Geological Survey, "Natural Gas, 1919–1921," published May 22, 1923, pp. 347, 355. Domestic consumption amounts to only 30 or 40 per cent of the total consumption. U. S. Geological Survey, "Natural Gas, 1919–1921," *supra*, p. 352. Moreover, the present large waste may be stopped. The waste in Ohio in 1919 was 12 per cent.; in 1920 it was 18 per cent.; in 1921 it was 19 per cent. On the other hand in West Virginia the waste in 1919 was only 1 per cent.; in 1920 and 1921 only 2 per cent. "Natural Gas," *supra*, p. 352.

[6] The situation is wholly unlike that presented in *Savage* v. *Jones*, 225 U. S. 501, 520, 521, which is relied upon by plaintiffs. There the suit was against the State Chemist, the executive official vested with power to act, and he had "threatened the complainant that in default of such compliance he would cause the arrest and prosecution of every person dealing in the article within the State and had distributed broadcast throughout the State warning circulars."

Moreover, even if the West Virginia statute were construed as imposing penalties for disobedience so severe and menacing as to require the interposition of a federal court, it would be the public service corporations of West Virgnia—not the States of Pennsylvania and Ohio—which would thereby be denied due process of law under the doctrine of *Ex parte Young*. And it is those corporations which would have to sue, as in *Oklahoma Operating Co.* v. *Love*, 252 U. S. 331, here relied upon by plaintiffs.

son, invalid. Or it may itself inaugurate the proceeding by bringing suit to have the order annulled. *Randall Gas Co.* v. *Star Glass Co.*, 78 W. Va. 252, 256; *United Fuel Gas Co.* v. *Public Service Commission*, 73 W. Va. 571. Moreover, a final order of the Commission is not enforceable, even by a court, until thirty days after entry have elapsed. That period is allowed within which any party feeling aggrieved may apply to the court for suspension of the order; and if such application is made, a speedy hearing must be given (§ 16).

Up to the time when these suits were begun no action of any kind had been taken in relation to matters dealt with by the Act of February 17, 1919, either by the Commission, by any other board or official of the State, by any corporation, or by any other person who could ever be affected by any provision of the statute. And no action could have been taken; for the act was then not yet in effect. How then can it be said that, in any legal sense, the Pennsylvania and Ohio consumers were in present danger of irreparable injury? Plaintiffs' fears were at best premature. This Court held in *Oregon* v. *Hitchcock*, 202 U. S. 60, 70, that it would not, even at the instance of a State, take upon itself the decision of questions committed to another department of our Government and thus anticipate the action of the federal executive. The reasons are equally strong against our interfering, in advance of decision, with the executive of a State in a matter committed to its determination. If these were private suits relief would necessarily be denied. Compare *First National Bank of Albuquerque* v. *Albright*, 208 U. S. 548; *South Carolina* v. *Georgia*, 93 U. S. 4, 14. As the suit is that of one State against another, even greater caution should be exercised by this Court before assuming to act. *Missouri* v. *Illinois*, 200 U. S. 496, 520, 521; *Kansas* v. *Colorado*, 206 U. S. 46, 117; *New York* v. *New Jersey*,

256 U. S. 296, 309. The objection here is not, as in *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230, 238—that those interested should be left to an action at law for redress of any injuries which may be suffered. It is that the " judicial stage " of the controversy had not been reached when these suits were begun; and, indeed, has not been since. See *Prentis* v. *Atlantic Coast Line Co.*, 211 U. S. 210, 228; *Bacon* v. *Rutland R. R. Co.*, 232 U. S. 134, 137.

Second. There is a fatal lack of necessary parties. It is only by failure of the twelve exporting companies to continue the exportation of gas that the plaintiffs, and other consumers or the distributing companies in Pennsylvania or Ohio, can be injured. Primarily at least, it is the rights of these twelve corporations, if of anyone, which would be invaded by enforcing the statute; and rights of consumers and of distributing corporations of Pennsylvania and of Ohio are derivative merely. Whether the West Virginia corporations may furnish gas to the plaintiff States, and whether those corporations may be regulated as the statute attempts, are at most controversies between West Virginia and those corporations. They have not submitted their rights to adjudication in these suits. It is intimated that these corporations wish to have the act declared void. But we may not assume that such is their wish. Conceivably a decision holding the act valid might benefit them; since it might relieve them from improvident contracts with distributing companies in Pennsylvania and Ohio. Or it may be that some of the twelve corporations would be benefited and others injured by any decision made of the question presented. Unless the twelve corporations are legally represented either by the plaintiff or the defendant, they would not be bound by a decree in either of these suits. *New Orleans Water Works Co.* v. *New Orleans*, 164 U. S. 471, 480. That neither plaintiff nor defendant legally

represents them is clear.[1] And since they would not be bound, this Court should not entertain a suit to decide the question presented. For, as was held in *California* v. *Southern Pacific Co.*, 157 U. S. 229, and *Minnesota* v. *Northern Securities Co.*, 184 U. S. 199, 246, it does not comport with the gravity and finality which should characterize an adjudication in the exercise of the original jurisdiction of this Court to proceed, at the instance of a State, in the absence of parties whose rights would be actually passed upon and be in effect determined, even though they might not be technically bound in subsequent litigation in this, or some other tribunal. Compare *Texas* v. *Interstate Commerce Commission*, 258 U. S. 158.

The remaining fifty-five West Virginia gas corporations which do not export any gas are also vitally interested in the question submitted. So far as their interest is the general one *qua* consumer, it might be represented by the Public Service Commission; and to that end the Commission (not the State) should, perhaps, have been made party defendant. But many of these gas corporations appear to have specific interests which a decision might affect directly. They have contracts with the exporting companies for their supply of gas; and the obligations under these contracts would be different if the act is held valid than if it were held to be void. A decision to the effect that the prohibition of exports declared in the act is void might seriously impair their contract rights.

[1] "It is not sufficient to say that the Attorney General, or the Governor, or even the Legislature of the State, can be conclusively deemed to represent the public interests in such a controversy as that presented by the bill. Even a State, when it voluntarily becomes a complainant in a court of equity, cannot claim to represent both sides of the controversy." *Minnesota* v. *Northern Securities Co.*, 184 U. S. 199, 246.

Moreover, § 8 of the act provides:

"That the sections, provisions and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or unenforceable, the remaining parts thereof shall be and remain in full force and effect."

Surely the statute may be valid as to some exporting companies; for the action in exporting may be *ultra vires*. Or certain West Virginia distributing companies may have acquired preferential rights to the supply of gas. How can the Court determine, in view of this provision, that the act is void, *in toto*, when it has not before it the parties to be affected thereby and the facts which only they as litigants would be able to present? Therefore, even if it appeared that rights of the plaintiffs—or of those whom they legally represent—were in present danger of irreparable injury resulting from wrongful acts of defendant, these suits should not be maintained.

Third. But if all other obstacles could be overcome, this Court, sitting as a court of equity, should dismiss the bills, because it would be unable to grant the only relief appropriate. This Court, sitting in equity, clearly should not lend its aid to enable West Virginia public service corporations to discriminate against West Virginia consumers in the interest of Ohio and Pennsylvania consumers. Therefore, an appropriate decree should be framed so as to require each of the West Virginia corporations to treat West Virginia customers at least as well as it does those outside of the State and the decree should not leave any West Virginia public service corporation free to export gas in disregard of the duty not to discriminate against the public in that State. But

natural gas is produced also in Pennsylvania and Ohio; and the local production furnishes a large part of the supplies consumed in those States.[8] Furthermore, West Virginia gas is exported also to Maryland, Indiana and Kentucky; and in two of those States natural gas is produced in quantity.[9] Clearly the Court should, in no event, go further than to compel West Virginia to share its production equitably with other States now dependent upon it for a part of their gas supply. But in order to determine what is equitable, (that is, what part of the West Virginia production that State might require its public service corporations to retain and what part they should be free to export to other States) it would obviously be necessary to marshal the resources and the demands, or needs, of the six States, and to consider, in respect to each, both the conduct of the business therein and the circumstances attending its development. The factors necessary to be considered in determining what division of the West Virginia production would be fair, the conditions under which the determination would have to be made, and the character of the questions to be decided are such that this Court would be obliged to refuse to undertake the task. For this reason, the bills should be dismissed, even if it were held both that rights legally represented by plaintiffs were in present danger of irreparable injury by wrongful acts of defendant and that there was not a fatal lack of necessary parties. To

[8] In 1920 the production in Pennsylvania was 125,787,000 M cubic feet, and the consumption 161,397,000 M. In 1920 Ohio production was 58,938,000 M cubic feet and the consumption 136,872,000 M. U. S. Geological Survey, "Natural Gas 1919–1921," p. 345, published May 22, 1923.

[9] The 1920 production in Kentucky was 3,345,000 M cubic feet; the consumption 15,297,000 M. The Indiana production 1,779,000 M; the consumption 4,435,000 M. The Maryland production is negligible. U. S. Geological Survey Bulletin, "Natural Gas in 1919–1921," *supra*, p. 345.

do justice as between the several States the following enquiries would be essential:

(a) The potential as well as the actual production in each State would have to be ascertained. The actual production during earlier years, and approximately the current production, could be ascertained from data which are regularly collected by the United States Geological Survey and by the public utility commissions of the several States. But to ascertain the potential production, searching enquiry would have to be made into the methods of production pursued; and, among other things, to what extent recent production has been secured by forcing the wells; what the likelihood is that production lessened by forcing wells will be restored by allowing periods of rest; and to what extent recent reduced outputs may have been attributable to failure to sink enough wells or to open additional territory.[10] It would be necessary to enquire also into the extent and character of the existing gas reserves, wherever situated and by whomsoever owned. In ascertaining the extent of the gas territory not yet developed, it would be necessary to enquire to what extent the reserve is controlled by, or is otherwise available to, the several public service corporations of the several States; the cost of developing particular fields and of marketing the supply therefrom; what the relation of such undeveloped territory is to that then being worked and to that already exhausted; and to what extent and how rapidly the development of new areas and new sources of supply should properly proceed.

(b) The demand, actual and potential, in each State would have to be determined. In determining the demand, the Court could not confine its enquiry to ascer-

[10] Some idea may be formed of the scope of this enquiry by examining the data concerning the natural gas operations collected by the United States Geological Survey.

taining the amount then used or called for. The rates charged in the several communities must also be considered. For upon these, as well as upon the relative cost of other kinds of fuel, would depend in large part the extent of the demand; particularly by the industries. The character of the use and the circumstances under which it had been developed would, likewise, be important factors in deciding what distribution would be equitable. Among other things, it would be necessary to determine to what extent there was, as in Ohio, a high percentage of waste; and what investment had been made in distributing mains and in customers' appliances and when and under what circumstances these investments had been made. For, while a long established local distributing company might reasonably be required to restrict its business to existing customers and even to the existing needs of such, a like restriction would be a great hardship, if applied to new companies which had not yet brought their business to a paying basis.

(c) No determination concerning production and none concerning demand could afford a stable basis for future action; for no factor entering into the determination would be constant. Investigations into supply and demand would have to be pursued continuously; and recurrent decisions as to distribution would be required. Thus, the estimate of the undeveloped gas territory must be ever changing; for new discovery may open territory theretofore unknown; and the sinking of test wells may establish the fact that territory previously deemed valuable will be wholly unproductive. In no other field of public service regulation is the controlling body confronted with factors so baffling as in the natural gas industry; and in none is continuous supervision and control required in so high a degree.

(d) The decisions to be made would be of the character which calls for the informed judgment of a board of

experts. The tribunal would have to determine, among other things, whether inadequate service was due in the several States to inadequate supply or to improvident use by some consumers; whether to overcome inadequacy of supply new territory should be developed or more wells be sunk in old territory; whether, in view of prospective needs of the several communities, it would not be better that the reserves should be husbanded and that the uses to which gas may be put be curtailed. It would, thus, be called upon to review—and perhaps to control—the business judgment of those managing the companies. Pro rata distribution among all users of the gas from time to time available would obviously not result in equitable distribution. For domestic users, and also many industrial ones, would, if their gas supply were uncertain, find it necessary to assure themselves of an adequate supply for heating, cooking and power, of either oil or some other kind of fuel; and the expense of producing the necessary alternative appliances would be large. The tribunal would have to decide, also, many other serious questions of the character usually committed for determination to public utility commissions, and the difficulties involved in these decisions would be much enhanced by differences in the laws, rules and practices of the several States regarding the duties of natural gas companies to furnish adequate service.[11]

[11] For instance: If it should appear that the potential supply in Pennsylvania is ample for all present needs, but that its concerns prefer to husband their resources for the remoter future, would it be unjust discrimination on the part of the West Virginia companies to deny to their customers within the State an adequate supply while supplying to Pennsylvania distributing companies an amount of gas which these might have produced from reserves within Pennsylvania? Or if Kentucky had ample supplies and undeveloped fields, but sought gas from West Virginia because the Kentucky companies did not have the funds, or the inclination, to make, at the time, a large investment required to secure a supply within that State, would, under those

Clearly, this Court could not undertake such determinations. To make equitable distribution would be a task of such complexity and difficulty that even an interstate public service commission with broad powers, perfected administrative machinery, ample resources, practical experience and no other duties, might fail to perform it satisfactorily. As this Court would be powerless to frame a decree and provide machinery by means of which such equitable distribution of the available supply could be effected, it should, according to settled practice, refuse to entertain the suits. Compare *Marble Co.* v. *Ripley*, 10 Wall. 339, 358; *Texas & Pacific Ry. Co.* v. *Marshall*, 136 U. S. 393, 406; *Giles* v. *Harris*, 189 U. S. 475, 487, 488.

COMMONWEALTH OF PENNSYLVANIA *v.* STATE OF WEST VIRGINIA.

STATE OF OHIO *v.* STATE OF WEST VIRGINIA.

IN EQUITY.

Nos. 15 and 16, Original. Decree entered June 11, 1923.

Decree, declaring c. 71, Laws of West Virginia of 1919, unconstitutional; enjoining that State and her officials from enforcing it; apportioning costs; and fixing the pay of the commissioner who took and reported the evidence.

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circumstances, West Virginia companies be justified in supplying the Kentucky demand while leaving that of its West Virginia customers unsatisfied? Should distributing companies in Pennsylvania, Ohio, Kentucky and Indiana be permitted to extend their mains or add new customers after West Virginia had recognized the insufficiency of the supply to satisfy the needs of consumers within the State? And what shall be deemed the existing demand of a State? Is existing demand to be limited to customers already connected? And does it mean the amount theretofore taken by such customers or that which they may wish to take through existing appliances?

These suits having been heretofore submitted on the pleadings and the evidence, and the Court being now fully advised in the premises,

It is considered, ordered and decreed as follows:

1. That the Act passed by the Legislature of the defendant State February 10, 1919, which is set forth in the bills of complaint in these suits and known as Chapter 71 of the West Virginia Acts of 1919, is a void and inoperative enactment because it contravenes the limitations which the Constitution of the United States places upon state action in respect of commerce among the several States;

2. That the defendant State, and her several officers, agents and servants, are hereby severally enjoined from enforcing, or attempting to enforce, that Act;

3. That the aggregate costs in these suits be apportioned among and paid by the parties thereto as follows: The State of West Virginia one-half; the Commonwealth of Pennsylvania one-fourth and the State of Ohio one-fourth;

4. That Levi Cooke, Esquire, the commissioner by whom the evidence in these suits was taken and reported to this Court, shall receive and be paid the sum of six thousand dollars in full compensation for the services rendered and the expenses incurred by him in that connection, and that this sum be taxed as part of the aggregate costs in the two suits and be paid by the parties in the proportions just named;

5. That the Clerk of this Court transmit to the Chief Magistrates of the Commonwealth of Pennsylvania and the States of Ohio and West Virginia copies of this decree duly authenticated under the seal of this Court.